



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

**DOCKET NO. D2011.5.38**

**Electricity Supply Tracker**

**Colstrip Unit 4 Variable  
Cost/Credit Adjustments**

**Dave Gates Generating Station Variable  
Cost/Credit Adjustments**

**July 1, 2011 to June 30, 2012**



NorthWestern Corporation  
d/b/a NorthWestern Energy  
40 East Broadway Street  
Butte, MT 59701  
Telephone: (406) 497-1000  
Facsimile: (406) 497-2131  
[www.northwesternenergy.com](http://www.northwesternenergy.com)

June 2, 2011

Ms. Kate Whitney  
Administrator  
Montana Public Service Commission  
1701 Prospect Avenue  
PO Box 202601  
Helena, MT 59620-2601

RE: D2011.5.38 – NorthWestern Energy’s Electricity Supply Tracker, Colstrip Unit 4 Variable Cost/Credit Adjustments, Dave Gates Generating Station Variable Cost/Credit Adjustments Filing

Dear Ms. Whitney:

Pursuant to Montana law, the Montana Public Service Commission (MPSC or Commission) rules, and the Deferred Accounting Electric Procedure approved by the Commission in Docket No. D2001.10.144 on June 26, 2002, NorthWestern Energy (NWE or NorthWestern) hereby transmits an original and ten copies of its annual Application for approval of electric rates which:

- Reflects rate treatment for the net balance in the Electric Supply Deferred Cost Account, for the 12-month period ending June 30, 2011, including electricity supply costs and Colstrip Unit 4 (CU4) variable costs/credits;
- Reflects the projected load, supply and related electricity supply costs for the 12-month tracker period July 1, 2011 through June 30, 2012; and
- Reflects the projected load and CU4 variable costs for the 12-month period July 1, 2011 through June 30, 2012,

This filing also includes:

- The balance of the Dave Gates Generating Station at Mill Creek (DGGS) Variable Cost/Credit Deferred Account, for the 12-month period ending June 30, 2011;
- The projected load and variable costs for the DGGS for the 12-month period ending July 1, 2011 through June 30, 2012;

- The CU4 fixed cost of service; and
- The DGGGS fixed cost of service.

No rate treatment is requested for these additional items.

NorthWestern has separated this electric tracker filing into three sections:

1. Electricity Supply Tracker;
2. CU4 Generation Asset; and
3. DGGGS Generation Asset.

These separate rate components are bundled together into a single overall supply rate and net deferred cost rate for customer billing. Appendix A to the Application presents a summary of the current tariff rates and the proposed rates in this filing, as well as the resulting dollar and percentage changes.

The market-based Electricity Supply Cost section of the tracker model continues to be the rolling 12-month forecast updated for current market prices and loads. The CU4 fixed cost revenue requirement is identical to the information provided in the past annual tracker filing and will remain the same until an order is issued in a future revenue requirement filing. The CU4 variable cost section is the 12-month forecast updated for current fuel prices. The DGGGS fixed and variable section is identical to the June 1, 2011 monthly tracker filing reflecting compliance with Docket No. D2008.8.95, Interim Order No. 6943c. The DGGGS fixed and variable cost of service rate components presented in this filing will remain the same until such time that a subsequent order is issued in Docket No. D2008.8.95. NWE is proposing to carry forward the DGGGS Variable Cost/Credit deferred account balance into the 2011-2012 tracking period and not request a rate adjustment until a final order is received in Docket No. D2008.8.95.

In this filing, NWE requests approval to re-establish electric deferred supply rates. The Electricity Supply Deferred Cost Account Balance of \$(3,756,820) for the period ending June 30, 2011 includes an under collection of \$20,715,501 of electricity supply costs offset by the over collection of \$(24,472,321) in the CU4 Variable Cost/Credit Account Balance.

The projected overall Electric Supply Cost and net Supply Deferred Cost in this filing result in a decrease for a typical residential customer using 750 kWh per month of \$0.24 per month or \$2.88 per year on the total bill. This will result in an overall 0.53% decrease for supply-related costs.

The typical residential bill calculation shows the combined effect of the proposed July 1, 2011 rate changes for the increased Competitive Transition Charge for Qualifying Facilities (CTC-QF), and the increased BPA Residential Exchange Credit. The total effect of the increase in the

Total Electric Supply rates<sup>1</sup>, along with the CTC-QF and BPA Credit rate adjustments on the typical residential customer's bill is a projected increase of \$0.36 per month or \$4.32 per year.

Including all July 1, 2011 rate adjustments, the total overall bill increase is estimated to be 0.46%. The actual increase will depend on each customer's type and usage. The typical bill computations are included in Appendix B to this Application.

Regarding updating the marginal supply cost study as suggested in Final Order No. 7046h, Paragraph 249, NWE feels this issue would be better addressed as part of a General Revenue Requirement and Allocated Cost of Service\Rate Design filing.

Other documents submitted with this filing are:

1. Application for Interim and Final Rate Adjustment, including Appendices A and B;
2. Notice of Interim Rate Adjustment Request; and
3. Prefiled Testimony and Exhibits of David E. Fine, Kevin J. Markovich, Frank V. Bennett, Cheryl A. Hansen, and William M. Thomas.

Three copies of this letter and documents submitted herewith are being delivered to the Montana Consumer Counsel (MCC).

NWE's next monthly tracking filing will be for August 1, 2011 unless electric prices move dramatically in either direction prior to June 15, 2011. In such an instance, NWE will file an updated electricity supply tracker filing for a July 1, 2011 rate adjustment.

The NWE employee responsible for answering questions concerning this rate change request or for inquiries to the appropriate members of the Utility Staff is:

Mr. Joe Schwartzenberger  
Regulatory Affairs Department  
NorthWestern Energy  
40 East Broadway  
Butte, MT 59701  
(406) 497-3362  
[joe.schwartzenberger@northwestern.com](mailto:joe.schwartzenberger@northwestern.com)

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<sup>1</sup> Electricity Supply rates and CU4 variable rates.

Whitney Letter  
June 2, 2011  
Page 4 of 4

Applicant's attorney in this matter is:

Mr. Ross Richardson  
Henningsen, Vucurovich & Richardson PC  
116 W. Granite  
Butte, MT 59701  
(406) 723-3219  
[rossrichardson@qwestoffice.net](mailto:rossrichardson@qwestoffice.net)

Along with Joe Schwartzenberger and Ross Richardson, please add Nedra Chase to the official service list in this docket to receive copies of all documents. NWE also requests that all electronic correspondence related to this filing be sent to [nedra.chase@northwestern.com](mailto:nedra.chase@northwestern.com).

If there are any questions in this regard, I can be reached at (406) 497-3362.

Sincerely,

Joe Schwartzenberger  
Director of Regulatory Affairs

Enclosures

cc: Montana Consumer Counsel

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

IN THE MATTER of NorthWestern Energy's ) UTILITY DIVISION  
Application for Approval of Deferred Cost )  
Account Balances for Electricity Supply )  
Costs and Colstrip Unit 4 (CU4) Variable )  
Costs/Credits and Projected Electricity ) DOCKET NO. D2011.5.38  
Supply Cost Rates and CU4 Variable Rates )

APPLICATION FOR INTERIM AND FINAL RATE ADJUSTMENT

NorthWestern Corporation d/b/a NorthWestern Energy (NorthWestern or Applicant), by and through its undersigned counsel, hereby submits this Application for Approval of Deferred Cost Account Balances for Electricity Supply Costs and CU4 Variable Costs/Credits and Projected Electricity Supply Cost Rates and CU4 Variable Rates (Application) to the Montana Public Service Commission (Commission) in the above-captioned Docket, and in support thereof states as follows:

I.

Applicant's full name and Post Office address are:

NorthWestern Energy  
40 East Broadway  
Butte, MT 59701

II.

Applicant is a Delaware corporation doing business as NorthWestern Energy in the States of Montana, South Dakota and Nebraska as a public utility.

III.

The following described tariff sheets are the only electric sheets impacted by the proposals in this Application that are presently in effect in the State of Montana and on file with the Commission. All other electric tariff sheets remain as previously approved by the Commission:

<u>Schedule</u>	<u>Description</u>	<u>Sheet No.</u>
EDSS-1	Electric Default Supply Service	60.1

The applicable rates for these tariff sheets are summarized and contained as Appendix A, incorporated herein by this reference.

IV.

Applicant will submit new tariff sheets for electric service to customers served by Applicant in the State of Montana upon approval of the proposed rates contained in Appendix A. The proposed new rates will replace the present tariff sheets as follows:

<u>Schedule</u>	<u>Description</u>	<u>Sheet No.</u>
EDSS-1	Electric Default Supply Service	60.1

V.

In accordance with the Deferred Accounting method approved by the Commission in Docket No. D2001.10.144 on June 26, 2002, the balance in Account No. 191, Electric Supply Deferred Costs, for the 12-month period ending June 30, 2011 is an over collection of \$(3,756,820). This balance consists of \$20,715,501 for the under collection of electricity supply costs from July 1, 2009 to June 30, 2011 plus an over collection of \$(24,472,321) of CU4 Variable Costs/Credits for the same period. NWE proposes to amortize this net over

collection balance in rates over the 12-month period ending June 2012. The net deferred electricity supply rate per kWh is shown on Appendix A. The tracking market, supply and electricity costs for the 12-month period, July 1, 2011 to June 30, 2012 produce an overall electricity supply cost per kWh as shown on Appendix A to this filing. This overall rate includes the following components: Electricity Supply Costs, CU4 Fixed Cost of Service and Variable Costs/Credits, as well as Dave Gates Generating Station (DGGS) Fixed Cost of Service and Variable Costs/Credits.

## VI.

The proposed new rates contained in Appendix A reflect:

1. The amortization of the Electricity Supply Deferred Cost Account Balance and CU4 Variable Cost/Credit Account Balance described in Paragraph No. V, and
2. The projected overall monthly market supply and costs including electricity supply costs, CU4 costs and DGGS costs as described in Paragraph V.

## VII.

Attached hereto are the following documents that are by this reference made a part hereof:

- Current and proposed rates, Appendix A;
- Typical bill computation, Appendix B;
- Notice of Interim Rate Adjustment Request;
- Prefiled Testimony and Exhibits of David E. Fine, Kevin J. Markovich, Frank V. Bennett, Cheryl A. Hansen, and William M. Thomas.

WHEREFORE, Applicant respectfully requests that the Commission:

1. Grant interim and final approval of the proposed rates included as Appendix A to be effective on a monthly basis for service on and after July 1, 2011, and
2. Grant such other and additional relief, as the Commission shall deem just and proper.

Respectfully submitted this 2<sup>nd</sup> day of June, 2011.

NorthWestern Energy

By: \_\_\_\_\_

Mr. Ross Richardson  
Henningsen, Vucurovich & Richardson PC  
116 W. Granite  
Butte, MT 59701  
(406) 723-3219  
[rossrichardson@qwestoffice.net](mailto:rossrichardson@qwestoffice.net)

**NorthWestern Energy  
Electric Utility  
Electricity Supply Costs, CU4 Fixed Cost of Service & Variable Costs\Credits,  
DGS Fixed Cost of Service and Variable Costs\Credits  
& Deferred Electricity Supply and CU4 Variable Cost\Credit  
Rate Change Detail  
Effective July 1, 2011**

<u>Overall Electric Supply Rate (\$/kWh)</u>	<u>Current 6/1/2011</u>	<u>Proposed</u>	<u>Rate Change</u>	<u>Percentage Change</u>
Residential	\$ 0.060706	\$ 0.061023	\$ 0.000317	0.52%
Employee	\$ 0.036424	\$ 0.036614	\$ 0.000190	0.52%
GS-1 Secondary Non-Demand	\$ 0.057092	\$ 0.057401	\$ 0.000309	0.54%
GS-1 Secondary Demand	\$ 0.060706	\$ 0.061023	\$ 0.000317	0.52%
GS-1 Primary Non-Demand	\$ 0.059041	\$ 0.059349	\$ 0.000308	0.52%
GS-1 Primary Demand	\$ 0.055840	\$ 0.056141	\$ 0.000301	0.54%
GS-2 Substation	\$ 0.058534	\$ 0.058839	\$ 0.000305	0.52%
GS-2 Transmission	\$ 0.058183	\$ 0.058487	\$ 0.000304	0.52%
Irrigation	\$ 0.057092	\$ 0.057401	\$ 0.000309	0.54%
Lighting	\$ 0.057092	\$ 0.057401	\$ 0.000309	0.54%
<u>Net Deferred Electric Supply Rate (\$/kWh)</u>	<u>Current 6/1/2011</u>	<u>Proposed</u>	<u>Rate Change</u>	<u>Percentage Change</u>
Residential	\$ -	\$ (0.000640)	\$ (0.000640)	-100.00%
Employee	\$ -	\$ (0.000384)	\$ (0.000384)	-100.00%
GS-1 Secondary Non-Demand	\$ -	\$ (0.000640)	\$ (0.000640)	-100.00%
GS-1 Secondary Demand	\$ -	\$ (0.000640)	\$ (0.000640)	-100.00%
GS-1 Primary Non-Demand	\$ -	\$ (0.000623)	\$ (0.000623)	-100.00%
GS-1 Primary Demand	\$ -	\$ (0.000623)	\$ (0.000623)	-100.00%
GS-2 Substation	\$ -	\$ (0.000617)	\$ (0.000617)	-100.00%
GS-2 Transmission	\$ -	\$ (0.000614)	\$ (0.000614)	-100.00%
Irrigation	\$ -	\$ (0.000640)	\$ (0.000640)	-100.00%
Lighting	\$ -	\$ (0.000640)	\$ (0.000640)	-100.00%

	A	B	C	D	E	F	G	H	I	J	K
1											
2	<b>NorthWestern</b>										
3	<b>Energy</b>										
4											
5											
6	<b>Typical Bill Calculation</b>										
7											
8											
9	<b>Electric Residential Service</b>							<b>*CTC-QF, BPA-Credit and Overall Electric Supply</b>			
10					<b>Current Rates</b>			<b><sup>1</sup> Proposed Rates</b>			
11		<b>kWh per month</b>	<b>750</b>		<b>Date</b>	<b>Total Bill</b>		<b>Date</b>	<b>Total Bill</b>		
12					<b>Effective</b>	<b>Amount</b>		<b>Effective</b>	<b>Amount</b>		
13					<b>6/1/2011</b>			<b>7/1/2011</b>			
14	Res. Dist.-Service Charge				\$ 5.00	\$ 5.00		\$ 5.00	\$ 5.00		
15											
16	Plus:										
17	Res. Supply-Energy				\$ 0.060706	\$ 45.53		\$ 0.061023	\$ 45.77		
18	Res. Deferred Supply Costs				\$ -	\$ -		\$ (0.000640)	\$ (0.48)		
19	Res. CTC-QF				\$ 0.003583	\$ 2.69		\$ 0.003439	\$ 2.58		
20	Res. Transmission-Energy				\$ 0.008793	\$ 6.59		\$ 0.008793	\$ 6.59		
21	Res. Distribution-Energy				\$ 0.027372	\$ 20.53		\$ 0.027372	\$ 20.53		
22	Res. USBC				\$ 0.001334	\$ 1.00		\$ 0.001334	\$ 1.00		
23	Res. BPA-Credit				\$ (0.003091)	\$ (2.32)		\$ (0.002150)	\$ (1.61)		
24	Total Kwh Charge				\$ 0.098697	\$ 74.02		\$ 0.099171	\$ 74.38		
25											
26	<b>Total Bill</b>				<b>\$ 0.105364</b>	<b>\$ 79.02</b>		<b>\$ 0.105838</b>	<b>\$ 79.38</b>		
27											
28								Monthly Increase (Decrease)	\$ 0.36		
29								Annual Increase (Decrease)	\$ 4.32		
30								<b>Percent Change</b>	<b>0.46%</b>		
31											
32											
33											
34	<sup>1</sup> Column represents the proposed rate changes for CTC-QF, BPA Credit, Overall Electric Supply and Net Supply Deferred Costs effective on July 1, 2011.										

	A	B	C	D	E	F	G	H	I	J	K
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4											
5											
6	Typical Bill Calculation										
7											
8	<b>General Service - Secondary</b>										
9	<b>Non-Demand</b>										
10								<b>CTC-QF and Overall Electric Supply</b>			
11								<b><sup>1</sup> Proposed Rates</b>			
12	<b>kWh per month</b>		<b>3500</b>	<b>Current Rates</b>			<b>Date</b>				
13				<b>Effective</b>		<b>Total Bill</b>		<b>Effective</b>		<b>Total Bill</b>	
14				<b>6/1/2011</b>		<b>Amount</b>		<b>7/1/2011</b>		<b>Amount</b>	
15	GS-1 Dist.-Service Charge			\$	7.10	\$	7.10	\$	7.10	\$	7.10
16											
17	Plus:										
18	GS-1 Supply-Energy			\$	0.057092	\$	199.82	\$	0.057401	\$	200.90
19	GS-1 Deferred Supply Costs			\$	-	\$	-	\$	(0.000640)	\$	(2.24)
20	GS-1 CTC-QF			\$	0.003583	\$	12.54	\$	0.003439	\$	12.04
21	GS-1 Transmission-Energy			\$	0.007646	\$	26.76	\$	0.007646	\$	26.76
22	GS-1 Distribution-Energy			\$	0.035404	\$	123.91	\$	0.035404	\$	123.91
23	GS-1 USBC			\$	0.001143	\$	4.00	\$	0.001143	\$	4.00
24	Total Kwh Charge			\$	0.104868	\$	367.03	\$	0.104393	\$	365.37
25											
26	<b>Total Bill</b>			<b>\$</b>	<b>0.106890</b>	<b>\$</b>	<b>374.13</b>	<b>\$</b>	<b>0.106420</b>	<b>\$</b>	<b>372.47</b>
27											
28								Monthly Increase (Decrease)		\$ (1.66)	
29								Annual Increase (Decrease)		\$ (19.92)	
30								<b>Percent Change</b>		<b>-0.44%</b>	
31											
32											
33	<sup>1</sup> Column represents the proposed rate changes for CTC-QF, Overall Electric Supply and Net Supply Deferred Costs effective on July 1, 2011.										

	A	B	C	D	E	F	G	H	I	J	K
1	<b>NorthWestern</b>										
2	<b>Energy</b>										
3											
4											
5											
6	<u>Typical Bill Calculation</u>										
7											
8	<b>General Service - Secondary</b>										
9	<b>Demand</b>										
10								<b>CTC-QF and Overall Electric Supply</b>			
11		<b>Kw</b>	<b>11</b>		<b>Current Rates</b>			<b><sup>1</sup> Proposed Rates</b>			
12		<b>kWh per month</b>	<b>3500</b>		<b>Date</b>			<b>Date</b>			
13					<b>Effective</b>	<b>Total Bill</b>		<b>Effective</b>	<b>Total Bill</b>		
14					<b>6/1/2011</b>	<b>Amount</b>		<b>7/1/2011</b>	<b>Amount</b>		
15	GS-1 Dist.-Service Charge				\$ 8.90	\$ 8.90		\$ 8.90	\$ 8.90		
16											
17	Plus:										
18	GS-1 Supply-Energy				\$ 0.060706	\$ 212.47		\$ 0.061023	\$ 213.58		
19	GS-1 Deferred Supply Costs				\$ -	\$ -		\$ (0.000640)	\$ (2.24)		
20	GS-1 CTC-QF				\$ 0.003583	\$ 12.54		\$ 0.003439	\$ 12.04		
21	GS-1 Transmission-Demand				\$ 2.926896	\$ 32.20		\$ 2.926896	\$ 32.20		
22	GS-1 Distribution-Demand				\$ 5.966415	\$ 65.63		\$ 5.966415	\$ 65.63		
23	GS-1 Distribution-Energy				\$ 0.004733	\$ 16.57		\$ 0.004733	\$ 16.57		
24	GS-1 USBC				\$ 0.001143	\$ 4.00		\$ 0.001143	\$ 4.00		
25	Subtotal					\$ 343.41			\$ 341.78		
26											
27	<b>Total Bill</b>				<b>\$ 0.100660</b>	<b>\$ 352.31</b>		<b>\$ 0.100190</b>	<b>\$ 350.68</b>		
28											
29								Monthly Increase (Decrease)	\$ (1.63)		
30								Annual Increase (Decrease)	\$ (19.56)		
31								<b>Percent Change</b>	<b>-0.46%</b>		
32											
33											
34	<sup>1</sup> Column represents the proposed rate changes for CTC-QF, Overall Electric Supply and Net Supply Deferred Costs effective on July 1, 2011.										

A	B	C	D	E	F	G	H	I	J	K
1	<b>NorthWestern Energy</b>									
2										
3										
4										
5										
6	<u>Typical Bill Calculation</u>									
7										
8	<b>General Service - Primary</b>									
9	<b>Non-Demand</b>									
10										
11										
12	kWh per month	2000								
13										
14										
15	GS-1 Dist.-Service Charge				\$ 7.60	\$ 7.60				
16										
17	Plus:									
18	GS-1 Supply-Energy			\$ 0.059041	\$ 118.08	\$ 0.059349	\$ 118.70			
19	GS-1 Deferred Supply Costs			-	-	(0.000623)	(1.25)			
20	GS-1 CTC-QF			\$ 0.003485	\$ 6.97	\$ 0.003345	\$ 6.69			
21	GS-1 Transmission-Energy			\$ 0.008013	\$ 16.03	\$ 0.008013	\$ 16.03			
22	GS-1 Distribution-Energy			\$ 0.018373	\$ 36.75	\$ 0.018373	\$ 36.75			
23	GS-1 USBC			\$ 0.001143	\$ 2.29	\$ 0.001143	\$ 2.29			
24	Total kWh Charge			\$ 0.090055	\$ 180.12	\$ 0.089600	\$ 179.21			
25										
26	<b>Total Bill</b>			<b>\$ 0.093860</b>	<b>\$ 187.72</b>	<b>\$ 0.093410</b>	<b>\$ 186.81</b>			
27										
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33	<sup>1</sup> Column represents the proposed rate changes for CTC-QF, Overall Electric Supply and Net Supply Deferred Costs effective on July 1, 2011.									

A	B	C	D	E	F	G	H	I	J	K
1										
2	<b>NorthWestern<sup>TM</sup> Energy</b>									
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5										
6	<u>Typical Bill Calculation</u>									
7										
8	<b>General Service - Primary</b>									
9	<b>Demand</b>									
10										
11		Kw	400							
12		kWh per month	200000							
13										
14										
15	GS-1 Dist.-Service Charge			\$ 23.90	\$ 23.90	\$ 23.90				
16										
17	Plus:									
18	GS-1 Supply-Energy			\$ 0.055840	\$ 11,168.00	\$ 11,228.20				
19	GS-1 Deferred Supply Costs			\$ -	\$ -	\$ (124.60)				
20	GS-1 CTC-QF			\$ 0.003485	\$ 697.00	\$ 669.00				
21	GS-1 Transmission-Demand			\$ 3.551760	\$ 1,420.70	\$ 1,420.70				
22	GS-1 Distribution-Demand			\$ 3.900038	\$ 1,560.02	\$ 1,560.02				
23	GS-1 Distribution-Energy			\$ 0.006832	\$ 1,366.40	\$ 1,366.40				
24	GS-1 USBC			\$ 0.001143	\$ 228.60	\$ 228.60				
25	Subtotal				\$ 16,440.72	\$ 16,348.32				
26										
27	<b>Total Bill</b>			\$ 0.082320	\$ 16,464.62	\$ 16,372.22				
28										
29										
30										
31										
32										
33										
34	<sup>1</sup> Column represents the proposed rate changes for CTC-QF, Overall Electric Supply and Net Supply Deferred Costs effective on July 1, 2011.									

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6	Typical Bill Calculation											
7												
8	Irrigation & Sprinkling Service											
9	Non-Demand											
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6	Typical Bill Calculation											
7												
8	<b>Irrigation &amp; Sprinkling Service Demand</b>											
9												
10								CTC-QF, BPA Credit and Overall Electric Supply				
11	Kw		41	Current Rates				<sup>1</sup> Proposed Rates				
12	kWh per month		12260	Date		Total Bill			Date		Total Bill	
13				Effective		Amount			Effective		Amount	
14				6/1/2011					7/1/2011			
15	Irr. Dist.-Service Charge			(a)	\$ 20.40	\$ 20.40	\$ 20.40	\$ 20.40				
16												
17	Plus:											
18	Irr. Supply-Energy				\$ 0.057092	\$ 699.95	\$ 0.057401	\$ 703.74				
19	Irr. Deferred Supply Costs				\$ -	\$ -	\$ (0.000640)	\$ (7.85)				
20	Irr. CTC-QF				\$ 0.003583	\$ 43.93	\$ 0.003439	\$ 42.16				
21	Irr. Transmission-Demand				\$ 1.915058	\$ 78.52	\$ 1.915058	\$ 78.52				
22	Irr. Distribution-Demand				\$ 6.978979	\$ 286.14	\$ 6.978979	\$ 286.14				
23	Irr. Distribution-Energy				\$ 0.003780	\$ 46.34	\$ 0.003780	\$ 46.34				
24	Irr. USBC				\$ 0.001144	\$ 14.03	\$ 0.001144	\$ 14.03				
25	Irr. BPA Credit				\$ (0.003091)	\$ (37.90)	\$ (0.002150)	\$ (26.36)				
26	Subtotal					\$ 1,131.01		\$ 1,136.72				
27												
28	<b>Total Bill</b>				<b>\$ 0.093920</b>	<b>\$ 1,151.41</b>	<b>\$ 0.094380</b>	<b>\$ 1,157.12</b>				
29												
30								Monthly Increase		\$ 5.71		
31								Season Increase (6 Months)		\$ 34.26		
32								<b>Percent Increase</b>		<b>0.50%</b>		
33												
34												
35	(1) The seasonal charge is divided by 6 months to compute a monthly average.											
36												
37	<sup>1</sup> Column represents the proposed rate changes for CTC-QF, BPA Credit, Overall Electric Supply and Net Supply Deferred Costs effective on July 1, 2011.											

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

IN THE MATTER of NorthWestern Energy's	)	UTILITY DIVISION
Application for Approval of Deferred Cost	)	
Account Balances for Electricity Supply	)	
Costs and Colstrip Unit 4 (CU4) Variable	)	
Costs/Credits and Projected Electricity	)	DOCKET NO. D2011.5.38
Supply Cost Rates and CU4 Variable Rates	)	

---

NOTICE OF INTERIM RATE  
ADJUSTMENT REQUEST

---

NorthWestern Energy, Applicant, serves notice pursuant to the Administrative Rules of Montana, 38.5.503, that it has filed with the Montana Public Service Commission (MPSC) a request for an overall interim decrease in electricity rates in this Docket to reflect Forecast overall Electric Supply Costs and the net Electric Supply Deferred Cost Account Balance. This Interim request includes the use of monthly electricity supply cost and Variable Colstrip Unit 4 (CU4) rate adjustments going forward. Applicant requests that the proposed rates and monthly electricity supply cost and CU4 rate adjustments become effective for service on and after July 1, 2011.

This Docket commenced on June 2, 2011, when the Applicant filed testimony, exhibits and workpapers with the MPSC in its annual Electricity Supply Tracker, CU4 Variable Cost/Credit Adjustments and Dave Gates Generating Station Variable Cost/Credit Adjustments Filing. Applicant requests an interim overall decrease in rates effective July 1, 2011 pending a final decision on this request.

The overall decrease is required to: 1) reflect an increase in the projected electricity supply costs and the CU4 variable costs/credits; and 2) reflect the proposal to

re-establish the Electric Supply Deferred Cost rates for electricity supply costs and CU4 variable costs/credits.

The net adjustments proposed in this filing result in the following:

- Overall electric supply costs per kWh increase as shown in the table below:

Overall Electric Supply Rate (\$/kWh)	Current	Proposed	Rate Change	% Change
Residential	\$ 0.060706	\$ 0.061023	\$ 0.000317	0.52%
Employee	\$ 0.036424	\$ 0.036614	\$ 0.000190	0.52%
GS-1 Secondary Non-Demand	\$ 0.057092	\$ 0.057401	\$ 0.000309	0.54%
GS-1 Secondary Demand	\$ 0.060706	\$ 0.061023	\$ 0.000317	0.52%
GS-1 Primary Non-Demand	\$ 0.059041	\$ 0.059349	\$ 0.000308	0.52%
GS-1 Primary Demand	\$ 0.055840	\$ 0.056141	\$ 0.000301	0.54%
GS-2 Substation	\$ 0.058534	\$ 0.058839	\$ 0.000305	0.52%
GS-2 Transmission	\$ 0.058183	\$ 0.058487	\$ 0.000304	0.52%
Irrigation	\$ 0.057092	\$ 0.057401	\$ 0.000309	0.54%
Lighting	\$ 0.057092	\$ 0.057401	\$ 0.000309	0.54%

- The electric supply deferred costs balance for the twelve-month period ending June 30, 2011 is an over collection of \$(3,756,820). This balance consists of \$20,715,501 for the under collection of electricity supply costs from July 1, 2009 to June 30, 2011 plus the Colstrip Unit 4 variable costs/credits over collection of \$(24,472,321) for the same period. NWE proposes to re-establish deferred supply rates in order to amortize the net over collection in rates over the 12-month period ending June 2012. The resulting net electric deferred cost rates are shown below:

Net Electric Deferred Cost Rate (\$/kWh)	Current	Proposed	Rate Change	% Change
Residential	\$0.000000	\$(0.000640)	\$(0.000640)	-100.00%
Employee	\$0.000000	\$(0.000384)	\$(0.000384)	-100.00%
GS-1 Secondary Non-Demand	\$0.000000	\$(0.000640)	\$(0.000640)	-100.00%
GS-1 Secondary Demand	\$0.000000	\$(0.000640)	\$(0.000640)	-100.00%
GS-1 Primary Non-Demand	\$0.000000	\$(0.000623)	\$(0.000623)	-100.00%
GS-1 Primary Demand	\$0.000000	\$(0.000623)	\$(0.000623)	-100.00%
GS-2 Substation	\$0.000000	\$(0.000617)	\$(0.000617)	-100.00%
GS-2 Transmission	\$0.000000	\$(0.000614)	\$(0.000614)	-100.00%
Irrigation	\$0.000000	\$(0.000640)	\$(0.000640)	-100.00%
Lighting	\$0.000000	\$(0.000640)	\$(0.000640)	-100.00%

The interim request and supporting documents can be examined at Applicant's General Office, 40 East Broadway, Butte, Montana; at the office of the Montana Consumer Counsel (MCC), 111 North Last Chance Gulch, Suite 1B, Helena, Montana; or at the office of the MPSC, 1701 Prospect Avenue, Helena, Montana 59620. The MCC (406-444-2771) is available to assist in the representation of consumer interests in this matter.

Any comments, which any person wishes to have the MPSC take into consideration in its decision on this matter, should be sent to the MPSC at the above address as soon as possible.

Any portion of the interim adjustment approved by the MPSC pending hearing and final decision would, pursuant to §69-3-304, et. al., MCA, (2009), be subject to refund if the final decision in this docket is to approve a final revenue level which is different than the interim decrease.

Dated: June 2, 2011.

6  
7 PRE-FILED DIRECT TESTIMONY OF  
8 DAVID E. FINE  
9 ON BEHALF OF NORTHWESTERN ENERGY  
10

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21 Witness Information

22 **Q. Please state your name and business address.**

23 **A.** My name is David E. Fine and my business address is 40 East Broadway  
24 Street, Butte, Montana, 59701.  
25

26 **Q. By whom are you employed and in what capacity?**

27 **A.** I am employed by NorthWestern Energy (NWE or NorthWestern) as the  
28 Director of Energy Supply Planning. My areas of responsibility include a  
29 variety of energy supply and planning functions including the preparation of

1 the electric resource procurement plan and associated analysis, load and  
2 resource analysis, load forecasting, and other Supply portfolio planning and  
3 management functions performed by planning staff.

4

5 **Q. Please summarize your educational and employment experiences.**

6 **A.** I earned a B.A. in geology from the University of Montana and have worked  
7 in the energy industry since 1979.

8

9 My employment with NWE began in 1982 with an unregulated subsidiary of  
10 the Montana Power Company. I have worked in energy exploration and  
11 development, mining, energy resource evaluations, economic evaluations,  
12 business development, and technical evaluations associated with energy  
13 production and power generation. Since 2003 I have worked in the Energy  
14 Supply area where I have been responsible for short- and long-term load  
15 forecasting, resource modeling, and the analysis of supply resources.

16

17 As an employee of NWE I have previously provided information and  
18 testimony on energy related matters before the Montana Public Service  
19 Commission (Commission).

20

21 **Purpose of Testimony**

22 **Q. What is the purpose of your testimony in this filing?**

1 **A.** My testimony is intended to provide the necessary information to satisfy the  
2 filing requirements set forth in the Administrative Rules of Montana (ARM)  
3 38.5.8226(3). The testimony that I will provide includes a discussion of  
4 recent supply planning, supply management and resource procurement  
5 activities and the action plan items that NorthWestern has and proposes to  
6 implement. In addition, I introduce the other NWE witnesses submitting  
7 testimony in this filing and describe the topic(s) covered by each.

8

9 **NWE's Electric Resource Procurement Plans**

10 **Q. Please discuss the framework that guides NWE's electric planning and**  
11 **acquisition activities.**

12 **A.** As discussed in previous Dockets and Electric Supply Resource  
13 Procurement Plans, there are numerous ARMs and statutes that guide  
14 NorthWestern's planning and acquisition activities for serving  
15 NorthWestern's electricity supply customers. The primary reference material  
16 is included in ARMs 38.5.8201 through 8301 and Montana Code Annotated  
17 (MCA) §§ 69-8-419 through 420 (2009). These ARMs and statutes define  
18 the regulatory expectations for NWE's planning and procurement actions,  
19 which in turn, guide its acquisition activities.

20

21 ARM 38.5.8226(1) requires NWE to file a comprehensive long-term portfolio  
22 management and resource procurement plan every other year.  
23 NorthWestern's most recent plan was filed in June 2010 (2009 Plan) in

1 Docket No. N2010.6.57. As explained prior to filing, the 2009 Plan was  
2 delayed in order to fully incorporate the results of the 2009 Demand Side  
3 Management (DSM) plan update as directed by the Commission, as well as  
4 to allow time for NWE to incorporate comments on the 2009 Plan made by  
5 NorthWestern executive management and the Electric Technical Advisory  
6 Committee. NWE expects to file with the Commission a new electric  
7 procurement plan – the 2011 Plan – in December 2011. Many of the  
8 procurement actions contemplated in the 2009 Plan are expected to  
9 continue guiding future portfolio activities including renewable resource  
10 acquisitions and the management of future significant resource deficits. The  
11 2009 Plan’s Action Plan includes a three year forward list of actions and  
12 thus also continues to be timely.

13  
14 **Q. Please describe NorthWestern’s electric resource plans and their  
15 relationship to its procurement activities.**

16 **A.** NWE has produced and filed four biennial electric procurement plans  
17 (Plans). The Plans and the accompanying Commission comments provide  
18 guidance to the resource planning and acquisition processes that NWE  
19 follows in meeting its load serving obligations. NWE has used the concepts  
20 and specific action items from the 2009 Electric Procurement Plan to guide  
21 its recent supply portfolio activities.

22

1 **NWE's Supply Portfolio**

2 **Q. Briefly discuss NWE's recent activities in managing the supply**  
3 **portfolio.**

4 **A.** During the 2010/2011 Tracker year NWE:

- 5 • Entered into an Asset Purchase Agreement with Compass Wind to  
6 acquire a 40-megawatt wind energy production facility to be built east of  
7 Great Falls in Judith Basin County. This project is the result of the  
8 competitive 2009 Request For Information solicitation used by  
9 NorthWestern to identify and develop additional renewable resource(s)  
10 for inclusion in the supply portfolio. Energy deliveries from this facility  
11 are expected to commence in the fourth quarter of 2012.
- 12 • Executed three long-term (25-year) Qualifying Facility (QF) contracts for  
13 wind projects totaling 28 megawatts. These projects were contracted at  
14 the then current long-term purchase power rate of \$69.21 per megawatt-  
15 hour and include renewable attributes (renewable energy credits or  
16 RECs) that will be used to meet the renewable portfolio standard.
- 17 • Satisfied the Renewable Portfolio Standards Requirement for 2010 as  
18 prescribed in §69-3-2004(2) MCA. In 2010 the renewable portfolio  
19 standard increased to 10% of retail sales, up from 5% of retail sales in  
20 2009. NWE retired 583,403 RECs from its WREGIS account to satisfy its  
21 2010 RPS obligation.

- 1       • Entered into two term power purchases for heavy load energy for  
2       delivery from July 2012 through June 2017 as described in the Prefiled  
3       Direct Testimony of Kevin Markovich.
- 4       • Continued to manage the supply portfolio and meet customer load needs  
5       through day-to-day operations including term trading, pre-scheduling,  
6       and real-time (hourly) functions.
- 7       • Added two full-time staff members to Energy Supply; one person was  
8       added to the planning area and another person was added to the market  
9       operations area. Both individuals bring considerable energy sector and  
10      utility experience to the supply group.
- 11      • Worked to create a set of standard QF contract terms and conditions. In  
12      the second quarter of 2011 the standard contract offer was distributed to  
13      potential QF contract parties.
- 14      • Continued implementation of the DSM plan included in the 2009 Plan  
15      with the goal of achieving the installation of an additional 6aMW of  
16      energy conservation capability. NWE continued its deliberate and  
17      aggressive plan to install energy conservation measures as outlined in  
18      the 2009 Plan through voluntary programs using both internal and  
19      external resources (contractors) to achieve annual targets. Refer to the  
20      Prefiled Direct Testimony of William Thomas.
- 21      • Worked throughout the second quarter of 2011 with the Wind Integration  
22      Working Group (WIWG), GENIVAR and Great Divide Energy  
23      Consultants to finalize the wind energy regulation study project. A final

1 technical report from GENIVAR that captures modeling results is  
2 expected to be delivered to the WIWG during the second quarter of  
3 2011.

#### 4 Action Plan

5 **Q. Has NWE implemented any of the action items from the 2009 Plan?**

6 **A.** Yes. Certain action items presented in the 2009 Plan have been  
7 implemented. By acquiring approximately 68 megawatts of new, renewable  
8 wind energy through QF contracts and an asset purchase agreement in  
9 2011, NorthWestern has taken steps to achieve renewable portfolio  
10 standards through 2015. In addition, NWE entered into 50-megawatts of  
11 heavy load power purchases for the period July 2012 through June 2017.  
12 The 2009 Plan identified heavy load need as the principle short to medium-  
13 term power need in the portfolio.

14  
15 **Q. How do opportunity purchases enter into NorthWestern's resource  
16 planning and decision making?**

17 **A.** As a market participant and an electric utility, NWE receives information  
18 about the power market and supply sources in the normal course of  
19 business. If NWE were to learn about a promising opportunity that could  
20 benefit the supply portfolio, it should have the opportunity to explore and  
21 possibly act on such an opportunity and not be limited by the scope of  
22 resources it has evaluated in the resource plan. NWE already executes  
23 opportunity purchases through its term trading activities so it is reasonable

1 and consistent to do so if resource opportunities, not specifically recognized  
2 in the Plan, come to light.

3 **Q. Has the Dave Gates Generating Station at Mill Creek (DGGGS) been**  
4 **integrated into the NorthWestern Energy balancing authority and is it**  
5 **providing service to supply customers?**

6 **A.** Yes. On January 1, 2011 the DGGGS began commercial operation. It  
7 provides all regulation services for supply customers. In addition to  
8 regulation, the supply portfolio receives 7 megawatts of energy each hour  
9 from the facility. This energy is scheduled and delivered each hour and is  
10 used to meet supply load.

11  
12 **Introduction of Other Witnesses**

13 **Q. Please introduce the other witnesses in this filing.**

14 **A.** In addition to my testimony, this electric tracker filing includes the testimony  
15 of:

- 16 • Mr. Kevin Markovich, Director, Energy Supply Market Operations. Mr.

17 Markovich's testimony:

- 18 ○ Presents an overview of Supply market operations  
19 including activities associated with term trading, pre-  
20 schedule, and real-time operations,  
21 ○ Confirms the continued implementation of the electric  
22 supply hedging strategy, and

- 1                   o Summarizes other activities such as the results of the 2010  
2                   all-source heavy load power Request for Proposals and  
3                   use of the Colstrip Unit 4 resource in the Supply portfolio.
- 4           • Mr. Frank Bennett, Contract and Regulatory Specialist. Mr. Bennett's  
5           testimony presents the following information:
- 6                   o Updated 12-month ended June 2011 tracking periods for  
7                   electricity supply costs, CU4 variable costs/ credits and  
8                   DGGs variable costs/credits with ten months of actual  
9                   numbers and two months of estimated numbers, and
- 10                  o The forecasted 12-month ended June 2012 tracking period  
11                  for each of the segments listed above.
- 12           • Ms. Cheryl Hansen, Senior Analyst in the Regulatory Affairs Department.  
13           Ms. Hansen's testimony:
- 14                   o Presents the 2010-2011 tracker year billing statistics and  
15                   explains how they are derived;
- 16                   o Presents the derivation of proposed electric deferred  
17                   supply rates resulting from the over/undercollection  
18                   reflected in the 2010-2011 tracking periods for electricity  
19                   supply costs, Colstrip Unit 4 (CU4) variable costs/credits,  
20                   and DGGs variable costs/credits,
- 21                   o Presents the derivation of proposed electricity supply  
22                   cost rates and CU4 variable rates for the forecasted  
23                   2011-2012 tracker period, and

1                   o Presents the overall total supply rates incorporating all  
2                   individual rate components.

3           • Mr. William Thomas, Manager Regulatory Support Services. Mr.  
4           Thomas' testimony:

5                   o Presents a review of the Electric Supply DSM energy  
6                   efficiency programs administered by NorthWestern for  
7                   Tracker Year 2010-2011 and the results from the Universal  
8                   System Benefit (USB) program for the same period, and  
9                   o Provides updated numbers for the DSM Program Cost and  
10                  Lost Revenue Recovery Mechanism for recovery of  
11                  Electric Supply DSM Program costs and historical lost  
12                  transmission, distribution and Colstrip Unit #4 revenues  
13                  (Lost Revenues) associated with Electric Supply DSM and  
14                  USB programs.

15

16   **Q.    Does this complete your testimony?**

17   **A.    Yes.**

18

10 **PREFILED DIRECT TESTIMONY OF**

11 **KEVIN J. MARKOVICH**

12 **ON BEHALF OF NORTHWESTERN ENERGY**

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23 **Witness Information**

24  
25 **Q. Please state your name and business address.**

26  
27 **A.** My name is Kevin Markovich, and my business address is 40 East  
28 Broadway, Butte, MT 59701.  
29

1 **Q. By whom are you employed and in what capacity?**

2

3 **A.** I am employed by NorthWestern Energy (NWE or NorthWestern) as  
4 Director of Energy Supply Market Operations.

5

6 **Q. Please summarize your educational and employment experiences.**

7

8 **A.** I attended Montana State University, graduating in 1983 with a Bachelor of  
9 Science degree in Business, Accounting option. Upon graduation, I went to  
10 work for Marathon Oil Company in Casper and Cody, WY as a production  
11 accountant. In 1985, I enrolled at the University of Wyoming in Laramie  
12 where I earned a Master of Business Administration (MBA) degree in  
13 December 1986. In 1987, I went to work in the Treasury department of  
14 Entech, Inc., a wholly owned subsidiary of The Montana Power Company  
15 (MPC). In 1996, I transferred to Montana Power Trading & Marketing  
16 Company (MPT&M) where I worked in various capacities including real-time  
17 electric scheduler, gas marketer, and executive director of retail marketing.  
18 In 2000, prior to the sale of MPT&M to Pan Canadian, I transferred to MPC,  
19 now NorthWestern Energy, where I have worked on numerous energy  
20 supply activities. In January 2005 I accepted the Director of Risk  
21 Management position and in September 2006 I assumed my current role.

22

23 **Q. What are your responsibilities as Director of Energy Supply Market**  
24 **Operations?**

25

1 **A.** I am responsible for NorthWestern's energy supply market operations  
2 including daily, weekly, monthly, and term trading and scheduling activities.  
3 This involves developing and maintaining relationships with suppliers,  
4 brokers, and other market participants; executing and managing term  
5 contracts; negotiating and approving supply arrangements that are  
6 consistent with regulatory guidelines and internal policies; and developing  
7 and implementing overall supply strategies to ensure there is adequate  
8 supply to meet demand at all times.

9

10 **Q. Do you hold any professional certifications?**

11

12 **A.** Yes. I am a Certified Public Accountant (CPA) and a Certified Cash  
13 Manager (CCM).

14

15 **Purpose of Testimony**

16

17 **Q. What is the purpose of your testimony?**

18

19 **A.** My testimony will describe how procurement and scheduling activities were  
20 conducted during the 2010/2011 tracking period and how we propose to  
21 conduct them during the upcoming 2011/2012 tracking period.

22

23 **2010 / 2011 Tracking Period Activities**

24

25 **Q. What planning document guided electricity supply procurement and**  
26 **scheduling activities during the 2010 / 2011 tracking period?**

1 **A.** The Hedging Strategy that is Appendix 1 of the 2010 Electric Default Supply  
2 Procurement Plan (“2009 Plan”) submitted in Docket No. N2010.6.57 is the  
3 document that primarily guided electricity supply procurement activities  
4 during the 2010 / 2011 tracking period.

5

6 **Q. Please provide an overview of the 2010 / 2011 tracking period.**

7

8 **A.** As detailed in the Prefiled Direct Testimony of Frank V. Bennett (“Bennett  
9 Direct Testimony”) the 2010 / 2011 tracking period contained no material  
10 operational changes or issues that caused supply service to change from  
11 the previous tracking period. Market prices, however, did decrease during  
12 the 2010 / 2011 tracking period, primarily due to lower natural gas prices  
13 during the winter months, additional wind resources coming on-line in the  
14 Pacific Northwest, and snowpack levels that far exceeded average levels.  
15 Our implementation of the hedging strategy that was in place during this  
16 time allowed us to take advantage of the lower market prices, in part by  
17 moving to the bottom end of the hedge spectrum during certain months and  
18 by backing down Colstrip Unit 4 (CU4) and replacing it with market  
19 purchases when conditions warranted doing so.

20

21 **Q. Explain how NWE schedulers have dispatched CU4 in ways that**  
22 **allowed NWE to take advantage of lower market prices and in turn**  
23 **optimize value from this resource.**

24

1 **A.** The variable cost to operate CU4 consists primarily of fuel and variable  
2 operations and maintenance expenses. On certain occasions, market prices  
3 for power have fallen below the variable cost to operate the unit. When that  
4 has occurred and there was available energy to purchase from the market,  
5 and it was believed market prices would remain at those levels for an  
6 appropriate period of time, NWE schedulers backed down NWE's share of  
7 the output from CU4 and replaced the energy with market purchases. The  
8 value realized was the difference between the purchased power cost and  
9 what the variable cost to operate the unit would have been, and this value  
10 was credited directly to ratepayers in the tracker. It should be noted that all  
11 three conditions must exist before backing down these plants, as they are  
12 base-load units and not designed for frequent adjustments to output.

13

14 **Q. Did NWE make any longer-term energy market purchases during the**  
15 **2010 / 2011 tracking period?**

16

17 **A.** Yes. In September 2010 NWE issued an all-source Request for Proposal  
18 (RFP) soliciting on-peak, firm energy for the period July 1, 2012 through  
19 June 30, 2017. The RFP was sent directly to entities that were thought to be  
20 interested in providing this product, and a press release was issued in an  
21 attempt to inform other possible candidates. On September 21, 2010 NWE  
22 entered into two transactions of 25 MW each with two separate entities  
23 covering this time period. These purchases will first be included in rates  
24 beginning in the 2012/2013 tracker period.

25

1 **Q. Did NWE meet an acceptable prudence standard in providing its**  
2 **energy supply service during the 2010 / 2011 tracking period?**

3

4 **A.** Yes. NWE managed its energy supply portfolio in a systematic, structured  
5 manner with specific measures and timelines that provided a guided,  
6 disciplined approach to energy procurement. The Hedging Strategy goals  
7 are designed to maintain reasonable rates while dampening volatility and  
8 enhancing price stability. NWE did not speculate on energy price  
9 movements motivated by short-term gains and therefore did not subject  
10 ratepayers to unnecessary risk. NWE adhered to its 2009 Plan which  
11 provides a framework by which the prudence of NWE's procurement  
12 activities can be judged, and will continue to do so.

13

14 Furthermore, electricity service was never interrupted or restricted at any  
15 point during this period due to actions or inactions of NorthWestern's  
16 energy supply function. NWE did not receive any fines or penalties from  
17 oversight authorities regarding scheduling or operating performance. All  
18 contracts were properly scheduled, administered, checked out, and paid  
19 according to the terms and conditions. And, as described above, NWE  
20 followed a logical and prudent strategy for procuring energy from the  
21 market which resulted in reasonable rates and reduced exposure to market  
22 price volatility for customers.

23

1 **2011 / 2012 Tracking Period Forecast**

2  
3 **Q. Please comment on the 2011 / 2012 tracking period forecast.**

4  
5 **A.** Again, the Bennett Direct Testimony provides a detailed forecast of the  
6 upcoming tracking period. It should be noted that this is merely a forecast  
7 using information that is known at this time; actual results will vary  
8 somewhat and will be based on actual transactions and prices.

9 The Hedging Strategy in the 2009 Plan will guide our scheduling and  
10 procurement activities for the 2011 / 2012 tracking period until such time as  
11 NWE files its 2011 Electric Supply Resource Plan (2011 Plan). NWE will  
12 follow the Hedging Strategy in the 2011 Plan, guided by comments  
13 received from the Commission. NWE will adhere to the 2011 Plan and will  
14 not deviate from it unless a fundamental change occurs in the market or an  
15 opportunity presents itself that is not contemplated in the Plan. During this  
16 time NWE will continue to look for additional buying opportunities and  
17 search for other products and transactions that create value and  
18 efficiencies for the benefit of customers.

19  
20 Once again, NWE will continue to utilize a systematic, disciplined approach  
21 to energy supply procurement, and it will continue to inform stakeholders of  
22 noteworthy changes and developments.

23  
24 **Q. Does this complete your testimony?**

25  
26 **A.** Yes, it does.

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**PREFILED DIRECT TESTIMONY OF**  
**FRANK V. BENNETT**  
**ON BEHALF OF NORTHWESTERN ENERGY**  
**ELECTRICITY SUPPLY TRACKER**

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**Witness Information**

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**Q. Please state your name and business address.**

**A.** My name is Frank V. Bennett and my business address is 40 East Broadway Street, Butte, MT 59701.

**Q. By whom and in what capacity are you employed?**

**A.** I am employed by NorthWestern Energy (NorthWestern) as a Contract and Regulatory Specialist.

**Q. Please describe your employment history.**

**A.** I have been working with NorthWestern's Energy Supply group since 1996. In this capacity, I administer energy supply contracts of NorthWestern's Montana utility and assist with various other supply matters. I am a regular participant in the preparation of testimony, exhibits and work papers in supply-related proceedings before the Montana Public Service Commission (MPSC or Commission). From 1991 through 1996, I worked as a Landman for The Montana Power Company and North American Resources Company. During this time, I worked on Joint Operation contracts with other corporations and with land and mineral owners in an effort to explore and develop natural resources primarily in Montana, Wyoming, and Colorado. From 1984 through 1991, I worked in various capacities within the mineral industry, mainly for Altana Exploration Company

1 and Roan Resources Ltd., in the Canadian Provinces of Alberta and  
2 Saskatchewan with additional work in Montana and Colorado.

3  
4 **Q. Please describe your educational background.**

5 **A.** I attended Montana Tech of the University of Montana where I received my  
6 Bachelor of Science degree in Business and Information Technology.

7  
8 **Purpose of Testimony**

9  
10 **Q. Please describe your testimony.**

11 **A.** In my testimony I will present the following information:

- 12 ▪ Presentation of the tracker Exhibits filed in this Docket,
- 13 ▪ Updates to the costs included in the 12-month ended June 2011 tracking  
14 period with ten months of actual numbers and two months of estimated  
15 numbers,
- 16 ▪ Components included within the 12 month supply cost tracker for the period  
17 ended June 2011, and
- 18 ▪ The forecast costs of the 12-month ended June 2012 tracking period.

19  
20 **Revisions to Tracker Presentation in This Docket**

21  
22 **Q. Please summarize the general revisions to the tracker presentation filed in**  
23 **this Docket.**

1 **A.** By statutory definition, “Electricity supply costs” means the actual costs incurred  
2 in providing electricity supply service through power purchase agreements,  
3 demand side management, and energy efficiency programs including...” § 69-8-  
4 103(8), MCA. The electric tracker deals only with electricity supply costs. The  
5 presentation of testimony and exhibits filed in this Docket will be provided in three  
6 components, including Electricity Supply Tracker, Colstrip Unit 4 (CU4)  
7 Generation Asset, and Dave Gates Generating Station (“DGGS”) Generation  
8 Asset. All testimony is filed jointly to facilitate a retail customer total supply rate  
9 calculation.

10  
11 **Update to the 2010/2011 Electricity Supply Tracker Period**

12  
13 **Q. Please summarize the estimated 12-month electricity supply tracker period**  
14 **ending June 2011, as it was filed in Docket D2010.5.50.**

15 **A.** The tracker period ending June 2011 in Docket No. D2010.5.50 included 12  
16 estimated months, July 2010 through June 2011. Rates reflecting the 2010/2011  
17 tracker period were effective on July 1, 2010 under Interim Order No. 7093 in  
18 Docket No. D2010.5.50. Monthly rate adjustment trackers have been filed for  
19 each month, beginning August 2010 through June 2011.

20  
21 **Q. How has NorthWestern updated the CU4 generation that is reflected in the**  
22 **2010/2011 tracker?**

1 **A.** NorthWestern has included approximately 111 MW of unit contingent energy  
2 from June 1, 2010 through December 31, 2010, and approximately 222 MW of  
3 unit contingent energy from January 1, 2011 to June 30, 2011.

4

5 **Q. How has NorthWestern updated the transmission regulation service in the**  
6 **2010/2011 tracker?**

7 **A.** NorthWestern replaced the historical third party contracts for regulating service  
8 that are reflected in the 2010/2011 Electric Tracker with regulation service from  
9 the DGGGS, which began supplying this service on January 1, 2011.

10

11 **Q. How has the regulation cost associated with United Materials of Great Falls**  
12 **(“UMGF”) been adjusted in this filing?**

13 **A.** Final Order 6836c from Docket Nos. D2006.5.66 and D2007.5.46 directed  
14 NorthWestern to reduce regulation costs associated with UMGF from the  
15 2005/2006 tracking period forward. Accordingly, NorthWestern has removed all  
16 associated wind regulation charges for the UMGF project from the 2005/2006  
17 tracking period forward for the periods of time that NorthWestern Energy Supply  
18 was not purchasing the output from this facility. These removed regulation  
19 charges are not part of the Transmission Business Unit rate NorthWestern  
20 charges to its retail customers, but are absorbed by NorthWestern’s equity  
21 holders.

22

1 **Q. In addition to adjustments made for CU4 and regulation service as**  
2 **described above, how has the 12-month ended June 2011 electricity supply**  
3 **tracker period been updated from the forecasts originally filed in Docket**  
4 **No. D2010.5.50?**

5 **A.** As shown on Exhibit\_\_(FVB-1)\_10-11, the 12 months of estimated information  
6 shown in Exhibit (FVB-3)\_10-11 from Docket No. D2010.5.50 have been updated  
7 to actual numbers<sup>1</sup> for the months of July 2010 through April 2011 with forecasts  
8 for May and June 2011. The actual numbers identify the realized load, specific  
9 monthly resource quantities bought and sold, and related costs for each month in  
10 NorthWestern's electricity supply portfolio. Pages 3 and 4 show that during the  
11 12-month tracker period ending June 2011, NorthWestern expects to purchase  
12 6,488,616 MWh of electricity at a cost of \$237,554,773 for its electricity supply  
13 customers. The July 2010 beginning Deferred Account balance was \$6,980,033  
14 under collection for the market-based supply portion of this Exhibit. Incorporating  
15 this July 2010 beginning Deferred Account balance of \$6,980,033 under  
16 collection with 10 months of actual and 2 months of estimated information, the 12  
17 months ended June 2011 Deferred Account balance is forecasted to be  
18 \$20,715,501 under collection. Refer to Exhibit\_\_(FVB-1)\_10-11, page 2. Please  
19 refer to the Prefiled Direct Testimony of Cheryl A. Hansen – Electric Supply  
20 Tracker for further discussion of the Deferred Account.

21  
22 **Components of 2010/2011 Electricity Supply Tracker Period**

---

<sup>1</sup> With the exception of transmission (e.g.: load following and imbalance costs) in which there is a lag of actual costs by a number of months.

1 **Q. Describe the Electricity Supply cost components of the 12-month ended**  
2 **June 2011 tracker period as shown in Exhibit\_\_(FVB-1)\_10-11.**

3 **A.** There are four basic cost components that make up the Electric Supply portfolio  
4 for the 12-month tracker period July 2010 through June 2011:

5

6 1) Market Based Electric Supply – which includes the following:

7 a) A 275 Megawatt (MW) peak and 150 MW off-peak contract with PPL  
8 Montana, LLC that is supplied seven days per week, 24 hours per day,  
9 irrespective of the operating performance of any specific electric  
10 generating facility. This is a declining volume contract and expires June  
11 30, 2014.

12

13 b) A 25 MW peak firm energy contract with PPL Montana, LLC secured  
14 through a May 2009 Request for Proposals (RFP). This contract expires  
15 June 30, 2017.

16

17 c) Approximately 100 MW of unit contingent Qualifying Facility (QF) energy  
18 that comes from contracts entered into prior to 1999. Under Tier II  
19 settlements, only a portion of the costs of these contracts is included in  
20 the electricity supply portfolio. The 10 months actual and two months  
21 estimate shows that the Tier II QFs under Stipulation will not meet the  
22 807,609 MWh per year target. Under the Montana Consumer Counsel  
23 stipulation with NorthWestern in Docket No. D2004.6.90, the deficient

1 energy will be replaced according to the normal performance  
2 replacement methodology. In addition to the Tier II contracts, NWE  
3 continues to sign new QF contracts under its QF-1 Tariff and includes an  
4 additional 14 MW of unit contingent QF generation (United Materials plus  
5 other small QFs) in the electricity supply portfolio at Commission  
6 determined rates.

7 d) Approximately 135 MW of unit contingent energy from the Judith Gap  
8 Energy, LLC wind turbine facility. Judith Gap Energy, LLC achieved  
9 commercial operation on February 16, 2006. This contract expires on  
10 December 31, 2026.

11  
12 e) Approximately 50 MW of dispatchable capacity from Basin Creek Equity  
13 Partners, LLC. The Basin Creek plant achieved commercial operation  
14 on July 1, 2006. This contract will expire on July 1, 2026, unless  
15 extended for a 5-year term in accordance with the contract.

16  
17 f) Approximately 6 MW of unit contingent energy from Tiber Montana, LLC.  
18 Tiber Montana achieved commercial operation on June 1, 2004. This  
19 contract expires on June 1, 2024.

20  
21 g) Approximately 13 MW of unit contingent energy from Turnbull Hydro,  
22 LLC. Turnbull is expected to achieve commercial operation in mid May  
23 2011. This contract expires December 31, 2031.

1 h) Approximately 25 MW of base load firm energy from Citigroup Energy  
2 Inc., secured through an October 2008 RFP. This contract expires June  
3 30, 2020.

4  
5 i) Short and medium-term market power purchases and sales transacted  
6 with various suppliers to balance variable customer demand with  
7 electricity supply. The energy requirements vary in part due to customer  
8 use and seasonal weather impacts that affect demand. During the  
9 2010/2011 electric supply tracking period, the net non-base transaction  
10 purchase requirement, as shown on page 3 of Exhibit\_\_(FVB-1)\_10-11,  
11 was 1,664,644 MWh or 25.65% of the annual supply requirements.

12  
13 j) Expenses related to wind regulation and other wind costs incurred to  
14 fully incorporate wind supply contracts into NWE's energy supply  
15 portfolio and to meet balancing authority area minimum operating  
16 reserve requirements for wind regulation that are independent of the  
17 transmission and distribution system regulation charges. These other  
18 wind costs include Invenergy costs, wind modeling, 3 Tier services,  
19 Fergus Electric service at the met tower sites, WREGIS fees, site rents,  
20 and other direct wind costs.

21  
22 k) Expenses related to system imbalance adjustments and operating  
23 reserves.

1           l) Demand Side Management (DSM) program implementation costs  
2           directly involved with DSM programs and projects and related  
3           Transmission and Distribution Lost Revenues, which are all included as  
4           expenses. DSM related costs and program results for the 2010/2011  
5           tracker period and forecasts for the 2011/2012 tracker period are  
6           discussed in the Prefiled Direct Testimony of William M. Thomas  
7           (Thomas Direct Testimony).

8  
9           2) Generation Assets - This includes any energy contributed to the Supply  
10          Portfolio by NorthWestern's owned Generation Assets, described below. This  
11          energy reduces market purchases that would otherwise be made to balance  
12          loads with resources.

13  
14          a) CU4 is a Generation Asset approved for inclusion under Order 6925f in  
15          Docket No. D2008.6.69 at approximately 111 MW of unit contingent  
16          energy from June 2010 until January 2011, when the volume increased  
17          to approximately 222 MW of unit contingent energy. This asset was  
18          originally included as a rate based facility in January 2009.

19  
20          b) DGGS at Mill Creek is a Generation Asset with interim approval under  
21          Order 6943c in Docket No. D2008.8.95. NorthWestern includes 7 MW of  
22          base load energy as a result of minimum turndown from generating unit

1 operations. This asset was included as a rate based facility starting  
2 January 1, 2011.

3  
4 3) Transmission Services – Costs associated with moving electricity off-system  
5 via point-to-point transmission service for resource balancing as well as other  
6 “ancillary services” required for system integrity and reliability. Regulation  
7 and Frequency Response Service is an ancillary service which provides  
8 instantaneous voltage and energy regulation to balance load and resources.  
9 This service was provided under contract for the first six months of 2010 and  
10 represents \$4,105,170 of the \$4,878,139 stated transmission cost shown on  
11 page 1 of Exhibit\_\_(FVB-1)\_10-11. This service will be provided by the  
12 DGGS Generation Asset from January 1, 2011 forward. Costs of the  
13 transmission facilities utilized to transmit and distribute energy to electric  
14 supply customers are included in delivery rates and as such, no additional  
15 revenue is collected for these costs in the tracker. As explained previously,  
16 Final Order 6836c provided direction for the removal of UMGF regulation  
17 costs from the electric tracker for periods when the power generation is not  
18 being purchased by NorthWestern for its retail customers.

19  
20 4) Administrative Expenses – Incremental administrative and general costs  
21 above those recovered in the last general rate case filing of \$2,050,405, or  
22 0.83% of total electric supply expenses are also included in electric supply  
23 costs. These costs include outside legal services, scheduling, software,

1 broker costs, real-time transactions, and other incremental expenses directly  
 2 related to the electricity supply function (such as outside consultants to assist  
 3 with or review procurement activities).

4 **Q. Please summarize the results of the 12-month ended June 2011 tracker**  
 5 **period.**

6 **A.** The results of the 2010/2011 tracker period are summarized in the following  
 7 table:

8

<b>Beginning Deferred Account</b>	<b>Balance</b>
Under Collection	\$ 6,980,033

<b>Energy Supply/Service</b>	<b>MWh</b>	<b>Cost</b>	<b>Cost / MWh</b>
Net Fixed Price Transactions	462,280	\$ 20,615,980	\$44.60
Net Market Transactions	1,202,364	29,673,117	24.68
PPL 7 Year Contract	1,928,000	97,070,800	50.35
PPL 2009 RFP	122,800	7,404,840	60.30
QF Tier II Contracts	776,313	27,411,623	35.31
QF Tier II Adjustments		301,598	
QF-1 Tariff Contracts	12,690	311,870	24.58
Tiber	36,649	1,512,172	41.26
Turnbull	10,176	663,984	65.25
Judith Gap Energy	454,710	13,445,321	29.57
Wind Ancillary	NA	1,984,060	
Wind Other	NA	1,633,098	
Citigroup 2008 RFP	219,000	13,665,600	62.40
Basin Creek Fixed Capacity	15,117	5,292,627	
Basin Creek Operating Reserves	NA	(1,122,269)	
Basin Creek Wind Firming	2,370	(100,201)	
Basin Creek Fuel	NA	1,381,725	
Basin Creek Variable O&M	NA	75,348	
Basin Creek Gas Storage Capacity	NA	36,000	
Operating Reserves	NA	2,316,736	
DSM Program & Labor Costs	NA	7,086,931	
DSM Lost T & D Revenue	NA	1,190,556	

DSM Lost T & D Revenue Adjust	NA	1,063,750
Imbalance	NA	4,639,508
Transmission Costs	NA	4,878,139
Administrative Expenses	NA	2,050,405
Carrying Cost	NA	1,642,559
Colstrip Unit 4 Generation Asset	1,193,805	
DGGS at Mill Creek Generation Asset	52,342	
Total Expenses:		\$ 246,125,877

Electricity Sales	MWh	Revenue
Electric Cost Revenue		\$ 233,489,736
Prior Deferred Expense		(1,099,328)
Total Revenue:		\$ 232,390,409

Ending Deferred Account		Balance
Under Collection		\$ 20,715,501

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**2011/2012 Forecast Electricity Supply Tracker Period**

**Q. Please summarize the 12-month electricity supply tracker period ending June 2012 as filed in this Docket.**

**A.** The June 2011 Deferred Account market-based supply under collection ending balance of \$20,715,501 as described above is the July 2011 beginning balance. July 2011 through June 2012 information is based on forecast numbers and includes the following existing electric supply base contracts: various qualifying facilities, Tiber Montana, Basin Creek Equity Partners, LLC, Judith Gap Energy, LLC, PPL Montana, LLC, Gordon Butte Wind, LLC, Citigroup Energy, Inc., and Turnbull Hydro, LLC. Together these electricity supply contracts are grouped as “Base Contracts” in the tracker. Base Contracts are those contracts with a term greater than 18 months at inception of the contract. Please see Exhibit\_\_(FVB-

1 2)\_11-12 pages 3 and 4 for supply volume and cost details of the 12-month  
2 forecast tracker period.

3  
4 Basin Creek plant output in this forecast has been modeled using recent  
5 operational experience. The actual daily operation of the plant will take into  
6 consideration the market conditions and the total Electric Supply Portfolio  
7 environment.

8  
9 As described previously, NorthWestern was provided direction under FOF 160 in  
10 Final Order 6836c from Docket Nos. D2006.5.66 and D2007.5.46 to adjust for a  
11 portion of regulation costs attributable to the UMGF wind project. This  
12 adjustment is reflected in the Transmission cost section on page 1 of  
13 Exhibit\_\_(FVB-2)\_11-12.

14  
15 **Q. How has NorthWestern treated regulation costs in the 2011/2012 tracker?**

16 **A.** As of January 1, 2011, NorthWestern has replaced the historical third party  
17 contracts for regulating service with the DGGS, Generation Asset. NorthWestern  
18 includes 7 MW of base load energy as a result of minimum turndown from  
19 generating unit operations on page 3 of Exhibit\_\_(FVB-2)\_11-12.

20  
21 **Q. How does the generation output from CU4 impact the 2011/2012 tracking**  
22 **period?**

1 **A.** Approximately 222 MW of unit contingent energy from the CU4 Generation Asset  
2 is included in this forecast period.

3

4 **Q. Describe the Total Supply requirement of the 12-month period ending June**  
5 **2012 as illustrated in Exhibit\_\_(FVB-2)\_11-12.**

6 **A.** NorthWestern’s electricity supply forecasted Total Delivered Supply is estimated  
7 at 6,387,316 MWh, as shown on page 3 of Exhibit\_\_(FVB-2)\_11-12.

8

9 **Q. How much of the projected 12-month ended June 2012 tracker portfolio will**  
10 **be covered with Non-Base contract transactions?**

11 **A.** Non-Base transactions are those with a term of 18 months or less at the  
12 inception of the contract and are entered into in part to meet seasonal load and  
13 changes in load due to weather for NWE’s overall Electric Supply Portfolio. Total  
14 “Non-Base transactions” are shown in two categories on page 3 of  
15 Exhibit\_\_(FVB-2)\_11-12. The first category is “net fixed price transactions” that  
16 include the purchases and sales made under fixed price contracts. The second  
17 category is “net market transactions” which are the purchases and sales made  
18 under index contracts. Together, the Non-Base transactions are projected to be  
19 14.2% or 898,007 MWh of the total delivered supply necessary to meet load.

20

21 **Q. Please summarize the 12-month ended June 2012 forecast tracker period.**

22 **A.** The forecast tracker period is summarized in the following table:

<b>Beginning Deferred Account</b>		<b>Balance</b>
Under Collection		\$ 20,715,501

<b>Energy Supply/Service</b>	<b>MWh</b>	<b>Cost</b>	<b>Cost / MWh</b>
Net Fixed Price Transactions	40,000	\$ 1,201,500	\$30.04
Net Market Transactions	858,007	27,564,048	32.13
PPL 7 Year Contract	1,933,600	100,447,640	51.95
PPL 2009 RFP	123,200	7,428,960	60.30
QF Tier II Contracts	809,472	29,124,803	35.98
QF Tier II Adjustments	-	-	
QF-1 Tariff Contracts	17,568	600,339	34.17
Gordon Butte	24,864	1,720,837	69.21
Tiber	22,560	894,876	39.67
Turnbull	24,264	1,583,226	65.25
Judith Gap Energy	460,736	13,574,925	29.46
Wind Ancillary	NA	-	
Wind Other	NA	67,632	
Citigroup 2008 RFP	219,600	13,703,040	62.40
Basin Creek Fixed Capacity	17,414	5,304,763	
Basin Creek Operating Reserves	NA	(1,851,667)	
Basin Creek Wind Firming	NA	-	
Basin Creek Fuel	NA	1,041,265	
Basin Creek Variable O&M	NA	73,860	
Basin Creek Gas Storage Capacity	NA	36,000	
Operating Reserves	NA	3,594,413	
DSM Program & Labor Costs	NA	8,063,519	
DSM Lost T & D Revenue	NA		
DSM Lost T & D Revenue Adjust	NA	-	
Imbalance	NA	4,639,508	
Transmission Costs	NA	168,833	
Administrative Expenses	NA	1,802,179	
Carrying Cost	NA	684,009	
Colstrip Unit 4 Generation Asset	1,774,543		
DGGS at Mill Creek Generation Asset	61,488		
<b>Total Expenses:</b>		<b>\$ 221,468,507</b>	

<b>Electricity Sales</b>	<b>MWh</b>	<b>Revenue</b>
Electric Cost Revenue		\$ 221,468,509
Prior Deferred Expense		20,715,500

Total Revenue:		\$ 242,184,008
----------------	--	----------------

Ending Deferred Account		Balance
Under Collection		\$ 0

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**Q. Describe the electric supply Revenue and Expense categories for the 12-month ended June 2012 forecast tracker period.**

**A.** The electric supply tracker revenue and expense details are reflected on page 1 of Exhibit\_\_(FVB-2)\_11-12 under two main sections, Total Revenue and Total Expenses. Total Revenue is estimated to be \$242,184,008. This includes the \$20,715,501 under collection for the 2010-2011 tracking period. The 12-month forecast tracker estimates Total Expenses of \$221,468,507, reflecting a 10% decrease from the prior period. Included within the costs reflected in the forecast period are DSM costs that are further explained in the Thomas Direct Testimony.

**Q. Are there any additional updates anticipated for the first monthly tracker rate filing in this Docket?**

**A.** Not at this time. Because a normal monthly filing would have been transmitted on June 15, 2011, for July 2011 rates, the July tracker filed under this Docket reflects the first monthly tracker rate filing under a yet to be assigned monthly tracker Docket number. The electric market forecast used in this filing was dated several weeks earlier than the forecasts normally used in monthly tracker rate filings. Therefore, if electric market prices decrease or increase dramatically prior to June 15, 2011, NorthWestern will file a monthly tracker rate filing update for a July 2011 rate adjustment.

1 **Q.** Does this conclude your pre-filed testimony?

2 **A.** Yes.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1		Electric Supply Cost Tracker													
2		Electric Tracker Projection Excluding Generation Assets Cost of Service													
3															
4			Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Total
5			Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate	Estimate	
6		<b>Total Sales and Unit Costs</b>													
7		MWh	458,066	499,778	469,466	429,194	444,548	529,846	563,815	539,118	537,414	485,810	456,788	500,237	5,914,080
8		Supply Cost	\$ 43,5805	\$ 42,2662	\$ 41,2566	\$ 40,5322	\$ 39,4859	\$ 39,1148	\$ 37,6968	\$ 37,5924	\$ 37,8926	\$ 37,4905	\$ 37,5867	\$ 37,2952	\$ 39,4859
9		YNP MWh	4,294	2,781	2,421	2,927	905	685	632	671	818	712	1,983	2,609	21,439
10		YNP Supply Rate	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000	\$ 55.8000
11		Prior Year(s) Deferred Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
12															
13															
14		<b>Electric Cost Revenues</b>													
15		NWE Electric Supply	\$ 19,717,408	\$ 21,527,016	\$ 19,690,742	\$ 16,921,050	\$ 17,893,976	\$ 20,903,099	\$ 20,891,265	\$ 20,249,436	\$ 20,305,530	\$ 18,368,681	\$ 17,169,131	\$ 18,656,440	\$ 232,293,754
16		YNP Electric Supply	\$ 239,603	\$ 155,198	\$ 135,087	\$ 163,311	\$ 50,516	\$ 38,224	\$ 35,264	\$ 37,421	\$ 45,655	\$ 39,439	\$ 110,659	\$ 145,604	\$ 1,195,982
17		Subtotal	\$ 19,957,011	\$ 21,682,214	\$ 19,825,829	\$ 17,084,361	\$ 17,944,491	\$ 20,941,323	\$ 20,926,530	\$ 20,286,858	\$ 20,351,185	\$ 18,408,100	\$ 17,279,791	\$ 18,802,045	\$ 233,489,736
18		Prior Year(s) Deferred Expense	\$ (1,089,112)	\$ (10,534)	\$ 696	\$ (198)	\$ (172)	\$ (15)	\$ (1)	\$ -	\$ (2)	\$ 10	\$ -	\$ -	\$ (1,099,328)
19		Total Revenue	\$ 18,867,899	\$ 21,671,680	\$ 19,826,525	\$ 17,084,162	\$ 17,944,319	\$ 20,941,308	\$ 20,926,528	\$ 20,286,858	\$ 20,351,183	\$ 18,408,110	\$ 17,279,791	\$ 18,802,045	\$ 232,390,409
20															
21															
22		<b>Electric Supply Expenses</b>													
23		Net Non-Base Transactions	\$ 5,973,248	\$ 6,893,984	\$ 5,615,245	\$ 3,870,842	\$ 5,865,774	\$ 7,671,356	\$ 5,154,341	\$ 3,550,096	\$ 1,938,320	\$ 2,517,644	\$ 781,676	\$ 456,572	\$ 50,289,097
24															
25		Net Base Contracts	\$ 17,405,052	\$ 14,780,808	\$ 13,150,453	\$ 15,563,356	\$ 15,755,121	\$ 16,943,901	\$ 15,058,755	\$ 14,853,128	\$ 14,870,175	\$ 16,905,394	\$ 16,045,405	\$ 15,934,128	\$ 187,265,676
26		Total Electric Supply Expenses	\$ 23,378,300	\$ 21,674,792	\$ 18,765,698	\$ 19,434,198	\$ 21,620,895	\$ 24,615,257	\$ 20,213,096	\$ 18,403,224	\$ 16,808,495	\$ 19,423,038	\$ 16,827,080	\$ 16,390,701	\$ 237,554,773
27															
28		<b>NWE Transmission Costs</b>													
29		Ancillary Cost (Regulation)	\$ 757,623	\$ 634,742	\$ 448,937	\$ 704,889	\$ 875,115	\$ 602,589	\$ 152,642	\$ (71,366)	\$ -	\$ -	\$ -	\$ -	\$ 4,105,170
30		Other Services (Wheeling)	\$ 191,304	\$ 116,587	\$ 96,338	\$ 96,554	\$ 105,859	\$ 107,373	\$ 107,665	\$ 70,423	\$ 46,547	\$ 39,703	\$ 7,330	\$ 23,225	\$ 1,010,909
31		Ancillary Cost (Disallowed)	\$ (28,453)	\$ (28,453)	\$ (28,453)	\$ (28,453)	\$ (28,453)	\$ (28,453)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ 12,091	\$ (15,863)	\$ (15,863)	\$ (237,940)
32		Total NWE Transmission	\$ 920,474	\$ 722,876	\$ 516,822	\$ 774,990	\$ 952,521	\$ 681,510	\$ 244,444	\$ (16,806)	\$ 30,685	\$ 51,793	\$ (8,532)	\$ 7,363	\$ 4,878,139
33															
34		<b>Administrative Expenses</b>													
35		MCC Tax Collection (.0003/0011)	\$ 5,575	\$ 6,420	\$ 5,871	\$ 18,657	\$ 19,458	\$ 22,848	\$ 22,751	\$ 22,005	\$ 22,053	\$ 19,908	\$ 19,008	\$ 20,682	\$ 205,235
36		MPSC Tax Collection (.0031/0042)	\$ 68,762	\$ 79,176	\$ 72,406	\$ 71,057	\$ 74,294	\$ 87,237	\$ 86,867	\$ 84,018	\$ 84,201	\$ 76,013	\$ 72,575	\$ 78,969	\$ 935,574
37		Modeling	\$ 44,307	\$ 5,394	\$ 90,445	\$ 41,116	\$ 56,679	\$ 17,887	\$ 9,974	\$ 77,494	\$ 8,858	\$ 66,575	\$ 46,128	\$ 46,128	\$ 510,984
38		Realtime Desk Labor	\$ 6,097	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,097
39		Trading & Marketing	\$ 9,532	\$ 6,764	\$ 9,652	\$ 7,681	\$ 7,381	\$ 8,942	\$ 6,550	\$ 10,234	\$ 8,211	\$ 6,400	\$ 8,782	\$ 8,782	\$ 98,911
40		Administration	\$ 4,568	\$ 34,400	\$ 82,159	\$ 17,254	\$ 20,169	\$ 12,555	\$ 4,400	\$ 76,347	\$ 9,054	\$ 22,052	\$ 4,323	\$ 4,323	\$ 293,604
41		Total Administrative Expenses	\$ 138,842	\$ 132,164	\$ 260,532	\$ 155,766	\$ 177,980	\$ 149,469	\$ 130,542	\$ 272,097	\$ 132,376	\$ 190,948	\$ 150,816	\$ 158,884	\$ 2,050,405
42															
43		<b>Carrying Cost Expense</b>													
44		Carrying Costs	\$ 89,146	\$ 95,875	\$ 94,543	\$ 118,519	\$ 153,508	\$ 186,599	\$ 170,765	\$ 161,235	\$ 140,191	\$ 149,331	\$ 148,278	\$ 134,568	\$ 1,642,559
45		Total Carrying Costs	\$ 89,146	\$ 95,875	\$ 94,543	\$ 118,519	\$ 153,508	\$ 186,599	\$ 170,765	\$ 161,235	\$ 140,191	\$ 149,331	\$ 148,278	\$ 134,568	\$ 1,642,559
46															
47															
48		Total Expenses	\$ 24,526,762	\$ 22,625,697	\$ 19,637,594	\$ 20,483,472	\$ 22,904,904	\$ 25,632,834	\$ 20,758,847	\$ 18,819,750	\$ 17,111,747	\$ 19,815,111	\$ 17,117,642	\$ 16,691,515	\$ 246,125,877
49															
50		Deferred Cost Amortization	\$ (1,089,112)	\$ (10,534)	\$ 696	\$ (198)	\$ (172)	\$ (15)	\$ (1)	\$ -	\$ (2)	\$ 10	\$ -	\$ -	\$ (1,099,328)
51		(undercollection)/overcollection													
52		Monthly Deferred Cost	\$ (4,569,752)	\$ (943,483)	\$ 188,235	\$ (3,399,112)	\$ (4,960,413)	\$ (4,691,511)	\$ 167,683	\$ 1,467,108	\$ 3,239,438	\$ (1,407,011)	\$ 162,149	\$ 2,110,530	\$ (12,636,140)
53		Cumulative Deferred Cost	\$ (4,569,752)	\$ (5,513,234)	\$ (5,325,000)	\$ (8,724,112)	\$ (13,684,524)	\$ (18,376,036)	\$ (18,208,353)	\$ (16,741,246)	\$ (13,501,808)	\$ (14,908,819)	\$ (14,746,670)	\$ (12,636,140)	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Electric Supply Cost Tracker</b>													
2	<b>Electric Tracker Projection Excluding Generation Assets Cost of Service</b>													
3														
4		Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	
5		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate	Estimate	
6														
7		Note: for supply cost expense positive value reflects an undercollection, negative an (overcollection).												
8	<b>Deferred Supply Cost Expense</b>													
9	Beginning Balance	\$ 6,980,033	\$ 12,638,897	\$ 13,592,913	\$ 13,403,982	\$ 16,803,292	\$ 21,763,877	\$ 26,455,403	\$ 26,287,722	\$ 24,820,614	\$ 21,581,179	\$ 22,988,180	\$ 22,826,031	\$ 22,826,031
10	Monthly Deferred Cost	\$ 5,658,863	\$ 954,017	\$ (188,931)	\$ 3,399,310	\$ 4,960,585	\$ 4,691,526	\$ (167,681)	\$ (1,467,108)	\$ (3,239,436)	\$ 1,407,001	\$ (162,149)	\$ (2,110,530)	\$ (2,110,530)
11	Ending Balance	\$ 12,638,897	\$ 13,592,913	\$ 13,403,982	\$ 16,803,292	\$ 21,763,877	\$ 26,455,403	\$ 26,287,722	\$ 24,820,614	\$ 21,581,179	\$ 22,988,180	\$ 22,826,031	\$ 20,715,501	\$ 20,715,501
12														
13														
14	Total Capital	\$ 12,638,897	\$ 13,592,913	\$ 13,403,982	\$ 16,803,292	\$ 21,763,877	\$ 26,455,403	\$ 26,287,722	\$ 24,820,614	\$ 21,581,179	\$ 22,988,180	\$ 22,826,031	\$ 20,715,501	\$ 20,715,501
15														
16		2010			2011									
17	<b>Cost of Capital</b>	<b>Rate</b>	<b>% Capitalization</b>	<b>Rate of Return</b>	<b>Rate</b>	<b>% Capitalization</b>	<b>Rate of Return</b>							
18	Long-Term Debt	6.46%	42.17%	2.72%	5.76%	52.00%	3.00%							
19	Common Equity	10.75%	43.00%	4.62%	10.00%	48.00%	4.80%							
20	Preferred	6.40%	6.97%	0.45%										
21	QUIPS Preferred	8.54%	7.86%	0.67%										
22														
23	Average Cost of Capital			8.46%			7.80%							
24														
25	<b>Deferred Supply Expense</b>													
26	Carrying Charge	8.46%												
27														

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Black Sheep Coal Facility														
2	Black Sheep Coal Facility														
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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	<b>Electric Supply Cost Tracker</b>														
2	<b>Electric Tracker Projection Excluding Generation Assets Cost of Service</b>														
3															
4															
5			Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Total
6			Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	
7	<b>Total Sales and Unit Costs</b>														
8	MWh		498,772	528,070	480,850	458,338	477,652	522,117	553,182	516,141	487,755	467,727	447,710	452,983	5,891,295
9	Supply Cost	\$	37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890	\$ 37,3890
10	YNP MWh		2,682	2,586	2,555	1,902	1,026	826	956	969	883	957	1,821	2,683	19,846
11	YNP Supply Rate	\$	60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000	\$ 60.4000
12	Prior Year(s) Deferred Expense	\$	3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163	\$ 3.5163
13															
14	<b>Electric Cost Revenues</b>														
15	NWE Electric Supply	\$	18,648,587	\$ 19,744,015	\$ 17,978,521	\$ 17,136,813	\$ 17,858,930	\$ 19,521,433	\$ 20,682,954	\$ 19,297,997	\$ 18,236,682	\$ 17,487,855	\$ 16,739,436	\$ 16,936,580	\$ 220,269,803
16	YNP Electric Supply	\$	162,004	\$ 156,184	\$ 154,330	\$ 114,874	\$ 61,941	\$ 49,891	\$ 57,723	\$ 58,539	\$ 53,340	\$ 57,833	\$ 110,015	\$ 162,032	\$ 1,198,706
17	Subtotal	\$	18,810,591	\$ 19,900,198	\$ 18,132,851	\$ 17,251,687	\$ 17,920,871	\$ 19,571,324	\$ 20,740,677	\$ 19,356,536	\$ 18,290,022	\$ 17,545,687	\$ 16,849,451	\$ 17,098,612	\$ 221,468,509
18	Prior Year(s) Deferred Expense	\$	1,753,826	\$ 1,856,846	\$ 1,690,808	\$ 1,611,649	\$ 1,679,561	\$ 1,835,913	\$ 1,945,150	\$ 1,814,900	\$ 1,715,087	\$ 1,644,663	\$ 1,574,277	\$ 1,592,818	\$ 20,715,500
19	Total Revenue	\$	20,564,417	\$ 21,757,045	\$ 19,823,659	\$ 18,863,336	\$ 19,600,433	\$ 21,407,237	\$ 22,685,827	\$ 21,171,436	\$ 20,005,110	\$ 19,190,351	\$ 18,423,728	\$ 18,691,430	\$ 242,184,008
20															
21															
22	<b>Electric Supply Expenses</b>														
23	Net Non-Base Transactions	\$	2,949,444	\$ 4,473,542	\$ 1,717,012	\$ 1,564,151	\$ 2,442,755	\$ 4,480,029	\$ 4,191,057	\$ 2,692,210	\$ 1,966,313	\$ 677,802	\$ 542,850	\$ 1,068,383	\$ 28,765,548
24															
25	Net Base Contracts	\$	15,267,032	\$ 14,118,136	\$ 14,853,425	\$ 15,942,619	\$ 16,262,141	\$ 16,489,284	\$ 16,758,557	\$ 15,412,081	\$ 16,266,929	\$ 16,183,673	\$ 16,382,290	\$ 16,111,772	\$ 190,047,938
26	Total Electric Supply Expenses	\$	18,216,477	\$ 18,591,677	\$ 16,570,437	\$ 17,506,770	\$ 18,704,896	\$ 20,969,313	\$ 20,949,614	\$ 18,104,291	\$ 18,233,242	\$ 16,861,475	\$ 16,925,140	\$ 17,180,156	\$ 218,813,486
27															
28	<b>NWE Transmission Costs</b>														
29															
30	Other Services (Wheeling)	\$	72,743	\$ 8,393	\$ 33,864	\$ 32,932	\$ 35,034	\$ 32,420	\$ 2,540	\$ 17,722	\$ 17,512	\$ 33,114	\$ 40,048	\$ 32,862	\$ 359,183
31	Ancillary Cost (Disallowed)	\$	(15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (15,863)	\$ (190,350)
32	Total NWE Transmission	\$	56,880	\$ (7,470)	\$ 18,002	\$ 17,070	\$ 19,171	\$ 16,557	\$ (13,323)	\$ 1,859	\$ 1,650	\$ 17,251	\$ 24,186	\$ 17,000	\$ 168,833
33															
34	<b>Administrative Expenses</b>														
35	MCC Tax Collection (.0011)	\$	22,621	\$ 23,933	\$ 21,806	\$ 20,750	\$ 21,560	\$ 23,548	\$ 24,954	\$ 23,289	\$ 22,006	\$ 21,109	\$ 20,266	\$ 20,561	\$ 266,402
36	MPSC Tax Collection (.0042)	\$	86,371	\$ 91,380	\$ 83,259	\$ 79,226	\$ 82,322	\$ 89,910	\$ 95,280	\$ 88,920	\$ 84,021	\$ 80,599	\$ 77,380	\$ 78,504	\$ 1,017,173
37	Modeling	\$	20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 20,198	\$ 242,376
38	Trading & Marketing	\$	8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 8,327	\$ 99,924
39	Administration	\$	14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 14,692	\$ 176,304
40	Total Administrative Expenses	\$	152,208	\$ 158,529	\$ 148,282	\$ 143,193	\$ 147,099	\$ 156,675	\$ 163,452	\$ 155,426	\$ 149,244	\$ 144,926	\$ 140,863	\$ 142,282	\$ 1,802,179
41															
42	<b>Carrying Cost Expense</b>														
43	Carrying Costs	\$	121,463	\$ 102,548	\$ 83,035	\$ 75,756	\$ 71,483	\$ 70,219	\$ 60,308	\$ 41,676	\$ 31,350	\$ 17,388	\$ 8,783	\$ 0	\$ 684,009
44	Total Carrying Costs	\$	121,463	\$ 102,548	\$ 83,035	\$ 75,756	\$ 71,483	\$ 70,219	\$ 60,308	\$ 41,676	\$ 31,350	\$ 17,388	\$ 8,783	\$ 0	\$ 684,009
45															
46															
47	Total Expenses	\$	18,547,028	\$ 18,845,285	\$ 16,819,756	\$ 17,742,788	\$ 18,942,649	\$ 21,212,765	\$ 21,160,051	\$ 18,303,253	\$ 18,415,486	\$ 17,041,040	\$ 17,098,970	\$ 17,339,437	\$ 221,468,507
48															
49	Deferred Cost Amortization	\$	1,753,826	\$ 1,856,846	\$ 1,690,808	\$ 1,611,649	\$ 1,679,561	\$ 1,835,913	\$ 1,945,150	\$ 1,814,900	\$ 1,715,087	\$ 1,644,663	\$ 1,574,277	\$ 1,592,818	\$ 20,715,500
50	(under collection)/over collection														
51	Monthly Deferred Cost	\$	263,563	\$ 1,054,914	\$ 1,313,095	\$ (491,101)	\$ (1,021,778)	\$ (1,641,440)	\$ (419,374)	\$ 1,053,283	\$ (125,463)	\$ 504,647	\$ (249,519)	\$ (240,825)	\$ 1
52	Cumulative Deferred Cost	\$	263,563	\$ 1,318,477	\$ 2,631,572	\$ 2,140,472	\$ 1,118,694	\$ (522,746)	\$ (942,121)	\$ 111,162	\$ (14,301)	\$ 490,346	\$ 240,827	\$ 1	\$ 1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<b>Electric Supply Cost Tracker</b>													
2	<b>Electric Tracker Projection Excluding Generation Assets Cost of Service</b>													
3														
4														
5			Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
6			Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate
7														
8			Note: for supply cost expense positive value reflects an under collection, negative an (over collection).											
9	<u>Deferred Supply Cost Expense</u>													
10			\$ 20,715,501	\$ 18,698,112	\$ 15,786,352	\$ 12,782,449	\$ 11,661,900	\$ 11,004,116	\$ 10,809,644	\$ 9,283,868	\$ 6,415,685	\$ 4,826,061	\$ 2,676,751	\$ 1,351,993
11			\$ (2,017,389)	\$ (2,911,760)	\$ (3,003,904)	\$ (1,120,549)	\$ (657,784)	\$ (194,473)	\$ (1,525,775)	\$ (2,868,183)	\$ (1,589,624)	\$ (2,149,311)	\$ (1,324,758)	\$ (1,351,993)
12			\$ 18,698,112	\$ 15,786,352	\$ 12,782,449	\$ 11,661,900	\$ 11,004,116	\$ 10,809,644	\$ 9,283,868	\$ 6,415,685	\$ 4,826,061	\$ 2,676,751	\$ 1,351,993	\$ 0
13														
14														
15			\$ 18,698,112	\$ 15,786,352	\$ 12,782,449	\$ 11,661,900	\$ 11,004,116	\$ 10,809,644	\$ 9,283,868	\$ 6,415,685	\$ 4,826,061	\$ 2,676,751	\$ 1,351,993	\$ 0
16														
17														
18														
19			<u>Rate</u>	<u>% Capitalization</u>	<u>Rate of Return</u>									
20			5.76%	52.00%	3.00%									
21			10.00%	48.00%	4.80%									
22														
23					7.80%									
24														
25			<u>Deferred Supply Expense</u>											
26			7.80%											
27														

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Electric Supply Cost Tracker														
2	Electric Tracker Projection														
3															
4	Generation in MWh		Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Total
5			Estimate												
6	<u>Non-Base Transactions</u>														
7	Net Fixed Price Transactions		40,000	0	0	0	0	0	0	0	0	0	0	0	40,000
8	Net Market Transactions		105,670	136,154	50,409	41,230	65,306	120,047	116,511	74,258	53,265	29,549	22,311	43,297	858,007
9															
10	Total Non-Base Transactions		145,670	136,154	50,409	41,230	65,306	120,047	116,511	74,258	53,265	29,549	22,311	43,297	898,007
11															
12															
13															
14	<u>Rate Based Assets</u>														
15	Colstrip Unit 4 MWh		150,303	150,303	145,454	150,303	145,454	150,303	150,303	140,606	150,303	145,454	150,303	145,454	1,774,543
16	Mill Creek Generating Station		5,208	5,208	5,040	5,208	5,040	5,208	5,208	4,872	5,208	5,040	5,208	5,040	61,488
17															
18	Total Rate Based Assets		155,511	155,511	150,494	155,511	150,494	155,511	155,511	145,478	155,511	150,494	155,511	150,494	1,836,031
19															
20															
21															
22															
23															
24	<u>Net Base Fixed Contracts</u>														
25	PPL 7 Year Contract		161,600	165,600	158,000	163,600	158,000	163,600	161,600	154,400	165,600	158,000	163,600	160,000	1,933,600
26	PPL 09 RFP		10,000	10,800	10,000	10,400	10,000	10,400	10,000	10,000	10,800	10,000	10,400	10,400	123,200
27	QF Tier II		56,544	37,200	66,960	72,168	69,840	72,912	72,168	69,600	74,400	68,400	74,400	74,880	809,472
28	QF Tier II Adjustment		-	-	-	-	-	-	-	-	-	-	-	-	-
29	QF-1 Tariff		1,488	1,488	1,440	1,488	1,440	1,488	1,488	1,392	1,488	1,440	1,488	1,440	17,568
30	Gordon Butte Wind QF		-	-	-	96	3,600	3,720	3,720	3,480	2,976	2,880	2,232	2,160	24,864
31	Tiber		-	-	-	-	4,320	3,720	2,976	3,480	4,464	3,600	-	-	22,560
32	Turnbull		8,184	4,464	1,440	-	-	-	-	-	-	-	2,976	7,200	24,264
33	Judith Gap Energy		22,544	25,848	28,080	43,264	48,640	51,032	55,736	43,080	43,032	38,800	34,840	25,840	460,736
34	Wind Ancillary		-	-	-	-	-	-	-	-	-	-	-	-	-
35	Wind Other		-	-	-	-	-	-	-	-	-	-	-	-	-
36	Citigroup 08 RFP		18,600	18,600	18,000	18,600	18,000	18,600	18,600	17,400	18,600	18,000	18,600	18,000	219,600
37															
38															
39	<u>Net Base Market Contracts</u>														
40	Basin Creek Fixed Capacity		3,016	3,885	1,352	1,036	854	1,114	1,598	204	222	688	600	2,845	17,414
41	Basin Creek Operating Reserves		-	-	-	-	-	-	-	-	-	-	-	-	-
42	Basin Creek Wind Firming		-	-	-	-	-	-	-	-	-	-	-	-	-
43	Basin Creek Fuel		-	-	-	-	-	-	-	-	-	-	-	-	-
44	Basin Creek Variable O & M		-	-	-	-	-	-	-	-	-	-	-	-	-
45	Basin Creek Gas Storage Capacity		-	-	-	-	-	-	-	-	-	-	-	-	-
46	Operating Reserves		-	-	-	-	-	-	-	-	-	-	-	-	-
47	DSM Program & Labor Costs		-	-	-	-	-	-	-	-	-	-	-	-	-
48	DSM Lost T & D Revenues		-	-	-	-	-	-	-	-	-	-	-	-	-
49	Imbalance		-	-	-	-	-	-	-	-	-	-	-	-	-
50	Total Base Contract Transactions		281,976	267,885	285,272	310,652	314,694	326,586	327,886	303,036	321,582	301,808	309,136	302,765	3,653,278
51															
52	Total Delivered Supply		583,157	559,550	486,175	507,393	530,494	602,144	599,908	522,772	530,358	481,851	486,958	496,556	6,387,316
53															
54	Percent Of Fixed Contracts		81.36%	74.97%	89.35%	91.67%	87.53%	79.88%	80.31%	85.76%	89.91%	93.72%	95.30%	90.71%	86.29%
55															13.71%

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	<b>Electric Supply Cost Tracker</b>														
2	<b>Electric Tracker Projection</b>														
3															
56	<b>Electric Tracker Projection Excluding Generation Assets Cost of Service</b>														
57	<b>Total Supply Expense</b>														
58		Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12		Total
59		Estimate													
60	<b>Non-Base Transactions</b>														
61	Net Fixed Price Transactions	\$ 1,201,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,201,500
62	Net Market Transactions	\$ 1,747,944	\$ 4,473,542	\$ 1,717,012	\$ 1,564,151	\$ 2,442,755	\$ 4,480,029	\$ 4,191,057	\$ 2,692,210	\$ 1,966,313	\$ 677,802	\$ 542,850	\$ 1,068,383	\$ 27,564,048	
63															
64	<b>Total Non-Base Transactions</b>	<b>\$ 2,949,444</b>	<b>\$ 4,473,542</b>	<b>\$ 1,717,012</b>	<b>\$ 1,564,151</b>	<b>\$ 2,442,755</b>	<b>\$ 4,480,029</b>	<b>\$ 4,191,057</b>	<b>\$ 2,692,210</b>	<b>\$ 1,966,313</b>	<b>\$ 677,802</b>	<b>\$ 542,850</b>	<b>\$ 1,068,383</b>	<b>\$ 28,765,548</b>	
65															
66															
67															
68															
69															
70															
71															
72															
73															
74															
75															
76															
77															
78	<b>Net Base Fixed Contracts</b>														
79	PPL 7 Year Contract	\$ 8,298,160	\$ 8,503,560	\$ 8,113,300	\$ 8,466,300	\$ 8,176,500	\$ 8,466,300	\$ 8,427,440	\$ 8,051,960	\$ 8,636,040	\$ 8,302,900	\$ 8,597,180	\$ 8,408,000	\$ 100,447,640	
80	PPL 09 RFP	\$ 603,000	\$ 651,240	\$ 603,000	\$ 627,120	\$ 603,000	\$ 627,120	\$ 603,000	\$ 603,000	\$ 651,240	\$ 603,000	\$ 627,120	\$ 627,120	\$ 7,428,960	
81	QF Tier II	\$ 2,034,453	\$ 1,338,456	\$ 2,409,221	\$ 2,596,605	\$ 2,512,843	\$ 2,623,374	\$ 2,596,605	\$ 2,504,208	\$ 2,676,912	\$ 2,461,032	\$ 2,676,912	\$ 2,694,182	\$ 29,124,803	
82	QF Tier II Adjustment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
83	QF-1 Tariff	\$ 34,001	\$ 54,510	\$ 54,072	\$ 58,363	\$ 56,480	\$ 58,363	\$ 57,296	\$ 53,600	\$ 57,296	\$ 38,360	\$ 39,639	\$ 38,360	\$ 600,339	
84	Gordon Butte Wind QF	\$ -	\$ -	\$ -	\$ 6,644	\$ 249,166	\$ 257,461	\$ 257,461	\$ 240,851	\$ 205,969	\$ 199,325	\$ 154,477	\$ 149,494	\$ 1,720,837	
85	Tiber	\$ -	\$ -	\$ -	\$ -	\$ 149,146	\$ 149,146	\$ 149,146	\$ 149,146	\$ 149,146	\$ 149,146	\$ -	\$ -	\$ 894,876	
86	Turnbull	\$ 534,006	\$ 291,276	\$ 93,960	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 194,184	\$ 469,800	\$ 1,583,226	
87	Judith Gap Energy	\$ 667,359	\$ 868,476	\$ 944,080	\$ 1,280,941	\$ 1,536,061	\$ 1,631,313	\$ 1,774,689	\$ 1,389,860	\$ 1,271,185	\$ 859,765	\$ 776,741	\$ 574,457	\$ 13,574,925	
88	Wind Ancillary	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
89	Wind Other	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 5,636	\$ 67,632	
90	Cligroup 08 RFP	\$ 1,160,640	\$ 1,160,640	\$ 1,123,200	\$ 1,160,640	\$ 1,123,200	\$ 1,160,640	\$ 1,160,640	\$ 1,085,760	\$ 1,160,640	\$ 1,123,200	\$ 1,160,640	\$ 1,123,200	\$ 13,703,040	
91															
92															
93	<b>Net Base Market Contracts</b>														
94	Basin Creek Fixed Capacity	\$ 436,674	\$ 436,126	\$ 440,273	\$ 435,822	\$ 441,088	\$ 439,216	\$ 392,789	\$ 450,266	\$ 450,266	\$ 460,474	\$ 461,129	\$ 460,641	\$ 5,304,763	
95	Basin Creek Operating Reserves	\$ (156,835)	\$ (156,835)	\$ (151,776)	\$ (156,835)	\$ (151,776)	\$ (156,835)	\$ (156,835)	\$ (146,717)	\$ (156,835)	\$ (151,776)	\$ (156,835)	\$ (151,776)	\$ (1,851,667)	
96	Basin Creek Wind Firming	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
97	Basin Creek Fuel	\$ 142,350	\$ 166,112	\$ 76,860	\$ 60,845	\$ 51,934	\$ 63,062	\$ 84,038	\$ 31,560	\$ 29,739	\$ 95,383	\$ 145,858	\$ 93,523	\$ 1,041,265	
98	Basin Creek Variable O & M	\$ 13,783	\$ 16,252	\$ 5,993	\$ 5,078	\$ 3,790	\$ 5,175	\$ 7,560	\$ 905	\$ 1,027	\$ 3,706	\$ 5,051	\$ 5,539	\$ 73,860	
99	Basin Creek Gas Storage Capacity	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 3,000	\$ 36,000	
100	Operating Reserves	\$ 304,445	\$ 304,445	\$ 294,624	\$ 304,445	\$ 294,624	\$ 304,445	\$ 304,445	\$ 284,803	\$ 304,445	\$ 294,624	\$ 304,445	\$ 294,624	\$ 3,594,413	
101	DSM Program & Labor Costs	\$ 799,734	\$ 88,616	\$ 451,356	\$ 701,392	\$ 820,832	\$ 465,243	\$ 705,022	\$ 317,618	\$ 434,598	\$ 1,349,273	\$ 1,000,488	\$ 929,347	\$ 8,063,519	
102	DSM Lost T & D Revenues	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
103	Imbalance	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 386,626	\$ 4,639,508	
104	<b>Total Base Contract Transactions</b>	<b>\$ 15,267,032</b>	<b>\$ 14,118,136</b>	<b>\$ 14,853,425</b>	<b>\$ 15,942,619</b>	<b>\$ 16,262,141</b>	<b>\$ 16,489,284</b>	<b>\$ 16,758,557</b>	<b>\$ 15,412,081</b>	<b>\$ 16,266,929</b>	<b>\$ 16,183,673</b>	<b>\$ 16,382,290</b>	<b>\$ 16,111,772</b>	<b>\$ 190,047,938</b>	
105															
106	<b>Total Delivered Supply</b>	<b>\$ 18,216,477</b>	<b>\$ 18,591,677</b>	<b>\$ 16,570,437</b>	<b>\$ 17,506,770</b>	<b>\$ 18,704,896</b>	<b>\$ 20,969,313</b>	<b>\$ 20,949,614</b>	<b>\$ 18,104,291</b>	<b>\$ 18,233,242</b>	<b>\$ 16,861,475</b>	<b>\$ 16,925,140</b>	<b>\$ 17,180,156</b>	<b>\$ 218,813,486</b>	
107															
108	Note: Wind Other includes: Invenergy impact, monthly and tax charges, Global Energy fees, 3 Tier fees, Electric service at wind towers, Basin allocations for firming, and property site leases.														
109															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Electric Supply Cost Tracker														
2	Electric Tracker Projection														
3															
110	Electric Tracker Projection Excluding Generation Assets Cost of Service														
111	Unit Costs														
112		Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12		Average
113		Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate		
114	<u>Non-Base Transactions</u>														
115		Net Fixed Price Transactions	\$ 30.038	n/a	\$ 30.038										
116		Net Market Transactions	\$ 16.542	\$ 32.856	\$ 34.062	\$ 37.937	\$ 37.405	\$ 37.319	\$ 35.971	\$ 36.255	\$ 36.916	\$ 22.938	\$ 24.331	\$ 24.676	\$ 32.126
117															
118		Total Non-Base Transactions	\$ 20.247	\$ 32.856	\$ 34.062	\$ 37.937	\$ 37.405	\$ 37.319	\$ 35.971	\$ 36.255	\$ 36.916	\$ 22.938	\$ 24.331	\$ 24.676	\$ 32.033
119															
120															
121															
122															
123															
124															
125															
126															
127															
128															
129															
130															
131	<u>Net Base Fixed Contracts</u>														
132		PPL 7 Year Contract	\$ 51.350	\$ 51.350	\$ 51.350	\$ 51.750	\$ 51.750	\$ 51.750	\$ 52.150	\$ 52.150	\$ 52.150	\$ 52.550	\$ 52.550	\$ 52.550	\$ 51.949
133		PPL 09 RFP	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300	\$ 60.300
134		QF Tier II	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980	\$ 35.980
135		QF Tier II Adjustment	n/a												
136		QF-1 Tariff	\$ 22.850	\$ 36.633	\$ 37.550	\$ 39.222	\$ 39.222	\$ 39.222	\$ 38.506	\$ 38.506	\$ 38.506	\$ 26.639	\$ 26.639	\$ 26.639	\$ 34.172
137		Gordon Butte Wind QF	n/a	n/a	n/a	\$ 69.210	\$ 69.210	\$ 69.210	\$ 69.210	\$ 69.210	\$ 69.210	\$ 69.210	\$ 69.210	\$ 69.210	\$ 69.210
138		Tiber	n/a	n/a	n/a	n/a	\$ 34.525	\$ 40.093	\$ 50.116	\$ 42.858	\$ 33.411	\$ 41.429	n/a	n/a	\$ 39.666
139		Turnbull	\$ 65.250	\$ 65.250	\$ 65.250	n/a	n/a	n/a	n/a	n/a	n/a	\$ 65.250	\$ 65.250	\$ 65.250	\$ 65.250
140		Judith Gap Energy	\$ 29.603	\$ 33.599	\$ 33.621	\$ 29.608	\$ 31.580	\$ 31.966	\$ 31.841	\$ 32.262	\$ 29.540	\$ 22.159	\$ 22.295	\$ 22.231	\$ 29.464
141		Wind Ancillary	n/a												
142		Wind Other	n/a												
143		Citigroup 08 RFP	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400	\$ 62.400
144															
145															
146	<u>Net Base Market Contracts</u>														
147		Basin Creek Fixed Capacity	n/a												
148		Basin Creek Operating Reserves	n/a												
149		Basin Creek Wind Firming	n/a												
150		Basin Creek Fuel	n/a												
151		Basin Creek Variable O & M	n/a												
152		Basin Creek Gas Storage Capacity	n/a												
153		Operating Reserves	n/a												
154		DSM Program & Labor Costs	n/a												
155		DSM Lost T & D Revenues	n/a												
156		Imbalance	n/a												
157		Total Base Contract Transactions	\$ 54.143	\$ 52.702	\$ 52.068	\$ 51.320	\$ 51.676	\$ 50.490	\$ 51.111	\$ 50.859	\$ 50.584	\$ 53.623	\$ 52.994	\$ 53.215	\$ 52.021
158															
159		Total Delivered Supply	\$ 31.238	\$ 33.226	\$ 34.083	\$ 34.503	\$ 35.259	\$ 34.824	\$ 34.921	\$ 34.631	\$ 34.379	\$ 34.993	\$ 34.767	\$ 34.599	\$ 34.257

**Exhibit\_\_(FVB-3)  
Attached To Frank V. Bennett's  
Pre-Filed Direct Testimony  
Is Copyright Protected Information  
And Therefore Has Not Been E-Filed**

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Department of Public Service Regulation  
Montana Public Service Commission  
Docket No. D2011.5.38  
NorthWestern Energy

**PREFILED DIRECT TESTIMONY OF**  
**CHERYL A. HANSEN**  
**ON BEHALF OF NORTHWESTERN ENERGY**  
**ELECTRIC SUPPLY TRACKER**

**TABLE OF CONTENTS**

<b><u>Description</u></b>	<b><u>Starting Page No.</u></b>
Witness Information	2
Purpose of Testimony	3
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Derivation of Proposed Deferred Supply Rates	8
Derivation of Proposed Supply Rates	10
Proposed Total Deferred Supply Rates	11
Proposed Total Supply Rates	12
<b><u>Exhibits</u></b>	
Tracker Period Billing Statistics	Exhibit __ (CAH-1)_11-12
Supply Account Balances & Derivation of Rates	Exhibit __ (CAH-2)_11-12
Total Supply Rates & Revenues	Exhibit __ (CAH-5)_11-12

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**Witness Information**

**Q. Please state your name and business address.**

**A.** My name is Cheryl A. Hansen, and my business address is 40 East Broadway, Butte, Montana 59701.

**Q. By whom are you employed and in what capacity?**

**A.** I am employed by NorthWestern Energy (NWE or NorthWestern) as a Senior Analyst in the Regulatory Affairs Department.

**Q. Please summarize your educational and employment experiences.**

**A.** I received a Bachelor of Arts Degree in Anthropology from the University of Montana in 1974. I commenced my employment with NorthWestern Energy in 1978 and have worked in various positions within the Regulatory Affairs Department. I have attended various courses and/or seminars on a variety of utility and regulatory subjects, including rate design and marginal costing.

I am a regular participant in the preparation of rate case testimony, exhibits, and workpapers in proceedings before the Montana Public Service Commission (MPSC or Commission) and the Federal Energy Regulatory Commission (FERC). I have provided rate design and cost of service support in several rate proceedings and have filed testimony before both the FERC and this Commission.

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**Purpose of Testimony**

**Q. What is the purpose of your testimony?**

**A.** My testimony:

1. Presents the 2011-2012 tracker year billing statistics and explains how they are derived;
2. Presents the derivation of proposed electric deferred supply rates resulting from the over/under collection reflected in the 2010-2011 tracker period;
3. Presents the derivation of proposed electric supply rates for the forecasted 2011-2012 tracker period, and;
4. Presents the overall total supply rates incorporating all individual rate components.

**2011-2012 Tracker Year Billing Statistics**

**Q. How were the tracker period usage and billing statistics developed?**

**A.** The tracker period usage and billing statistics were developed using the same methodology as that presented in previous NWE filings. The methodology utilizes historical actual billing data, adjusted for weather, known changes and forecasted loads to derive the estimated usage for the July 2011 to June 2012 tracking period.

**Q. Explain how cyclical and calendar usage are used in this filing.**

1     **A.** Cyclical usage represents customer usage billed throughout a calendar  
2           month on each of twenty-one billing cycles that normally include usage for  
3           the current and prior month (e.g. a July 15<sup>th</sup> meter read includes 15 days of  
4           usage in July and 15 days of usage in June). Calendar usage, on the other  
5           hand, represents a customer’s adjusted usage as if it was recorded for the  
6           calendar month.

7  
8           Calendar data is used to determine the cost of energy supply, which is  
9           incurred on a calendar basis and is used in the analysis included in the  
10          Prefiled Direct Testimony of Frank V. Bennett (“Bennett Direct Testimony”).  
11          Cyclical data is used to establish rates for billing purposes.

12  
13     **Q. How was the tracker period usage presented in Exhibit \_\_ (CAH-1)\_11-  
14           12 developed?**

15     **A.** Table 1 of Exhibit\_(CAH-1)\_11-12 is actual billed usage for the period April  
16           2010 through March 2011. The subsequent tables show a variety of  
17           changes that are made to arrive at July 2011 through June 2012 forecasted  
18           usage shown on Table 5. A brief description of Tables 1 through 3 in  
19           Exhibit\_(CAH-1)\_11-12 is as follows:

- 20           1. Table 1 is actual billed usage for twelve months ended March 2011.
- 21           2. Table 2 is the result of shifting data to calendar month, making known  
22           change adjustments and using forecast information. The Load Vision  
23           computer program shifts data to calendar month using actual hourly

1 metered data for the larger customers; individual meter read data for  
2 smaller GS-1 and Residential customers; monthly hours of darkness for  
3 lighting; and actual meter reads and historical load research shapes for  
4 irrigation.

5 3. Table 3 summarizes the changes made to Table 1 as described below:

- 6 • Column C shows the actual billed usage for the twelve months ended  
7 March 2011 as reflected on Table 1.
- 8 • Column D (with additional detail noted in Column J) shows changes  
9 in the operations of large customers. The most significant change is a  
10 66,588 Mwh increase reflecting the resumption to full load for a single  
11 large customer. There is also an additional 3,623 Mwh representing  
12 increased load for two other industrial customers. Overall, the  
13 adjustment in Column D shows an increase of 87,192 Mwh to electric  
14 supply usage and a decrease of 23,589 Mwh to choice usage.
- 15 • Column E replaces the actual Irrigation load with a 5-year average  
16 resulting in an increase of 15,182 Mwh.
- 17 • Column F shows changes to the Residential and General Service  
18 Secondary classes as a result of their forecasted usage for the 12  
19 months ended June 2012. The changes reflect the effects of normal  
20 weather, customer growth, and DSM activities for these groups. The  
21 total usage for each of these groups is based on regression models  
22 that predict annual usage for each group as a function of historical  
23 usage per customer, number of customers, heating degree days, and

1 cooling degree days. The annual usage was shaped to calendar  
2 months using the average monthly shapes from prior test periods.  
3 The net impact of the forecast and calendar month adjustments as  
4 shown in Column F is a 19,601 Mwh decrease to electric supply  
5 usage and a 13,949 Mwh decrease to choice usage.

- 6 • Column G is the resulting forecasted usage for the July 2011 through  
7 June 2012 time period.
- 8 • Column H reflects the sum of all changes (Columns D through F).  
9 The total result is a forecasted increase of 82,792 Mwh to electric  
10 supply usage and a forecasted decrease of 37,558 Mwh to choice  
11 usage for a net increase of 45,234 Mwh.

12

13 **Q. Describe the additional adjustments made in Table 4 of Exhibit\_\_(CAH-**  
14 **1)\_11-12.**

15 **A.** Table 2 is forecasted calendar month usage with the known change  
16 adjustments described above. Table 4 modifies Table 2 with two  
17 adjustments. First, the calendar usage data is shifted back to billed cyclical  
18 data. This cyclical adjustment is made to the Residential, GS-1 Secondary,  
19 GS-1 Primary, and Irrigation customer classes, as well as Yellowstone  
20 National Park. The GS-2 customer class consists primarily of the large  
21 industrial customers, whose usage remains fairly constant throughout the  
22 year, and therefore, a cyclical billing adjustment is unnecessary. Second,  
23 Lighting customers are billed a flat amount of kWh each month, therefore  
24 the total usage is spread evenly as one-twelfth in each month.

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**Q. Please describe Table 5 of Exhibit \_\_ (CAH-1)\_11-12.**

**A.** Table 5 is a subset of Table 4 showing only those loads applicable to electric supply purchases. The total load information on Table 5 is used by Frank Bennett and is shown on page 1 of Exhibit \_\_ (FVB-2)\_11-12, page 2 of Exhibit\_\_(FVB-5)\_11-12 and page 2 of Exhibit\_\_(FVB-7)\_11-12.

It is necessary to make several adjustments to Table 4 in order to provide the appropriate loads for rate design purposes. These adjustments do not affect total load, but provide the detail required in the derivation of rates. The loads for the Residential class are allocated between Residential and Residential Employee using a ratio based on actual historical usage. The loads for the GS-1 Secondary and GS-1 Primary are allocated to Non Demand Metered and Demand Metered using a ratio based on actual historical usage. These changes are reflected on Table 5 of Exhibit\_\_(CAH-1)\_11-12 for use in the derivation of rates.

**Q. Please explain how the Yellowstone National Park loads are treated in the derivation of rates process.**

**A.** The loads for Yellowstone National Park (YNP) are served by the utility and are included in the total delivered load shown in the tables discussed above. However, the costs for YNP are recovered through a separately negotiated contract rate, therefore, the loads and corresponding revenues are excluded from any rate design for MPSC jurisdictional rates. The loads for YNP are

1 included only in the derivation of supply rates. If the YNP rate were to  
2 include additional allocations related to CU4 and DGGs, the resulting  
3 revenue would be very small and not really worth the administrative burden.  
4 Therefore, only the supply rate derivation includes a revenue credit related  
5 to the YNP customer class.

### 7 **Derivation of Deferred Supply Rates**

8 **Q. What is the supply cost account balance for the twelve-month period**  
9 **ending June 2011?**

10 **A.** The electric supply cost account balance for the twelve-month period ending  
11 June 2011 is an under collection of \$20,715,501 as presented on page 1 of  
12 Exhibit\_(CAH-2)\_11-12. This includes the prior period balance for the 2009-  
13 2010 tracking period and the current period balance for the 2010-2011  
14 tracking period as discussed below.

15  
16 **Q. Describe the status of the deferred supply cost account balance**  
17 **associated with the 2009-2010 tracking period.**

18 **A.** In the annual filing submitted on June 4, 2010, the net deferred account  
19 balance for the 2009-2010 tracking period was shown as an under collection  
20 of \$6,371,828. This amount becomes the starting balance in this filing.  
21 Added to this balance is the prior period true-up for the 2 months of  
22 estimated data included in the May 2010 filing. Page 1 of Exhibit\_(CAH-  
23 2)\_11-12 shows the true-up of the estimated months of May and June 2010  
24 with actual data. The resulting actual ending balance of \$6,980,033 is the

1 deferred account beginning balance for the 2010-2011 tracking period. This  
2 balance is then combined with the current year monthly activity shown on  
3 Exhibit\_(CAH-2)\_11-12, page 1, resulting in a net under collected balance  
4 of \$8,079,361 for the 2010-2011 tracking period. Effective July 1, 2010 the  
5 deferred supply rate components were set to zero, as proposed in the May  
6 2010 filing. Therefore, the current year monthly activity is primarily prior  
7 period adjustments as well as the July 2010 cyclical billing effect.

8  
9 **Q. Describe the deferred supply cost account balance associated with the**  
10 **2010-2011 tracking period.**

11 **A.** Page 2 of Exhibit\_(CAH-2)\_11-12 shows the monthly detail of the difference  
12 between the supply cost revenues and expenses for the 2010-2011 tracking  
13 period, resulting in an under collected amount of \$12,636,140. The months  
14 of May and June 2011 are estimated and will be trued-up in the next annual  
15 filing.

16  
17 **Q. What is the total deferred supply cost account adjustment proposed**  
18 **for amortization in this filing?**

19 **A.** The total deferred supply cost account adjustment proposed in this filing is  
20 an under collection of \$20,715,501 shown below and on page 1, line 55 of  
21 Exhibit\_(CAH-2)\_11-12.

1           **Total Electric Deferred Supply Cost Account Balance**

2	2009-2010 Prior Period Deferred Supply Account Balance	\$8,079,361
3	2010-2011 Current Period Supply Account Balance	<u>\$12,636,140</u>
4		\$20,715,501

5           Derivation of the deferred supply rates is shown on Exhibit\_(CAH-2)\_11-12,  
6           page 3 with the resulting rates and revenues shown in summarized format  
7           on page 4.

8

9                           **Derivation of Proposed Supply Rates**

10          **Q. Please describe the process used by NorthWestern to derive the**  
11           **proposed 2011-2012 electricity supply rates in this filing.**

12          A. The rate design methodology used in this filing to derive the proposed 2011-  
13           2012 electricity supply rates is the same as previous electricity supply  
14           tracker filings. All forecasted costs are from Exhibit\_(FVB-2)\_11-12 of the  
15           Prefiled Direct Testimony of Frank V. Bennett and are discussed in his  
16           testimony.

17

18           Derivation of the supply rates is shown on Exhibit\_(CAH-2)\_11-12, pages 5  
19           and 6. The total proposed electric supply cost of \$221,468,507 from  
20           Exhibit\_\_(FVB-2)\_11-12 (page 1, Column O, line 47) is used as the starting  
21           point shown on page 5. This amount is then reduced for the supply  
22           revenues received from YNP. The forecasted loads from Exhibit\_(CAH-  
23           1)\_11-12 are adjusted for the employee discount and weighted by losses. A  
24           unit rate is calculated and then adjusted for losses by rate class to derive

1 supply base rates. These base rates are further adjusted on page 6, so that  
2 the percentage rate increase for each customer class is no greater than the  
3 Residential customer rate class increase. The resulting rates are the  
4 proposed supply rates.

5  
6 Page 7 of Exhibit\_(CAH-2)\_11-12 reflects the supply rates and revenues in  
7 summarized format.

8  
9 **Proposed Total Deferred Supply Rates**

10 **Q. What is the net deferred supply cost account adjustment proposed for**  
11 **amortization in this filing?**

12 A. The net deferred supply cost account adjustment proposed in this filing is an  
13 over collection of \$(3,756,820). The adjustment consists of the following:

14  
15 **Net Deferred Supply Cost Account Balance**

16 Total Deferred Supply Under Collected Balance	\$20,715,501
17 Total Deferred CU4 Variable Over Collected Balance	<u>\$(24,472,321)</u>
	\$ (3,756,820)

18  
19  
20 The deferred supply rate design as discussed above is shown on page 3 of  
21 Exhibit\_(CAH-2)\_11-12. The deferred Colstrip Unit 4 (CU4) variable rate  
22 design is shown on page 3 of Exhibit\_(CAH-3)\_11-12 and is addressed in  
23 the CU4 Generation Asset section of my testimony. The individual rate  
24 components are then combined into a single deferred rate for use in billing

1 the ratepayer. The total or net deferred supply rates are shown on page 1 of  
2 Exhibit\_(CAH-5)\_11-12. The total deferred supply revenue of \$(3,753,736)  
3 including rounding is shown on Exhibit\_(CAH-5)\_11-12, page 2, line 40.  
4

### 5 **Proposed Total Supply Rates**

6 **Q. Please describe the process used by NorthWestern to derive the total**  
7 **proposed 2011-2012 electricity supply rates in this filing.**

8 A. The current total electricity supply rate includes several separate rate  
9 components – a supply tracker rate, a CU4 fixed cost of service rate, a CU4  
10 variable cost of service rate, a Dave Gates Generating Station (DGGS) fixed  
11 cost of service rate and a DGGS variable cost of service rate. See page 7 of  
12 Exhibit\_(CAH-2)\_11-12 for proposed supply rates; page 6 of Exhibit\_(CAH-  
13 3)\_11-12 for proposed CU4 fixed and variable rates and page 2 of  
14 Exhibit\_(CAH-4)\_11-12 for current DGGS fixed and variable rates. Note that  
15 the CU4 fixed and both the DGGS fixed and variable rates remain  
16 unchanged from current. This is discussed in my Prefiled Direct Testimonies  
17 addressing the CU4 and DGGS generating assets.  
18

19 **Q. Have you provided a summary of the unit rate adjustments and**  
20 **resulting rates proposed in this filing?**

21 A. Yes. All of the separate rate components are bundled together into a single  
22 supply rate for customer billing as shown on Exhibit\_(CAH-5)\_11-12, page  
23 3. All rate components and resulting revenues are shown in summarized  
24 format on Exhibit\_(CAH-5)\_11-12, pages 4 and 5 and listed below:

1	<b><u>Net Supply Revenue</u></b>	
2	Total Supply Revenue at Current Rates	\$353,464,084
3	Supply Revenue at Proposed Rates	220,267,519
4	CU4 Fixed Revenue at Current Rates	74,682,544
5	CU4 Variable Revenue at Proposed Rates	22,585,602
6	DGGGS Fixed Revenue at Current Rates	26,978,165
7	DGGGS Variable Revenue at Current Rates	<u>10,803,501</u>
8	Total Supply Revenue at Proposed Rates	\$355,317,331
9	Net Proposed Supply Revenue Change	\$1,853,247

10

11 **Q. What is NWE's proposal for rate implementation?**

12 A. NWE proposes an interim rate effective date for its proposed rate  
13 adjustments and implementation of monthly electric supply adjustments for  
14 service on and after July 1, 2011.

15

16 **Q. Does this conclude your testimony?**

17 A. Yes.





TABLE 3 - Comparison of Tables 1 & 2

NorthWestern Energy Sales (MWh)

Class	Table 1	Large Cust Known Changes	Irrigation Normalization	Res/GS-1 Forecasts & Shift to Calendar Mth	Table 2	Diff MWh	Changes
Residential Non-Choice	2,361,309			-71,614	2,289,695	-71,614	Replaced actual with forecast 12MEJun12.
Residential Choice	120			-5	115	-5	
<b>Total Residential</b>	<b>2,361,429</b>	<b>0</b>	<b>0</b>	<b>-71,619</b>	<b>2,289,810</b>	<b>-71,619</b>	
GS Secondary Non-Choice	2,679,626			32,096	2,711,722	32,096	Replaced actual with forecast 12MEJun12.
GS Secondary Choice	82,581			1,174	83,755	1,174	
GS Primary Non-Choice	329,720	3,623		5,019	338,362	8,642	Shift to calendar (4,983). Added Cust1 (586) & Cust2 (3,037).
GS Primary Choice	81,431			48	81,479	48	Shift to calendar month.
<b>Total General Service - 1</b>	<b>3,173,358</b>	<b>3,623</b>	<b>0</b>	<b>38,337</b>	<b>3,215,318</b>	<b>41,960</b>	
GS Substation Non-Choice	164,035	83,569		15,184	262,788	98,753	Shift to calendar (15,183). Adj Cust3 (66,588) to full load & added new Stone owner (16,981).
GS Substation Choice	1,629,414	-23,589		-15,166	1,590,659	-38,755	Shift to calendar (-15,166). Adj for Stone shutdown/move to default (-23,589).
GS Transmission Non-Choice	146,107			-126	145,981	-126	Shift to calendar month.
GS Transmission Choice	82,313				82,313	0	
<b>Total General Service - 2</b>	<b>2,021,869</b>	<b>59,980</b>	<b>0</b>	<b>-108</b>	<b>2,081,741</b>	<b>59,872</b>	
Irrigation Non-Choice	69,510		15,201		84,711	15,201	Replaced actuals with 5 year average.
Irrigation Choice	158		-19		139	-19	
<b>Total Irrigation</b>	<b>69,668</b>	<b>0</b>	<b>15,182</b>	<b>0</b>	<b>84,850</b>	<b>15,182</b>	
Lighting Non-Choice	57,963			73	58,036	73	Shift to calendar month.
Lighting Choice	4,383			0	4,383	0	
<b>Total Lighting</b>	<b>62,346</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>62,419</b>	<b>73</b>	
Yellowstone Contract	20,079			-233	19,846	-233	
<b>Total Yellowstone</b>	<b>20,079</b>	<b>0</b>	<b>0</b>	<b>-233</b>	<b>19,846</b>	<b>-233</b>	
REC	740,274				740,273	-1	
<b>Special Contract</b>	<b>740,274</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>740,273</b>	<b>-1</b>	
<b>Total Distribution</b>	<b>8,449,023</b>	<b>63,603</b>	<b>15,182</b>	<b>-33,550</b>	<b>8,494,257</b>	<b>45,234</b>	
						1	
<b>Total Electric Supply Usage</b>	<b>5,828,349</b>	<b>87,192</b>	<b>15,201</b>	<b>-19,601</b>	<b>5,911,141</b>	<b>82,792</b>	
<b>Total Choice Usage</b>	<b>2,620,674</b>	<b>-23,589</b>	<b>-19</b>	<b>-13,949</b>	<b>2,583,116</b>	<b>-37,558</b>	
	<b>8,449,023</b>	<b>63,603</b>	<b>15,182</b>	<b>-33,550</b>	<b>8,494,257</b>	<b>45,234</b>	





**NorthWestern Energy  
Electric Utility  
Deferred Supply Cost Account Balance  
July 2010 - June 2011**

Month	Monthly Collection	Collection to-date	Balance Remaining
<b>Jul09-Jun10 under collected balance as filed in D2010.5.50</b>			
			\$ 6,371,828
<b>Prior Period Tracker Year True-up - Deferred:</b>			
May10: Estimated as filed in D2010.5.50		\$ 1,582,106	
May10: Actual		\$ 1,541,485	\$ (40,621)
Jun10: Estimated as filed in D2010.5.50		\$ 1,744,868	
Jun10: Actual		\$ 1,502,861	\$ (242,007)
<b>Prior Period Tracker Year True-up - Supply:</b>			
May10: Est as filed in D2010.5.50 - Revenue	\$ 20,398,030		
May10: Est as filed in D2010.5.50 - Expense	\$ 22,449,526	\$ 2,051,497	
May10: Actual - Revenue	\$ 20,174,279		
May10: Actual - Expense	\$ 20,228,729	\$ 54,450	\$ (1,997,047)
Jun10: Est as filed in D2010.5.50 - Revenue	\$ 22,502,247		
Jun10: Est as filed in D2010.5.50 - Expense	\$ 19,665,374	\$ (2,836,873)	
Jun10: Actual - Revenue	\$ 19,360,594		
Jun10: Actual - Expense	\$ 19,411,601	\$ 51,007	\$ 2,887,880
<b>Actual Jul09-Jun10 under collected balance [1]</b>			<b>\$ 6,980,033</b>
<b>Jul10-Jun11 Monthly Activity [2]:</b>			
July 2010	\$ (1,089,112)	\$ (1,089,112)	\$ 8,069,145
August 2010	\$ (10,534)	\$ (1,099,646)	\$ 8,079,679
September 2010	\$ 696	\$ (1,098,949)	\$ 8,078,983
October 2010	\$ (198)	\$ (1,099,147)	\$ 8,079,181
November 2010	\$ (172)	\$ (1,099,320)	\$ 8,079,353
December 2010	\$ (15)	\$ (1,099,334)	\$ 8,079,367
January 2011	\$ (1)	\$ (1,099,335)	\$ 8,079,369
February 2011	\$ -	\$ (1,099,335)	\$ 8,079,369
March 2011	\$ (2)	\$ (1,099,337)	\$ 8,079,371
April 2011	\$ 10	\$ (1,099,328)	\$ 8,079,361
May 2011 (Estimated)	\$ -	\$ (1,099,328)	\$ 8,079,361
June 2011 (Estimated)	\$ -	\$ (1,099,328)	\$ 8,079,361
<b>Deferred Supply Ending Balance Jul09-Jun10</b>			<b>\$ 8,079,361</b>
<b>Current Year Ending Balance Jul10-Jun11 (see page 2)</b>			<b>\$ 12,636,140</b>
<b>Total Supply Cost Balance Jul10-Jun11 [3]</b>			<b>\$ 20,715,501</b>

[1] Source: Exhibit\_(FVB-2\_Rev)\_09-10, page 2, line 14. (Response to Docket No. D2010.5.50 PSC-001a).  
[2] Source: Exhibit\_(FVB-1)\_10-11, page 1, line 50.  
[3] Source: Exhibit\_(FVB-1)\_10-11, page 2, line 14.

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**NorthWestern Energy  
Electric Utility  
Supply Cost Account Balance  
July 2010 - June 2011**

Month	Supply Cost Revenues	Supply Cost Expense	Supply Cost Balance
July 2010	\$ 19,957,011	\$ 24,526,762	\$ 4,569,752
August 2010	\$ 21,682,214	\$ 22,625,697	\$ 943,483
September 2010	\$ 19,825,829	\$ 19,637,594	\$ (188,235)
October 2010	\$ 17,084,361	\$ 20,483,472	\$ 3,399,112
November 2010	\$ 17,944,491	\$ 22,904,904	\$ 4,960,413
December 2010	\$ 20,941,323	\$ 25,632,834	\$ 4,691,511
January 2011	\$ 20,926,530	\$ 20,758,847	\$ (167,683)
February 2011	\$ 20,286,858	\$ 18,819,750	\$ (1,467,108)
March 2011	\$ 20,351,185	\$ 17,111,747	\$ (3,239,438)
April 2011	\$ 18,408,100	\$ 19,815,111	\$ 1,407,011
May 2011 (Estimated)	\$ 17,279,791	\$ 17,117,642	\$ (162,149)
June 2011 (Estimated)	\$ 18,802,045	\$ 16,691,515	\$ (2,110,530)
<b>Supply Cost Balance Jul10-Jun11</b>	<b>\$ 233,489,736</b>	<b>\$ 246,125,877</b>	<b>\$ 12,636,140</b>

Source:

Revenues: Exhibit\_(FVB-1)\_10-11, page 1, line 17.

Expense: Exhibit\_(FVB-1)\_10-11, page 1, line 48.

**Northwestern Energy  
Electric Utility Derivation of Rates  
Deferred Supply  
July 2011 - June 2012**

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**Customer Rate Class**

	Loss Factor	Jul11 - Jun12 Electric Supply Retail kWh Sales	Sales Adjusted for Employee Discount	Sales Weighted by Losses	Deferred Supply Cost Rate After Losses	Deferred Supply Cost Revenue Check
Residential	8.5100%	2,285,393,465	2,285,393,465	2,479,880,449	\$ 0.003532	\$ 8,072,010
Residential Employee	8.5100%	4,301,547	2,580,928	2,800,565	\$ 0.002119	\$ 9,115
GS 1 Secondary NonDemand	8.5100%	268,550,850	268,550,850	291,404,528	\$ 0.003532	\$ 948,522
GS 1 Secondary Demand	8.5100%	2,443,171,344	2,443,171,344	2,651,085,225	\$ 0.003532	\$ 8,629,281
GS 1 Primary NonDemand	5.5400%	1,120,382	1,120,382	1,182,451	\$ 0.003435	\$ 3,849
GS 1 Primary Demand	5.5400%	337,241,187	337,241,187	355,924,349	\$ 0.003435	\$ 1,158,423
General Service Substation	4.6300%	262,787,832	262,787,832	274,954,909	\$ 0.003406	\$ 895,055
General Service Transmission	4.0000%	145,980,838	145,980,838	151,820,071	\$ 0.003385	\$ 494,145
Irrigation	8.5100%	84,711,017	84,711,017	91,919,925	\$ 0.003532	\$ 299,199
Lighting	8.5100%	58,036,154	58,036,154	62,975,031	\$ 0.003532	\$ 204,984
		5,891,294,616	5,889,573,997	6,363,947,502	\$ 0.003517	\$ 20,714,583
YNP Contract		19,846,127			Rounding Adjustment	\$ 918
Total Electric Supply Load		5,911,140,743				\$ 20,715,501

2010-11 Deferred Supply Cost Under Collection \$ 20,715,501

**Total Deferred Electric Supply Rate Before Losses \$ 0.003255**  
**Total Deferred Electric Supply Rate After Losses \$ 0.003516**









**NorthWestern Energy**  
**Electric Deferred Supply Derivation of Rates**  
**Total Proposed Deferred Supply Rate**  
**July 2011 to June 2012**  
**Rates Effective July 1, 2011**

		Deferred Supply Rates [1]	Deferred CU4 Rates [2]	Deferred DGGs Rates	Total Deferred Supply Rates
<b>Residential</b>					
Residential		0.003532	(0.004172)	-	(0.000640)
Residential Employee		0.002119	(0.002503)	-	(0.000384)
Total Residential					
<b>General Service 1</b>					
GS-1 Sec Non-Demand		0.003532	(0.004172)	-	(0.000640)
GS-1 Sec Demand		0.003532	(0.004172)	-	(0.000640)
GS-1 Pri Non-Demand		0.003435	(0.004058)	-	(0.000623)
GS-1 Pri Demand		0.003435	(0.004058)	-	(0.000623)
Total GS-1					
<b>General Service 2</b>					
GS-2 Substation		0.003406	(0.004023)	-	(0.000617)
GS-2 Transmission		0.003385	(0.003999)	-	(0.000614)
Total GS-2					
<b>Irrigation</b>					
Irrigation		0.003532	(0.004172)	-	(0.000640)
Total Irrigation					
<b>Lighting</b>					
Lighting		0.003532	(0.004172)	-	(0.000640)
Total Lighting					
<b>Average Billed Rate</b>		<b>0.003516</b>	<b>(0.004153)</b>	-	<b>(0.000637)</b>
<b>Total Supply Rate</b>		<b>3.516</b>	<b>(4.153)</b>	-	<b>(0.637)</b>

[1] Source: Exhibit\_(CAH-2)\_11-12

[2] Source: Exhibit\_(CAH-3)\_11-12



**NorthWestern Energy  
Electric Utility  
Total Proposed Supply Rate  
July 1, 2011**

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[1] Source: Exhibit\_(CAH-2)\_11-12  
[2] Source: Exhibit\_(CAH-3)\_11-12  
[3] Source: Exhibit\_(CAH-4)\_11-12





PREFILED DIRECT TESTIMONY OF  
WILLIAM M. THOMAS  
ON BEHALF OF NORTHWESTERN ENERGY

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<b>2010-11 Program Results</b>	3
<b>DSM Program Status Report</b>	7
<b>Recovery of DSM Program Costs and Lost Revenues</b>	24
<b>DSM Program Cost-Effectiveness and Program Evaluation</b>	29
<b>Capitalizing versus Expensing DSM Acquisition</b>	37
 <b><u>Exhibits:</u></b>	
USB + DSM Savings 2010-11	<b>Exhibit__(WMT-1)</b>
Electric Supply DSM Spending & Budget	<b>Exhibit__(WMT-2)</b>
Electric DSM Lost Revenues for 2010-11	<b>Exhibit__(WMT-3)</b>
Final Evaluation Report: 2008 Green Blocks Pilot Program	<b>Exhibit__(WMT-4)</b>
DSM Communications Plan	<b>Exhibit__(WMT-5a)</b>
DSM Communications Plan Calendar	<b>Exhibit__(WMT-5b)</b>
DSM Cost Effectiveness	<b>Exhibit__(WMT-6)</b>
DSM Program Evaluation RFP	<b>Exhibit__(WMT-7)</b>

1 **Witness Information**

2

3 **Q. Please state your name and business address.**

4 **A.** My name is William M. Thomas, and my business address is 40 East Broadway, Butte,  
5 Montana 59701.

6

7 **Q. By whom and in what capacity are you employed?**

8 **A.** I am employed by NorthWestern Energy (NorthWestern or NWE) as Manager of  
9 Regulatory Support Services in the Government and Regulatory Affairs Department.

10

11 **Q. Please state your educational background, experience and responsibilities.**

12 **A.** I graduated from Montana State University with a Bachelor of Science Degree in  
13 Science and Education. I was employed by The Montana Power Company (MPC)  
14 from 1980-1999 in a variety of staff and management positions. During that tenure, I  
15 served as program director for MPC Demand Side Management (DSM) Programs for  
16 Residential and Commercial customers. I attended the Public Utility Executives  
17 Program at the University of Idaho in 1991. I joined NorthWestern in April 2004 in the  
18 capacity of DSM Program Coordinator and assumed my present position as Manager  
19 of Regulatory Support Services in April 2005. In addition to other departmental  
20 activities related to support of regulatory filings and proceedings, I am responsible for  
21 providing overall coordination and direction on development, implementation and  
22 promotion/education of DSM programs, and interaction with the Technical Advisory  
23 Committee on DSM matters. My duties also include preparing the information  
24 supporting NorthWestern's DSM-related activities and proposals in this filing.

25

26 **Purpose of Testimony**

27

28 **Q. What is the purpose of your testimony?**

29 **A.** My testimony:

- 30 1. Presents results from Universal System Benefit (USB) and Electric Supply DSM  
31 energy efficiency programs conducted by NorthWestern for Tracker Year 2010-11

1 and describes the status of and plans for DSM Programs and related activities in  
2 the forthcoming tracker period, and

- 3 2. Provides updated numbers for the DSM Program costs and the Lost Revenue  
4 Recovery Mechanism for recovery of Electric Supply DSM Program costs and  
5 historical lost transmission, distribution, Colstrip Unit #4 (CU-4), and Dave Gates  
6 Generating Station (DGGGS) revenues (Lost Revenues) associated with Electric  
7 Supply DSM and USB programs.

8  
9 In addition, my testimony includes the following in accordance with Order No. 7093c  
10 in Docket No. D2010.5.50:

- 11  
12 1. A discussion demonstrating how applying a total resource cost test exclusively to  
13 DSM acquisition, where a 0.9 benefit-cost ratio is considered cost effective,  
14 comports with the Montana Public Service Commission's (MPSC) prior direction  
15 that "the cost of acquiring this resource [DSM] shall be treated exactly the same  
16 as any other resource acquisition made to serve the default supply",  
17 2. A table, Exhibit\_\_(WMT-3), showing each and every DSM program's performance  
18 in the total-resource cost test, including a numeric presentation of each active  
19 DSM program's ratio of benefit-to-cost, including a citation to third-party or in-  
20 house work product showing the same, and  
21 3. A discussion of the comparative merits of capitalizing versus expensing DSM  
22 acquisitions.

23  
24 **2010-11 Program Results**

25  
26 **Q. Please describe the overall results of USB and Electric Supply DSM energy  
27 efficiency program activities in the 2010-11 Electric Supply tracking period.**

28 **A.** In the 2004-05 time period NorthWestern established a DSM Acquisition Plan with  
29 DSM goals set at the level of 2.6 aMW of installed energy savings capability in  
30 Program Year 1 (2004-05 Tracker Year), ramping up to 3.7 in Plan Year 2 (2005-06),  
31 and then to 5.0 aMW in Plan Year 3 (2007-08 Tracker Year) and leveling at 5.0 aMW

1 each year through 2009-10. In its 2009 Electric Supply Procurement Plan,  
 2 NorthWestern increased its annual DSM goal to 6.0 aMW. Table 1 below  
 3 summarizes the annual targets, reported energy savings, budget and spending for  
 4 the 2004-2011 tracker periods.  
 5

6 **Table 1: DSM Targets, Reported Savings, Budget and Spending**

Program Year	Tracker Period	Installed Annual DSM Capability (Incremental)				Electric Supply DSM Tracker Budget (\$)	Electric Supply DSM Program Expenditures (\$)
		Target (aMW)	Reported Program Results (aMW)				
			USB	DSM	Total		
1	2004-05	2.60	2.04	0.22	2.26	\$1,457,888	\$ 320,389
2	2005-06	3.70	1.33	2.08	3.41	\$2,097,734	\$1,596,076
3	2006-07	5.00	0.36	3.04	3.40	\$3,232,080	\$2,497,359
4	2007-08	5.00	0.82	4.55	5.37	\$3,631,683	\$3,688,745
5	2008-09	5.00	1.11	5.58	6.69	\$4,917,141	\$5,504,111
6	2009-10	5.00	0.96	7.37	8.33	\$6,625,192	\$7,652,658
7	2010-11	6.00	0.57	8.63	9.20	\$9,148,219	\$7,086,931
8	2011-12	6.00				\$8,063,519	

7

8 Work to prepare the annual tracker begins in April of each year with a planned filing  
 9 date of June 1. This schedule requires estimation of DSM energy savings and  
 10 program costs for May and June of the current tracking period.  
 11

1 The Electric Supply DSM Program Expenditures shown in Table 1 for DSM Program  
2 Year 7 (2010-11) are based on 10 months of recorded expenses and 2 months (May  
3 and June 2011) of estimated program activity. The estimated amount of 9.20 aMW  
4 of incremental new installed DSM capability for DSM Program Year 7 (2010-11) is  
5 based on 9 months of reported program energy savings, and 3 months (April, May  
6 and June 2011) of estimated program activity.

7  
8 The annual aMW targets and reported savings are comprised of amounts of installed  
9 annual energy savings capability contributed from measures and actions  
10 implemented under both USB Programs and Electric Supply DSM Programs (referred  
11 to herein as DSM Programs or DSM). The Reported Program Results represent the  
12 capability of installed conservation and efficiency measures to produce energy  
13 savings for a full year. Although energy savings produced by USB Programs are  
14 counted toward the overall annual aMW target, USB Programs are funded through a  
15 separate charge and USB spending is not reported or included in Table 1.

16  
17 **Q. Please provide additional detail on the costs and energy savings of individual**  
18 **USB and DSM Programs in operation during the 2010-11 Tracker Year.**

19 **A.** Exhibit\_\_(WMT-1) provides individual program detail on reported energy savings, and  
20 develops numbers used in the updated DSM Lost Revenues computation. This  
21 Exhibit presents two tables of tabulation and analysis:

- 22  
23 1. Table A: Reported Electricity Savings from 2010-11 USB and DSM Program  
24 Activity.

25  
26 The data presented in this table represents summarized results for reported  
27 energy savings for programs and projects for the tracker period July 2010 through  
28 March 2011. Reported energy savings means estimates of electricity savings  
29 from either individual projects, where engineering calculations were submitted  
30 with project proposals and reviewed by NorthWestern staff for specific energy  
31 conservation projects (e.g., E+ Commercial Lighting projects, Business Partners

1 site-specific projects, or Renewable Generation projects) or, in those cases where  
2 engineering calculations are not required for program participation, average  
3 energy savings per DSM measure are used (e.g., Residential & Commercial  
4 Audits and Residential Compact Fluorescent Lamps). Reported energy savings  
5 represent the annual energy savings that would occur if all energy savings  
6 measures were in place for a full 12 months.

7  
8 For the final three months of the 2010-11 tracker period (April - June 2011)  
9 estimates of savings were made based on previous program experience, pending  
10 applications for rebates and incentives, pending project proposals and  
11 discussions with outside service providers assisting NorthWestern with USB and  
12 DSM Program operation.

13  
14 2. Table B: Residential and Commercial Electric Savings for Calculation of Lost  
15 Transmission & Distribution Revenues.

16  
17 Consistent with previous years, NorthWestern's proposal for DSM cost recovery  
18 in tracker period 2010-11 includes calculations for Lost Revenues. Because the  
19 applicable transmission, distribution, CU-4 and DGGS rates used to compute  
20 those Lost Revenues are different for NorthWestern's residential and commercial  
21 customers, it is necessary to estimate the percentage split between residential  
22 and commercial DSM resources that were acquired in the 2010-11 Program Year.  
23 Table B identifies portions of each USB and DSM program attributable to  
24 residential and commercial projects and/or customer participants, and then  
25 develops a straightforward summing of the estimated residential and commercial  
26 program electricity savings from Table A to produce the overall percentage  
27 contribution by the residential (80.0%) and commercial (20.0%) customer classes  
28 to the total. These percentage splits are then used as inputs to the calculation of  
29 Lost Revenues (page 3, lines 18-19 of Exhibit\_\_(WMT-3)).

1 **DSM Program Status Report**

2

3 **Q. What is the current status of electric supply DSM Programs and what actions**  
4 **are planned for the 2010-11 tracker year?**

5 **A.** NorthWestern continues its efforts to develop and offer new DSM Programs to its  
6 customers. As an example, NorthWestern implemented a special residential energy  
7 efficiency pilot project called Green Blocks in the community of Missoula in 2008 and  
8 expanded that activity in 2010, and also introduced a Green Blocks Pilot Program in  
9 Helena. Green Blocks combines elements of three energy efficiency programs, E+  
10 Energy Audit for the Home (funded through the Universal System Benefit Charge),  
11 E+ Residential Electric Savings Program (DSM funded), and the E+ Residential  
12 Natural Gas Rebate Program (DSM funded). Since each of these three programs  
13 funds a portion of the Green Blocks activity, the energy savings from Green Blocks is  
14 credited to those programs.

15

16 In addition, NorthWestern initiated a pilot DSM project in Bozeman called Building  
17 Blocks.

18

19 Exhibit\_\_(WMT-2) presents DSM spending by program for 2010-11 (actuals through  
20 April 2011, estimates for May-June 2011) and estimated spending for Tracker Year  
21 2011-12.

22

23 Following is an update of DSM Program activity and future plans:

- 24
- 25 1. E+ Lighting Programs: KEMA Services, Inc. (KEMA) provided lighting program  
26 implementation services for both commercial and residential customers in the  
27 2010-11 tracker period. Through KEMA, NorthWestern offered cash rebates for  
28 ENERGY STAR® qualified compact fluorescent lamps (CFL) and indoor/outdoor  
29 fixtures. The program included several mechanisms to either distribute or  
30 encourage purchase and use of ENERGY STAR® CFLs and fixtures, including:

- 1 a. Direct installation of CFLs in residential homes during home energy audits
- 2 and commercial appraisals.
- 3 b. Free CFL with mail-in home audits.
- 4 c. Mail-in rebates for residential customers for CFLs and ENERGY STAR®
- 5 fixtures.
- 6 d. Rebates to commercial customers for energy efficient lighting equipment and
- 7 controls.
- 8 e. In-Store Instant Rebates with redeemed coupons.
- 9 f. Simple Steps Program – buy down of CFL prices at retailers through a
- 10 regional campaign facilitated by the Bonneville Power Administration.
- 11 g. Non-Retailer Special Events (trade shows, fairs, Farmer’s Markets, Energy
- 12 Expos, etc.).

13  
14 The Commercial Lighting Rebate Program was updated and expanded with new  
15 prescriptive rebate lighting efficiency measures as a result of the findings of the  
16 extensive DSM research project, *Assessment of Energy Efficiency Potentials*  
17 *(2010-2029)*, completed in 2010 by Nexant and The Cadmus Group, Inc.

18  
19 Customer interest in the lighting programs continues to be very strong. In the  
20 2010-11 tracker period, the following actions, results, and changes occurred:

- 21  
22 a. NorthWestern renewed its contract with KEMA for services related to the E+
- 23 Lighting Programs and NorthWestern will offer these programs again in 2011-
- 24 12. The program eligibility criteria will be modified to reflect the beginning of
- 25 the effects of Federal Regulations on CFLs and other lighting technologies.
- 26
- 27 b. New efficiency standards will go into effect for several lighting products which
- 28 are currently available on the market. They include (but are not limited to)
- 29 Incandescent Lamps, Reflector Lamps, Magnetic Ballasts, and Fluorescent
- 30 Lamps. A brief description of these changes is provided below.

- 1 c. Effective January 1, 2012, a new efficiency standard will be adopted for  
 2 Incandescent “A” lamps. All general-service lamps (including CFL, LED,  
 3 Incandescent, and Halogen) must have a minimum Color Rendering Index  
 4 (CRI) of 80. These lamps must also have Minimum Rated Lifetime equal to  
 5 1,000 hours, and include a manufacturing date.  
 6
- 7 d. New energy efficiency and performance standards will go into effect for  
 8 several lighting products which are currently available on the market. They  
 9 include (but are not limited to) Incandescent Lamps, Reflector Lamps,  
 10 Magnetic Ballasts, and Fluorescent Lamps. Manufacturers in the United  
 11 States will have increased energy efficiency and performance standards for  
 12 the production of incandescent bulbs falling into the following categories listed  
 13 in Table 2:  
 14

15 Table 2. Modification of Energy Efficiency and Performance Standards for  
 16 Incandescent Bulbs  
 17

<b>Date New Standards Take Effect (Year)</b>	<b>Existing Bulb (Lumens)</b>	<b>Existing Bulb (Watts)</b>	<b>Efficacy (Lumens/Watt)</b>
2012	1600	100	16
2013	1100	75	14.67
2014	800	60	13.33
2014	450	40	11.25

18

19 NorthWestern believes it is likely that production of these incandescent bulbs will  
 20 be phased-out by manufacturers. Incandescent Reflector Lamps, listed in Table  
 21 3, will also be subject to increased energy efficiency and performance standards.  
 22

1 Table 3. Modification of Energy Efficiency and Performance Standards for  
2 Incandescent Reflector Lamps  
3

Nominal Lamp Wattage (Watt)	Minimum Average Average Lamp Efficacy (Lumens/Watt)
40-50	10.5
51-66	11.0
67-85	12.5
86-115	14.0
116-155	14.5
156-205	15.0

- 4
- 5 e. Energy Efficiency Standards will also increase for Fluorescent Lamp Ballasts.  
6 Fluorescent lamp ballasts shall have a power factor of 0.90 or greater, and  
7 meet specific Ballast Efficacy Factors. The modification of these standards  
8 will likely result in magnetic ballasts being replaced with electronic ballasts.  
9
- 10 f. Efficacy Standards (Lumens/Watt) will increase for General Service  
11 Fluorescent Lamps. Effective July 14, 2012, more stringent standards will  
12 likely result in the majority of the following fluorescent tube lamps being  
13 discontinued:
- 14 • T12 4-foot lamps and 2-foot U-lamps with medium bi-pin bases
  - 15 • T12 8-foot slim line lamps with single pin bases
  - 16 • T12 8-foot High Output lamps with RDC bases
- 17

18 As a result of the changes to the Federal Regulations described above,  
19 NorthWestern anticipates an eventual change to several measures currently  
20 qualified and included in the E+ Home Lighting Program and E+ Commercial  
21 Lighting Rebate Program.  
22

- 1        2. E+ Commercial DSM Programs and Contractors: This program targets  
2        commercial and industrial customers. NorthWestern renewed its 2-year contract  
3        with The National Center for Appropriate Technology (NCAT) to perform work  
4        intended to increase customer interest and participation in the following programs:  
5        a. E+ Business Partners Program  
6        b. E+ Commercial Lighting Rebate Program  
7        c. E+ Commercial Electric Rebate Program for New Construction  
8        d. E+ Commercial Electric Rebate Program for Existing Facilities.

9  
10       Services provided by NCAT include marketing to architect/engineering firms and  
11       trade/industry associations in Montana, direct contact with candidate businesses  
12       with DSM potential, surveys and assessments of buildings and facilities, technical  
13       assistance for building owners, assistance with required engineering analysis and  
14       modeling, and assistance to customers with forms, contracts and other paperwork  
15       used in and necessary for participation in these programs.

16  
17       During the 2010-11 time period, NCAT made 2,475 contacts, 820 site visits, and  
18       prepared 567 proposals to commercial/small industrial customers. This effort  
19       resulted in the submittal of 18 Business Partners projects to NorthWestern for  
20       review and possible approval and funding.

21  
22       In addition to NCAT, NorthWestern has contracted with three additional firms for  
23       services in support of the E+ Business Partners Program, the E+ Commercial  
24       Lighting Rebate Program, the E+ Commercial Electric Rebate Program for New  
25       Construction, and the E+ Commercial Electric Rebate Program for Existing  
26       Facilities. As a result of a competitive bidding process conducted on behalf of  
27       NorthWestern by Lands Energy Consulting, the following firms have been  
28       retained to provide DSM Program services targeted at the commercial/industrial  
29       customer sectors:

- 1 a. ECOS, IQ, Inc. (ECOS)
- 2 a. McKinstry Essention (McKinstry)
- 3 b. Portland Energy Conservation, Inc. (PECI)

4

5 All contractors will be compensated by NorthWestern on a performance basis  
6 similar to the existing arrangement with NCAT. Payment is based on a  
7 percentage of the energy conservation resource value of each individual DSM  
8 project that is completed with the contractor's involvement. All contractors,  
9 including NCAT, are expected to deliver to NorthWestern a minimum of 0.25 aMW  
10 per year of incremental DSM.

11

12 Increased marketing efforts, including direct face-to-face contact between  
13 NorthWestern DSM staff and owners/decision-makers of large commercial and  
14 industrial facilities, resulted in greater participation in the E+ Business Partners  
15 Program during 2010-11. During this period, NorthWestern DSM staff effort  
16 resulted in 15 contacts and 5 completed projects. At this time, 15 additional  
17 projects are in development in the large commercial/industrial sector.

- 18
- 19 3. Northwest Energy Efficiency Alliance (NEEA): NEEA is a regional non-profit  
20 organization supported by electric utilities, public benefits administrators, state  
21 governments, public interest groups, and energy efficiency industry  
22 representatives. Through regional leveraging, NEEA encourages "market  
23 transformation" or the development and adoption of energy efficient products and  
24 services in Montana, Washington, Idaho, and Oregon. NEEA's regional market  
25 transformation activities target the residential, commercial, industrial and  
26 agricultural sectors.

27

28 NorthWestern entered into a 5-year commitment that will continue its funding of  
29 and participation in NEEA activities and initiatives during the 2010-14 time period.  
30 Prior to making this commitment, representatives of NorthWestern and NEEA  
31 made informational presentations to the MPSC and NorthWestern's Electric

1 Technical Advisory Committee (ETAC) regarding NEEA's planned future activities  
2 and the new funding cycle.

3  
4 NorthWestern reported energy savings from NEEA activities totaling 2.67 aMW  
5 during the 2010-11 tracker period. Information on NEEA's numerous projects and  
6 initiatives that were in progress during 2010-11 and are continuing into the future  
7 can be found at <http://www.nwalliance.org/>.

8  
9 4. E+ New Homes:

10 NorthWestern renewed its contract with NCAT to provide services related to this  
11 program, including builder/owner education, technical assistance, marketing and  
12 outreach. USB funds were used to market the program and educate architects,  
13 building contractors and interested customers about ENERGY STAR® standards.  
14 NEEA funds some of the infrastructure development of ENERGY STAR®  
15 Northwest activities. In the Montana NorthWestern service area, 2 new  
16 electrically heated homes were certified in 2010-11 and 41 new natural gas  
17 heated homes installed at least 50% ENERGY STAR® lighting as the result of  
18 NorthWestern's support of the ENERGY STAR® Homes Northwest building  
19 standards through this program.

- 20  
21 5. E+ Electric Motor Rebate: This program was eliminated as a standalone electric  
22 DSM program. Energy efficient motors will now be included as a DSM measure  
23 in the new Commercial DSM program. NorthWestern offers cash rebates for  
24 purchase of premium efficiency electric motors. Prescriptive rebates are available  
25 for motors rated between 1 and 200 horsepower. Larger motors can qualify for  
26 rebates with individual, application-specific calculations performed by  
27 NorthWestern. Program marketing during 2010-11 included sponsorship of motor  
28 management seminars at 5 locations in Montana (Missoula, Helena, Bozeman,  
29 Great Falls, Billings) that were attended by 114 persons from schools and  
30 universities, municipalities, health care facilities, mining firms, engineering firms  
31 and various other commercial and industrial companies.

1 NorthWestern also offers incentives for motor rewinding. Currently, only four  
2 electric motor service centers in the NorthWestern electric service area perform  
3 motor rewinding service. The Nexant/Cadmus *Assessment of Energy Efficiency*  
4 *Potentials (2010-2029)* study identified electric motor efficiency as a cost-effective  
5 DSM measure. In the forthcoming 2011-12 program period, rather than operating  
6 a separate and distinct electric motor efficiency program with attendant program-  
7 specific administrative costs, qualified motor rewinds (in addition to NEMA  
8 premium efficiency motors<sup>1</sup>) will be folded into the Commercial Electric Rebate  
9 Program for Existing Facilities and the Commercial Electric Rebate Program for  
10 New Construction.

- 11
- 12 6. Green Blocks Pilot Project: In 2008, NorthWestern formed a partnership with the  
13 city of Missoula to operate an experimental pilot residential DSM program. This  
14 program is a combination electric and natural gas residential DSM project that  
15 incorporates elements of the E+ Energy Audit for the Home, E+ Residential  
16 Lighting Program, the E+ Residential Electric Savings Program, and the E+  
17 Natural Gas Savings Rebate Program. The objective of this effort was to provide  
18 energy audits and certain energy efficiency measures free of charge to targeted  
19 and concentrated groups of program participants in the hopes of achieving cost  
20 effective electric and natural gas savings.

21

22 The City of Missoula assumed responsibility for marketing, outreach, recruiting  
23 and selection of up to 100 eligible residential program participants. Funds  
24 acquired by the City of Missoula through the 2009 American Recovery and  
25 Reinvestment Act (ARRA) were used to again partner with NorthWestern in 2010-  
26 11 for a second round of Green Blocks. This second round of activity in Missoula  
27 expanded the program to 300 additional residential dwellings. The program work  
28 for the second round is still underway and the City of Missoula and NorthWestern  
29 are sharing costs on an approximate 50/50 basis.

---

<sup>1</sup> The National Electrical Manufacturers Association (NEMA) is a U.S. industry group representing those who design and manufacture electrical equipment. NEMA promulgates standards for high efficiency electric motors. More information is available at <http://www.nema.org/media/pr/20060214a.cfm>.

1 In addition, NorthWestern conducted an extension of the Green Blocks pilot  
2 program during 2010-11 in cooperation with the City of Helena at a planned target  
3 level of 100 residential homes. In the Helena pilot program, no ARRA funds were  
4 available, so NorthWestern provided 100% funding and the City of Helena  
5 assumed responsibility for soliciting interest and recruiting participation in the  
6 program.

7  
8 NorthWestern retained Navigant in 2010 to perform an evaluation of the first  
9 round (2008) of Green Blocks in Missoula. This first round of Green Blocks  
10 produced both electric and natural gas energy savings, with electric measures  
11 contributing approximately 30% of total energy savings. Navigant's principal  
12 finding is that the 2008 Missoula Green Blocks Program was not cost-effective.  
13 Navigant's full report, *Final Evaluation Report: 2008 Green Blocks Pilot Program*,  
14 is included herein as Exhibit\_\_(WMT-4).

- 15  
16 7. Bozeman Building Blocks: Beginning in late 2009 and continuing through the  
17 2010-11 tracker period, NorthWestern introduced and operated a pilot program  
18 targeted at the Bozeman downtown business district. Using qualified and  
19 experienced personnel from NCAT, NorthWestern provided a quality commercial  
20 energy audit at no direct cost to building owners and/or occupants of commercial  
21 buildings along a 3 block strip in the main downtown area. Meetings were held  
22 with building owners/occupants to discuss the audit results and identify  
23 opportunities where behavioral changes can be made to decrease energy costs.  
24 These meetings also helped NorthWestern identify where energy savings projects  
25 can be pursued through its DSM programs.

26  
27 Post-meeting follow up contacts were made to check on the status of customers'  
28 progress toward implementation of recommendations. At this time, NCAT is  
29 compiling reports and data and will submit an interim report to NorthWestern later  
30 this year. NorthWestern will consider expansion of the Building Blocks Program  
31 following its review of NCAT's results from the Bozeman effort.

1  
2 Additional information about all of the DSM programs is available at NorthWestern's  
3 website at <http://www.northwesternenergy.com>.  
4

5 **Q. Are there other supporting activities by NorthWestern to build interest and**  
6 **participation in its DSM programs?**

7 **A.** NorthWestern DSM staff and contractors sponsor many training seminars during the  
8 year to increase awareness of energy conservation and energy efficiency opportunities  
9 in buildings and facilities. The objectives of these training sessions are to educate and  
10 inform building operators, designers, and builders about using electric equipment  
11 efficiently and to promote the company's DSM programs, services, information  
12 resources and incentives. A blend of USB and DSM funds covers the cost of these  
13 activities. Following is a list of DSM program-related training seminars that  
14 NorthWestern sponsored during 2010-11:  
15

- 16 1. Efficient Motor Management – targeted at motor users, electricians, motor service  
17 shops; Continuing Education Units were offered.
  - 18 a. Spring 2011 – Missoula, Helena, Great Falls, Bozeman, and Billings.
  - 19 b. 114 total participants.
- 20 2. Building Operator Certification – targeted at public schools, non-profit hospitals,  
21 state and local government; funding provided for tuition and travel.
  - 22 a. Level 1 Training & Certification:
    - 23 • Butte – November 15-19, 2010
    - 24 • Helena - Apr 25-29, 2011
- 25 3. Montana Energy Conference – Co-sponsorship for a conference targeting  
26 Montana State Government Departments and public facilities; 74 attendees and  
27 speakers.
- 28 4. Northwest ENERGY STAR® Verifier Training – Scheduled for later in 2011 –  
29 dates to be determined. A Home Energy Rating System week-long course that  
30 includes Northwest Energy Star Homes (NWESH) Program administration, Home

1 Energy Rater System (HERS) administration, performance testing, and use of  
2 home analysis software.

3 5. Compressed Air Challenge – Co-sponsorship of training in Billings, MT (12/08/10)  
4 for plant maintenance managers, plant and consulting engineers, vendors,  
5 compressed air operators and mechanics, technicians and energy efficiency  
6 organizations. Training provides proven techniques for finding and fixing system  
7 leaks, actively managing compressed air systems, identifying and tracking energy  
8 savings, increased product quality and higher productivity.

9 6. Variable Frequency Drives and Energy Efficiency – Co-sponsorship of training in  
10 Butte, MT (05/05/11) on design, installation, operation and troubleshooting of  
11 variable frequency drive and control systems. Continuing Education Units  
12 offered. Targeted to operations staff and managers, technicians, plant/process  
13 engineers, industrial maintenance personnel, building operators and municipality  
14 staff.

15 7. Northwest ENERGY STAR® Builder Training – Four-hour long introduction to the  
16 ENERGY STAR Homes Program including emphasis on the whole-house system.

- 17 a. Billings, October 4, 2010
- 18 b. Missoula, October 7, 2010
- 19 c. Helena, May 10, 2011
- 20 d. Great Falls, May 11, 2011
- 21 e. Missoula, May 12, 2011
- 22 f. Bozeman, May 17, 2011
- 23 g. Billings, May 19, 2011

24  
25 **Q. Were there additional efforts during the 2010-11 tracker period made by**  
26 **NorthWestern to promote DSM?**

27 **A.** To communicate information about DSM and other NorthWestern programs to its  
28 customers, NorthWestern sustains a presence in Montana communities through bill  
29 boards, media, events, appearances, meetings, speaking engagements, booth  
30 sponsorships, trade fairs and shows, conferences and other special events.  
31 NorthWestern maintains networks of retailers, distributors and other trade allies and

1 provides a steady stream of information about its DSM programs through print, radio,  
2 television, distribution literature, and personal contact. As with the training seminars  
3 described above, a mix of USB and DSM funding is used. The following list provides  
4 examples of the many activities performed by NorthWestern during the past year to  
5 market its DSM programs:  
6

- 7 1. NorthWestern Energy Lighting Trade Ally Network – Focused on commercial  
8 lighting; six meetings during the spring of 2011 in Billings, Bozeman, Butte,  
9 Missoula, Helena, and Great Falls.
- 10 2. Joint Engineers Conference – Presentation and display booth in cooperation with  
11 BetterBricks.
- 12 3. Empowering Montana Schools – Presentations, Sponsorship and booth.
- 13 4. Montana Society of Health Care Engineers/ASHRAE<sup>2</sup> Conference - Presentations  
14 and display booth in cooperation with BetterBricks.
- 15 5. Montana American Institute of Architects Conference - Training and booth.
- 16 6. Montana Innkeepers Association Conference – Booth.
- 17 7. CFL Instant Savings Coupon Campaigns - Fall 2010 (October in observance of  
18 Energy Awareness Month) and spring (in April to observe Earth Day) 2011.
- 19 8. “Simple Steps” Regional CFL Campaign - Upstream manufacturers buy-down for  
20 specialty CFLs .
- 21 9. Home Energy Events and Expos – 28 events around Montana with a focus on:  
22 a. Air infiltration sealing and CFLs.  
23 b. Direct mail, web, radio, newspaper advertising in advance of events.  
24 c. Home Energy Makeover Contest.  
25 d. “How-to-install” DVD.  
26 e. Saturday events included sessions on NWE programs, ENERGY STAR®,  
27 renewable energy, and installing insulation, air-sealing, window plastic, etc.,  
28 as well as the instant rebate for programmable thermostats.  
29

---

<sup>2</sup> The American Society of Heating, Refrigerating and Air Conditioning Engineers is an international technical society for all individuals and organizations interested in heating, ventilation, air-conditioning, and refrigeration. See [www.ashrae.org](http://www.ashrae.org).

1

Table 4: 2010 Schedule of Home Energy Events and Expos

Division	Town	Day	Date
<b>Billings</b>	<b>Billings</b>	<b>Saturday</b>	<b>September 11</b>
Billings	Red Lodge	Wednesday	September 15
Billings	Columbus	Thursday	September 16
Billings	Lewistown	Friday	September 17
Kalispell	Bigfork	Thursday	September 23
Kalispell	Columbia Falls	Friday	September 24
<b>Kalispell</b>	<b>Kalispell</b>	<b>Saturday</b>	<b>September 25</b>
Bozeman	Three Forks	Wednesday	September 29
Bozeman	Livingston	Thursday	September 30
Bozeman	Belgrade	Friday	October 1
<b>Bozeman</b>	<b>Bozeman</b>	<b>Saturday</b>	<b>October 2</b>
Havre	Choteau	Thursday	October 7
Havre	Chinook	Friday	October 8
<b>Havre</b>	<b>Havre</b>	<b>Saturday</b>	<b>October 9</b>
Great Falls	Conrad	Thursday	October 14
Great Falls	Fort Benton	Friday	October 15
<b>Great Falls</b>	<b>Great Falls</b>	<b>Saturday</b>	<b>October 16</b>
Helena	Clancy	Friday	October 22
<b>Helena</b>	<b>Helena</b>	<b>Saturday</b>	<b>October 23</b>
Butte	Dillon	Wednesday	October 27
Butte	Deer Lodge	Thursday	October 28
Butte	Anaconda	Thursday	October 28
Butte	Whitehall	Friday	October 29
<b>Butte</b>	<b>Butte</b>	<b>Saturday</b>	<b>October 30</b>
Missoula	Corvallis	Wednesday	November 3
Missoula	Hamilton	Thursday	November 4
Missoula	Missoula	Friday	November 5
<b>Missoula</b>	<b>Missoula</b>	<b>Saturday</b>	<b>November 6</b>

2

3

Note: Bold text in Table 4 indicates location of Expo events.

4

5

10. E+ Audit for the Home – Direct mail in fall 2010 and spring of 2011.

6

11. Act Now Tips and CFL television spots – Spot placement during select events.

7

12. Home & Garden Improvement Shows

8

a. Fall 2010 – Billings.

9

b. Spring 2011 - Hamilton, Missoula (2 shows), Billings, Bozeman, Great Falls, Helena, and Butte.

10

11

13. Farmers Markets - CFL distribution

1 14. Parade of Homes Sponsorships (Fall 2010) - Billings, Bozeman, Great Falls,  
2 Missoula, Helena, Hamilton.

3 15. Earth Day 2011

4 a. NorthWestern introduced a commercial component of its Earth Day activities  
5 this year featuring “Montana Commercial Energy Champions”, an educational  
6 effort highlighting energy efficiency and small business energy appraisals on  
7 five local television stations and the State of Montana’s Metcalf Building on  
8 the capitol campus in Helena, MT. Media promotions were conducted with  
9 six CBS affiliates to promote NorthWestern’s programs and identify energy  
10 efficient lighting retrofit opportunities. Television news spots and print press  
11 releases were issued to focus on the accomplishments of the selected  
12 “Energy Champions”.

13 b. NorthWestern also completed the Earth Day promotion “The Bright Future  
14 Challenge and Contest”, a year-long effort begun on Earth Day 2010 to  
15 promote energy efficiency and compact fluorescent lighting. An internet  
16 micro-site was established for customers to join, participate, and track their  
17 energy savings following installation of CFLs in their homes.

18 16. Display-In-A-Box – An informational and educational tool used at various events  
19 for CFLs or natural gas rebates (Missoula, Kalispell, Bozeman, and Great Falls).

20 17. Montana Annual Building Code Conference - April 2011 in Bozeman.

21 18. Other Special Events:

22 a. Montana Manufacturers Energy Conference sponsorship, speaker and  
23 display booth.

24 b. National Center for Appropriate Technology (NCAT) Grant writing seminars,  
25 providing Sponsorships and speakers for three sessions.

26 c. Green Living Expo in Great Falls - display booth.

27 d. Laurel Aviation Youth Event – display booth.

28  
29 More specific details about the techniques, mechanisms, locations, forms of media,  
30 and calendar schedule are presented in Exhibit\_\_(WMT-5a) which describes the  
31 goals, objectives, audiences, strategies, tactics, methods and tools of the DSM

1 Communications Plan. Exhibit\_\_(WMT-5b) provides a detailed schedule of specific  
2 programs and activities that will be implemented during a typical calendar year  
3 period. Together, these exhibits present a clear view of the scope and scale of  
4 NorthWestern's communications activities and sustained efforts to support its DSM  
5 programs, gain customer participation, and acquire cost-effective DSM resources.  
6 The DSM Communication Plan serves as a working plan that can and will be  
7 changed and adapted as conditions warrant or new knowledge is gained.

8  
9 **Q. Does NorthWestern plan to offer these DSM programs and conduct supporting**  
10 **activities again in the forthcoming tracker period?**

11 **A.** Yes, NorthWestern will continue its contracts with previous and new outside services  
12 providers and will offer this same group of electric DSM programs, modified and/or  
13 expanded as described above, during the 2011-12 tracker period.

14  
15 New DSM Programs for the commercial customer sector, including both existing and  
16 new construction, are being introduced. The Nexant/Cadmus study, *Assessment of*  
17 *Energy Efficiency Potentials (2010-2029)*, identified numerous cost-effective electric  
18 conservation measures that pass the Total Resource Cost (TRC) test using 2010  
19 electric avoided costs. These multiple, newly-qualified energy efficiency measures  
20 enable NorthWestern to expand an existing program and design and offer three new  
21 Electric Rebate DSM Programs to its customers in Montana. These new/expanded  
22 programs will feature prescriptive rebates for numerous DSM measures, and will be  
23 introduced in the 2011-12 tracker period:

- 24 a. E+ Residential Electric Rebate Program for Existing Homes  
25 b. E+ Residential Electric Rebate Program for New Construction  
26 c. E+ Commercial Electric Rebate Program for Existing Facilities  
27 d. E+ Commercial Electric Rebate Program for New Construction

28  
29 The Residential Electric Rebate Program for New Construction, the Commercial  
30 Electric Rebate Program for Existing Facilities, and the Commercial Electric Rebate  
31 Program for New Construction are new programs that have previously not been

1 offered to customers. The Residential Electric Rebate Program for Existing Homes  
2 has been significantly expanded; the number of measures offered to customers is  
3 more than four times greater than the previous program offering.

4  
5 Rebate levels are generally established at a level equal to either the lesser of 50% of  
6 incremental measure cost, or 50% of the incremental measure resource value.  
7 Various informational materials, program guidelines, and program rebate application  
8 forms are available at [www.northwesternenergy/NWEplus](http://www.northwesternenergy/NWEplus).

9  
10 **Q. What steps are being taken to secure cost-effective DSM in NorthWestern's**  
11 **own buildings and facilities?**

12 **A.** In 2010, NorthWestern DSM and Facilities Department staff acted on a suggestion  
13 from other employees to investigate costs and benefits of NWE buildings in  
14 Montana becoming as energy efficient as cost-effectively possible, as a means to  
15 reduce the corporation's overall future operating costs. The DSM/Facilities work  
16 team forwarded a proposal to NorthWestern management to examine the existing  
17 level of energy efficiency of NorthWestern's buildings and facilities in the Montana  
18 service territory and look for additional cost-effective DSM opportunities. Upon  
19 gaining approval to proceed, NCAT was contracted to perform the following work  
20 on 41 NorthWestern buildings and facilities:

- 21  
22 1. Conduct a walk-through energy audit.  
23 2. Generate an audit report for each building that:  
24 a. Identifies and documents potential cost-effective energy conservation  
25 measures.  
26 b. Estimates cost to install measures.  
27 c. Identifies electric and natural gas savings, and annual cost savings,  
28 resulting from installation/implementation of measures.

1 The findings from work completed by NCAT in late 2010 identified a list of  
2 measures and actions NorthWestern could take to retrofit its facilities in Montana,  
3 summarized as follows:

4  
5 1. Cost of implementation: \$ 569,643  
6 2. Annual cost savings: \$ 223,935  
7 3. Resource value (electricity plus natural gas) = \$ 1,503,204

8 4. Annual Energy Savings

9 a. 130,385 kWh

10 b. 28.1 kW

11 c. 3,797 dKt

12 5. More in-depth engineering analysis is recommended in larger, more complex  
13 buildings, involving computer-simulated full-facility energy studies to further  
14 identify and quantify major cost-effective energy conservation measures and  
15 costs. Candidate buildings include the General Office, MDCC, SOCC,  
16 Transformer Shop, and Scrap & Salvage/Rubber Lab in Butte, and the  
17 Lewistown Service Center.

18  
19 NorthWestern management approved the project proposal and directed the work  
20 team to proceed with implementation of the measures and actions identified by  
21 NCAT. As of this writing, approximately 15% of the retrofit work has been completed.

1 **Recovery of DSM Program Costs and Lost Revenues**

2  
3 **Q. What are the DSM Program costs for Tracker Year 2011-12 and how does**  
4 **NorthWestern propose to recover them?**

5 **A.** Exhibit\_\_(WMT-2) presents budget figures for individual supply DSM Programs that  
6 total \$8,063,519 (refer to cell N42) for the 2011-12 Tracker Year. This amount  
7 represents estimated DSM Program costs and is included as a line item with other  
8 supply expenses in the Prefiled Direct Testimony of Frank V. Bennett. The electric  
9 supply rates established to recover all supply power expenses include recovery of  
10 \$8,063,519 for 2011-2012 tracker year DSM Program costs.

11  
12 **Q. Does NorthWestern propose to continue recovery of Lost Revenues associated**  
13 **with DSM program activity?**

14 **A.** Yes. Effective July 8, 2010 electric transmission and distribution rates were revised<sup>3</sup>  
15 based on updated historical test period data that includes the effects on total energy  
16 sales of past DSM program activity. Because DSM Lost Revenues are a function of  
17 reduced transmission and distribution throughput caused by DSM activity, when the  
18 transmission and distribution (T&D) rates are reset in a general revenue  
19 requirements proceeding, it is also necessary to reset the calculation of DSM Lost  
20 Revenues to zero at the same time, in this instance, July 8, 2010. From that point in  
21 time, additional DSM has been acquired and increased Lost Revenues caused by  
22 accumulating energy savings have occurred.

23  
24 **Q. Does NorthWestern propose to continue recovery of Lost Revenues associated**  
25 **with Colstrip Unit 4 (CU-4)?**

26 **A.** Yes, NorthWestern proposes to recover the Lost Revenues associated the fixed cost  
27 portion of the revenue requirement of CU-4. Similar to T&D rates, the CU-4 fixed  
28 costs will be reset in a future CU-4 revenue requirements proceeding. The Lost  
29 Revenue calculations associated with these fixed costs appear as a separate

---

<sup>3</sup> Refer to General Rate Case D2009.9.129 Interim Order No. 7046g and Final Order 7046h.

1 additional worksheet Tab (Tab 8) in the Electric DSM Lost Revenues spreadsheet  
2 described immediately below.

3  
4 **Q. Are there additional Lost Revenues associated with new utility assets?**

5 **A.** Yes, NorthWestern proposes to recover the Lost Revenues associated with the fixed  
6 cost portion of the revenue requirement of DGGS that was placed into commercial  
7 operation on January 1, 2011. The Lost Revenue calculations associated with these  
8 fixed costs appear as a separate additional worksheet Tab (Tab 9) in the Electric  
9 DSM Lost Revenues spreadsheet described immediately below.

10  
11 **Q. Please describe the individual components of the Electric DSM Lost Revenues  
12 spreadsheet and the various data inputs used in its calculations.**

13 **A.** The Electric DSM Lost Revenues calculation is performed using a spreadsheet  
14 workbook model, included herein as Exhibit\_\_(WMT-3), that is comprised of 9  
15 separate worksheet tabs (name of tab in bold below) that compile program budgets,  
16 costs, energy savings estimates, rates, revenues and adjustment factors into a series  
17 of calculations that result in DSM Lost Revenues. Additional notes and explanations  
18 are included on the individual spreadsheet Tabs, identified as separate pages of  
19 Exhibit\_\_(WMT-3).

20  
21 **1. DSM LR Summary** (Exhibit\_\_(WMT-3), page 1) presents the results of the DSM  
22 Lost Revenue computations for tracker periods from the 2009-2010 tracker period  
23 on, including the calculations for Lost Revenues related to CU-4 and DGGS, that  
24 are performed on the subsequent tabs.

25  
26 **2. Rates** (Exhibit\_\_(WMT-3), page 2) details rates in effect for residential and GS-1  
27 customers by line item. The Electric DSM Lost Revenue calculations use  
28 transmission and distribution rates from this worksheet tab as inputs to Tab 7 Calc  
29 Lost Revenues. These rates are updated each time the Electric DSM Lost  
30 Revenues exhibit is prepared for the annual Electric Supply Tracker filing.

1       **3. Res and CI Energy Savings** (Exhibit\_\_(WMT-3), page 3) uses the annual DSM  
2 targets and disaggregates them into annual residential and commercial/industrial  
3 (C&I) energy savings targets. These factors are updated each year as  
4 NorthWestern gains experience operating DSM programs, collects program  
5 participation data and observes the proportion of energy savings contributed by  
6 each customer segment toward annual DSM targets. These savings have been  
7 de-rated for one week (seven days) to account for the fact that the new  
8 transmission and distribution rates became effective on July 8, 2010, rather than  
9 July 1, 2010. Thus, for the purpose of Reported DSM Program energy savings,  
10 the Tracker 'annual' period is shortened by one week.

11  
12       **4. C&I Demand Sav** (Exhibit\_\_(WMT-3), page 4) uses C&I energy savings  
13 developed in Tab 3 to determine total C&I annual demand reduction in kilowatt-  
14 months (kw-mths). The inputs on this tab include the average monthly load  
15 factor and a coincidence factor. The monthly load factor is derived from  
16 NorthWestern load research data and the coincidence factor is estimated at this  
17 time.

18  
19       **5. Savings by Cust Class** (Exhibit\_\_(WMT-3), page 5) develops program reported  
20 billing savings based on annual energy savings in kWh for the residential class  
21 and annual energy savings and demand savings in kw-mths for the C&I class.  
22 Demand savings is further disaggregated between GS-1 secondary non-demand  
23 and GS-1 primary non-demand. Inputs on this tab are the percentage savings by  
24 service level for commercial and industrial Supply customers. The percentages  
25 are based on actual program experience. The calculations on this Tab are  
26 driven by results from the calculations on Tabs 3 and 4.

27  
28       **6. Adjustment Factors** (Exhibit\_\_(WMT-3), page 6) develops factors to be applied  
29 to residential and C&I program reported billing savings for purposes of calculating  
30 Lost Revenues. These factors recognize that actual savings obtained typically  
31 differ and are generally less than program savings based solely on engineering

1 calculations. These factors are taken from the findings and conclusions of the  
2 2007 DSM Evaluation.

3  
4 7. **Calc Lost Revenues** (Exhibit\_\_(WMT-3), pages 7-8) calculates Lost Revenues  
5 based on input from Tabs 2, 5 and 6. Results from this tab are used as input to  
6 Tab 1.

7  
8 8. **CU-4 Related LRs** (Exhibit\_\_(WMT-3), pages 9-11) calculates Lost Revenues  
9 that are specific to the portion of the energy supply rate associated with recovery  
10 of the revenue requirement for NorthWestern's share of Colstrip Unit #4 that  
11 serves Montana jurisdictional loads. The same lost revenue calculation  
12 methodology used in tabs 2 through 7 is applied, and the time frame for DSM  
13 energy savings relevant to the calculation reflects the fact that the CU-4 rate  
14 became effective on January 1, 2009.

15  
16 9. **DGGS Related LRs** (Exhibit\_\_(WMT-3), pages 12-13) calculates Lost Revenues  
17 that are specific to the portion of the energy supply rate associated with recovery  
18 of the revenue requirement for NorthWestern's share of fixed costs of DGGS.  
19 The same lost revenue calculation methodology used in tabs 2 through 7 is  
20 applied, and the time frame for DSM energy savings relevant to the calculation  
21 reflects the fact that DGGS was placed in commercial service on January 1, 2011.  
22 DGGS rates are currently in effect on an interim basis and NorthWestern  
23 acknowledges that the DGGS Lost Revenues will need to be trued-up once final  
24 rates are ordered in Docket No. D2008.8.95.

25  
26 **Q. How are the Lost Revenues trued up and what amounts are you proposing to**  
27 **include as an adjustment to supply rates to recover Lost Revenues?**

28 A. Exhibit\_\_(WMT-3) provides updated calculations of electric Lost Revenues. A true up  
29 to the Lost Revenue calculations is required each time a new DSM tracker is  
30 prepared because NorthWestern prepares and files a new annual tracker before the  
31 current tracking period ends. This schedule requires computation of DSM Lost

1 Revenues based on 9 months of actual reported energy savings (July through March)  
2 and 3 months of estimated energy savings (April-June) for the concluding (or current)  
3 tracking period. Normally, the savings can be updated to reflect 12 months of actual  
4 information in response to discovery or in rebuttal testimony in the current docket.  
5

6 **Q. Is there anything else different or unique about this cycle of Lost Revenue**  
7 **recovery?**

8 **A.** Yes. As a result of actions and Orders in the General Rate Case, Docket No.  
9 D2009.9.129, new transmission and distribution rates became effective during the  
10 2010-2011 tracker period. When this happens, the DSM energy savings that drive  
11 calculation of lost transmission and distribution Lost Revenues are reset to a zero  
12 starting point. This reset starting point is July 8, 2010.  
13

14 The rates used for calculation of Lost Revenues associated with Colstrip Unit #4  
15 have not been changed, so the energy savings used in CU-4 Lost Revenue  
16 calculations have not been reset to a zero starting point.  
17

18 Finally, DGGs began commercial operation on January 1, 2011 and that is the zero  
19 starting point for DGGs. As discussed above, the rates used to calculate DGGs Lost  
20 Revenues are interim rates and the resulting Lost Revenues are subject to true-up.  
21

22 **Q. What amounts are you proposing to include as an adjustment to supply rates to**  
23 **recover Lost Revenues?**

24 **A.** Electric DSM Lost Revenues for tracker period 2010-11 include energy savings  
25 produced by DSM measures installed during different time periods depending on  
26 certain assets. The start, or "reset to zero", dates result from the date of the most  
27 recent effective date of new rates pertinent to fixed cost recovery of each respective  
28 asset. For the 2010-2011 tracker period, the end date for purposes of computing  
29 Lost Revenues is June 30, 2011.  
30

Table 5: Applicable Time Periods for DSM Lost Revenues by Asset

Asset	Reset to Zero Date	End Date (for purposes of the 2010-2011 tracker period)
Montana T&D system	July 8, 2010	June 30, 2011
CU-4	January 1, 2009	June 30, 2011
DGGS	January 1, 2011	June 30, 2011

NorthWestern proposes that electric supply rates include recovery of the amount of \$2,748,606 for Electric DSM Lost Revenues for the 2010-11 Tracker Year (refer to cell E10 on page 1 of Exhibit\_\_(WMT-3).

**DSM Program Cost-Effectiveness and Program Evaluation**

**Q. Please discuss DSM cost-effectiveness, how it is measured and why it is important to utility DSM Programs and resource portfolios.**

**A.** Without some form of decision-making framework and Decision Rule(s) to guide the process of DSM acquisition, a utility would be largely guessing at which specific DSM measures are appropriate, what incentive levels make sense economically, and what course corrections are needed to maintain steady production of DSM resources that contribute to the overall goal of least cost resource planning. That Decision Rule is generally referred to as Cost-Effectiveness, and the measuring tools traditionally used in the utility industry are a group of economic tests including the Total Resource Cost (TRC) test, Utility Cost (UC) test and the Participant (P) test. The results of these tests are expressed as ratios of benefits to costs. In general, but with certain additional considerations, the benefit/cost ratio of each of the tests should meet or exceed a value of 1.0, indicating that the benefits are equal to or greater than the costs.

These same metrics can be used to look retrospectively at past DSM program performance and results, evaluate whether the DSM Programs met their intended purpose of acquiring resources at less than avoided costs, and assist with

1 determination of whether past actions and expenditures were in the interest of  
2 ratepayers. Without some kind of guidance system such as this Decision Rule, the  
3 utility faces a higher probability of wrong decisions, improper expenditures, unfair and  
4 uneven treatment of DSM market participants and products, and the risk of future  
5 cost disallowances. The utility would be essentially “flying blind” with its DSM  
6 Program design and spending, would have no realistic means to identify preferred  
7 DSM measures, technologies, or vendor products and/or services. Unguided,  
8 unsystematic decision-making and spending on energy efficiency could result in  
9 overpayment for the value of the DSM benefits received (measured by the avoided  
10 cost of other potential portfolio resources displaced by DSM).

11  
12 **Q. Is one cost-effectiveness test better than another?**

13 **A.** Each test conveys information from a specific perspective (e.g., society, the utility, or  
14 the DSM program participant), and all tests are helpful in conducting and evaluating a  
15 rational DSM Program that is ultimately funded by those who receive the economic  
16 benefits. If economic benefit is the primary DSM objective, then economic tests can  
17 provide primary guidance. All three economic tests provide DSM planning and  
18 spending benchmarks against which decisions can be fairly and consistently made.  
19 If NorthWestern uses these tools correctly, after-the-fact DSM Program evaluations  
20 should bring few surprises about cost-effectiveness of the preceding effort.

21  
22 The TRC test is used by NorthWestern to qualify or reject individual DSM measures  
23 and evaluate overall DSM Program results after the fact. NorthWestern also looks at  
24 the UC test for guidance on the level of overall program spending during any given  
25 tracker period, mindful of the ultimate goal of cost effective DSM resource acquisition.  
26 Using these tools and the Cost Effectiveness Decision Rule, NorthWestern has  
27 consistently developed DSM resources at a cost that is less than the cost of the  
28 marginal resources that DSM displaces or defers. The avoided cost typically used  
29 for DSM planning is developed by NWE’s Energy Supply Planning Department during  
30 preparation of the biennial electric supply procurement plans.

1 **Q. What are the “certain other considerations” that are taken into account with**  
2 **respect to cost-effectiveness?**

3 **A.** It is generally accepted that DSM mitigates environmental impacts associated with  
4 emissions that would have resulted from the typical supply side resources it  
5 displaces. NorthWestern uses an environmental benefit factor when setting the TRC  
6 minimum value threshold as a way to recognize that emissions and/or other  
7 environmental impacts may have societal costs beyond those internalized in the  
8 avoided cost.

9  
10 Therefore, NWE did not attempt to explicitly quantify the appropriate environmental  
11 benefit factor for use in its most recent DSM assessment. Indeed, reliable  
12 quantification of environmental externalities has eluded the electric utility industry for  
13 as long as DSM has been a part of resource planning. Consequently, some  
14 recognition of the environmental benefits of DSM has been seen as appropriate, and  
15 consensus on the level of that recognition allows DSM acquisition to proceed without  
16 unnecessary conflict or contention. Following consultation with its DSM working  
17 group (a subset of the Electric Technical Advisory Committee), during development  
18 of the DSM acquisition plan that was included in NWE’s 2004 electric supply  
19 procurement plan, a 10% environmental benefit factor was chosen as a reasonable  
20 surrogate<sup>4</sup>.

21  
22 **Q. Is there other precedent for this approach of giving DSM a 10% cost advantage**  
23 **in recognition of environmental externalities?**

24 **A.** Yes. Precedent and guidance can be found in federal legislation and over 30 years  
25 of subsequent DSM industry practice in the Pacific Northwest. The 1978 National  
26 Energy Act (Act), and its Subtitle, The National Energy Conservation Policy Act

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<sup>4</sup> Previous to the adoption of the Electric Default Supplier Procurement Guidelines, electric supply planning was conducted under ARM 38.5.200 through 38.5.20016 dated 12/31/92. In accordance with ARM 38.5.2003, “Environmental Externalities” MPC had previously estimated the external environmental costs associated with gas-fired combined cycle generation at 5% of avoided costs. Additionally, ARM 38.5.2011, “Regulatory and Market Barriers to Integrated Least Cost Planning and Acquisition of Demand-Side Resources”, specified that DSM resources be considered cost effective up to 115% of the utility’s avoided costs. In essence, DSM was afforded a 20% cost advantage. NWE chose to give DSM the benefit of the doubt and used 10%.

1 (public law 95-619), created the Northwest Power Planning Council, now the  
2 Northwest Power and Conservation Council (Council), and directed it to produce a  
3 regional energy map for the Pacific Northwest using energy conservation as the  
4 cornerstone of its planning. The specific relevant language excerpted from the Act is  
5 as follows:

6 “...the “estimated incremental system cost” of any conservation measure or  
7 resource shall not be treated as greater than that of any nonconservation  
8 measure or resource unless the incremental system cost of such conservation  
9 measure or resource is in excess of 110 per centum of the incremental system  
10 cost of the nonconservation measure or resource.” From Section 839a (4)(D). For  
11 purposes of this paragraph, the "estimated incremental system cost" of any  
12 conservation measure or resource shall not be treated as greater than that of any  
13 non-conservation measure or resource unless the incremental system cost of  
14 such conservation measure or resource is in excess of 110 per centum of the  
15 incremental system cost of the nonconservation measure or resource. [Northwest  
16 Power Act, §3(4)(D), 94 Stat. 2699.]  
17

18 In the 1978 Northwest Power Act, and in the first and each subsequent Power Plan  
19 the Council has produced, energy conservation has been give a 10% advantage.  
20 The most recent of these is the Northwest Power and Conservation Council 6<sup>th</sup>  
21 Power Plan, which contains relevant language in Appendix P:<sup>5</sup>

22  
23 *“The Council’s Power Plan is based on the most cost-effective resources to meet the*  
24 *electricity needs of the region. The Act specifies priorities for types of resources. Energy*  
25 *efficiency is first priority and it receives a 10 percent cost credit compared to other*  
26 *alternatives.”*  
27

28 **Q. How does application of the environmental benefit factor change the TRC**  
29 **minimum threshold value?**

30 **A.** Without an environmental benefit factor, a DSM measure is cost-effective when the  
31 TRC test applied to it yields a value equal to or greater than 1.0. However, when a  
32 10% environmental benefit factor is applied, a measure is considered cost effective  
33 when its cost is equal to or less than 110% of the avoided cost value, or the benefits,  
34 of the associated electric savings. This is a cost/benefit ratio. As discussed  
35 previously, the TRC is a benefit/cost ratio or the reciprocal of the cost/benefit ratio.

---

<sup>5</sup> Refer to the 6<sup>th</sup> Power Plan Appendix P at  
[http://www.nwcouncil.org/energy/powerplan/6/final/SixthPowerPlan\\_Appendix\\_P.pdf](http://www.nwcouncil.org/energy/powerplan/6/final/SixthPowerPlan_Appendix_P.pdf).

1           Consequently, all measures with a TRC of 0.9 or greater are considered cost  
2           effective for purposes of screening the DSM measures and evaluating the cost-  
3           effectiveness of DSM Programs.

4  
5           **Q. Does this the application of a 10% environmental benefit factor have a**  
6           **significant impact on quantity of achievable cost effective DSM in NWE’s**  
7           **service territory or on the average cost of DSM?**

8           **A.** No, not really. The 10% “cost advantage” assigned to DSM through lowering of the  
9           TRC screening threshold value from 1.0 to 0.9 allows perhaps an estimated 5-8%  
10          more DSM measures to qualify for NorthWestern’s Programs in the most recent DSM  
11          Assessment. Regardless of this “special treatment” for DSM for the reasons  
12          discussed above, the average cost of DSM acquired is still well below the average  
13          cost of other resources in the portfolio, and that perennial result clearly contributes to  
14          the overall and primary goal of least cost resource acquisition.

15  
16          **Q. What are the results of applying these tests to NorthWestern’s DSM Programs?**  
17          **Are NorthWestern’s DSM Programs cost-effective?**

18          **A.** NorthWestern’s DSM programs are cost-effective. Exhibit\_\_(WMT-6) presents the  
19          values for the various cost-effectiveness tests for programs that were active during  
20          the 2010-2011 tracker period and which are funded through electric energy supply  
21          rates through the annual tracker mechanism. Values for programs reported pursuant  
22          to the 2007 Nexant Evaluation are also included for reference. It is important to note  
23          that new DSM Programs are not always immediately cost-effective from the moment  
24          of initial implementation. These programs are typically front-loaded with startup  
25          expenses and may require a year or two to get up and running, gain traction in the  
26          marketplace and begin to produce cost-effective DSM.

27  
28          Also, some DSM programs are fairly simple to apply the various cost-effectiveness  
29          tests to at any time because of their specific program design. A good example of this  
30          is the E+ Residential Lighting Program, where the DSM measures (CFLs) are rather  
31          homogeneous in cost and rebate amounts. For a program such as this, customer

1 costs, a term in the denominator of TRC, are straightforward to estimate and  
2 compute. Other programs have a much more complicated mix and volume of DSM  
3 measures and variable customer costs, making TRC calculation more challenging,  
4 and regular (but periodic) independent DSM Program Evaluations important.

5  
6 **Q. When will the next independent evaluation of DSM program cost-effectiveness  
7 be performed?**

8 **A.** NorthWestern has prepared and issued a Request for Proposal for a comprehensive  
9 DSM Program Evaluation to be conducted in 2012. An independent service provider  
10 not otherwise involved in implementation of NWE's DSM Programs will be selected  
11 through a blind competitive bidding process and contracted in the fourth quarter of  
12 2011 to conduct a thorough quantitative and qualitative evaluation of processes used  
13 in and impacts of NorthWestern's DSM Programs, and provide recommendations for  
14 changes that might improve future results.

15  
16 Results of the program evaluation will be used to refine energy savings estimates for  
17 DSM programs and measures, update the cost-effectiveness tests used to determine  
18 approved measures for future program offerings, improve accuracy of annual DSM  
19 program budgeting, and adjust the factors used in the DSM tracking mechanism to  
20 determine net energy savings and associated Lost Revenues. Final results of this  
21 work are expected in late 2012.

22  
23 **Q. What time period will be covered by this independent evaluation?**

24 **A.** This project will examine all DSM Programs and related activities operated by NWE  
25 during the 2007-2011 time period, and will include all programs that produce electric  
26 and natural gas DSM savings, whether funded by USB or Energy Supply sources.  
27 The work is extensive, involving analysis of program records, calculations performed  
28 by NWE, assumptions and databases used, site visits, historical energy consumption  
29 data, and telephone interviews with NWE DSM program staff, contractors and  
30 customer participants and non-participants.

1 **Q. What work tasks will be included in the scope of work?**

2 **A.** The DSM Program Evaluation scope of work consists of six main tasks:

3 Task 1: DSM Evaluation Plan

4 Task 2: Project Management

5 Task 3: Program Process Evaluation

6 Task 4: DSM Program Impact Evaluation

7 Task 5: DSM Program Economic Analysis

8 Task 6: DSM Program Evaluation Final Report

9 The final report detailing the results, findings and recommendations will be provided  
10 to the Commission.

11  
12 A copy of the DSM Evaluation RFP is provided as Exhibit\_\_(WMT-7).

13  
14 **Q. Do you believe that NorthWestern is responding to the Commission's prior**  
15 **direction in Order 6574e, ¶ 188, with respect to the cost of acquiring DSM?**

16 **A.** Yes. One of the central issues in Docket D2004.6.90 related to elimination of  
17 potential disincentives to DSM, including recovery of direct costs of DSM Programs  
18 (DSM Program costs) and recovery of Lost Revenues that result from reduction in  
19 revenues from lower T&D throughput (the throughput disincentive). Expensing  
20 versus capitalizing DSM Program costs was considered during this proceeding, but at  
21 the time NorthWestern requested that DSM Program costs be treated as an expense,  
22 at least until a more thorough examination of the DSM capital-versus-expense issue  
23 could be made.

24  
25 The existence of the annual default supply tracking mechanism provided a  
26 satisfactory and convenient mechanism to expense these costs. To use the annual  
27 tracker in this way would be to treat DSM Program costs the same as all the other  
28 default supply portfolio costs, e.g., incorporate them into the overall energy supply

1 cost and subsequent energy supply rates, and use the deferred account as the  
2 means to true-up over- or under-collection of revenues against such costs.

3  
4 The foregoing discussion of the threshold TRC value = 0.9 as a measure or indicator  
5 of cost-effectiveness is separate from the question of uniform treatment of the costs  
6 of different sources of energy supply, including DSM. The TRC test and its 0.9  
7 threshold value is used to screen and qualify DSM program measures and evaluate  
8 program performance; it is not used or intended to give DSM some kind of special  
9 advantage over other resource choices. Within the context of Docket No.  
10 D2004.6.90 Order 6574e and the specific language in ¶ 188 stating "*the cost of*  
11 *acquiring this resource [DSM] shall be treated the same as any other resource*  
12 *acquisition made to serve the default supply.*", NorthWestern believes that the  
13 Commission's intent was for NorthWestern to treat DSM expenditures as an energy  
14 supply expense, passing it through the tracker mechanism as part of overall energy  
15 supply costs on a dollar-for-dollar basis in the same way as all other electric supply  
16 costs. NorthWestern is, and has been, including DSM expenses in this manner since  
17 the effective date of Order 6574e.

1 Capitalizing versus Expensing DSM Acquisition

2  
3 **Q. Are there other items you wish to discuss related to DSM cost recovery?**

4 **A.** Yes. In Docket No. D2010.5.50, Order No. 7093c, the Commission encouraged  
5 NorthWestern to consider the comparative merits of capitalizing versus expensing  
6 DSM acquisitions.

7  
8 **Q. Please proceed with your discussion.**

9 **A.** DSM program costs can be expensed, which, in NorthWestern's case means  
10 forecast costs associated with electric DSM programs are placed into electricity  
11 supply rates through monthly and annual electric tracker filings. Expensing DSM  
12 program costs is straightforward, easy to understand and explain to others, and  
13 consistent with the concept of matching costs and revenues within the electric  
14 tracker. NorthWestern currently expenses DSM Program costs and makes use of the  
15 tracker's deferred account as a balancing mechanism that adjusts and reconciles ex-  
16 ante budgeted spending with ex-post actual spending.

17  
18 DSM Program costs can also be capitalized to the extent allowed by accounting  
19 principles. Capitalizing is a cost recovery method typically reserved for physical  
20 assets such as generating plant and transmission or distribution lines, and the costs  
21 are placed into the utility's rate base. The utility is allowed to earn a return on the  
22 investment and also recover its capital over time through depreciation. A frequently  
23 made argument made in favor of capitalizing DSM Program costs is that it places  
24 DSM on more equal financial footing with supply-side expenditures.

25  
26 Capitalizing allows for cost recovery over time, but it can cost consumers more than  
27 expensing DSM Program costs would in the long run. The reason for this is that  
28 capitalization includes a component for return on invested capital, whereas expensing  
29 does not. Expensing front-loads the DSM Program costs; capitalizing spreads and  
30 evens out the expenses over an amortization period. Some argue that this is more

1 appropriate because capitalizing more closely matches the costs of DSM over time  
2 with the energy savings benefits over the life of the DSM measures. If the choice is  
3 made to capitalize, the appropriate amortization period for program costs would need  
4 to be determined.

5  
6 If the level of investment in DSM is significant, the relative risk of capitalized DSM  
7 Program costs can become an issue. The DSM expenditures are not backed by  
8 physical assets installed through the DSM programs that are owned and controlled by  
9 the utility. If DSM spending is accrued for future recovery by amortization, this  
10 accrual is considered a “regulatory asset”, or an asset created by regulatory policy  
11 that is not backed by actual plant or equipment. The fact that DSM expenditures are  
12 regulatory assets in theory means that the regulatory policy underlying those assets  
13 can change in the future which, in turn, could create more uncertainty for the utility  
14 regarding rate recovery.

Table 6: Summary of Pros and Cons of DSM Capitalization v. Expensing

	Arguments For (Pro)	Arguments Against (Con)
<b>Expensing DSM Costs</b>	Generally seen as a less costly approach for consumers in the long-run.	If annual DSM expenditures are large, lump sum recovery can have a measurable short-term impact on rates. If the energy efficiency program budget is significantly increased there is the potential that consumer advocates may oppose the tariff rider and treat it as rate shock.
	Reduces uncertainty about whether cost recovery would be approved in a rate case.	A combination of infrequent rate cases and escalating expenditures can lead to under-recovery absent a balancing mechanism.
	Removes the time lag between DSM expenditures and cost recovery; provides contemporaneous cost recovery for DSM programs.	Can be viewed as single-issue ratemaking.
	Expensing treatment is generally consistent with standard utility cost accounting and recovery rules.	Some have argued that expensing creates unequal treatment between the supply-side investments (which are rate-based) and the DSM investments that are intended to substitute for new supply.
	Avoids the creation of potentially large regulatory assets and associated carrying costs.	
	Provides more-or-less immediate recovery of costs and reduces recovery risk.	
	The use of balancing mechanisms outside of a general rate case ensures more timely recovery when efficiency program costs are variable and prevents significant over-or under-recovery from being carried forward to the next rate case.	
<b>Capitalizing DSM Costs</b>	Moderates the immediate rate effect of DSM programs.	Costs of DSM programs are greater in the long-run.
	Some efficiency programs can meet short term, rate-oriented cost-effectiveness tests if costs are capitalized.	Potential disagreement between utility and regulators over the appropriate amortization period.
	Capitalization provides a sense of matching the benefits of DSM programs with their costs over time.	Bond ratings might decline if capitalized DSM expenditure tips the balance of the utility asset account leading to too many regulatory assets not backed by physical capital.
	A rate of return is earned on the expenditure, similar to supply-side investments.	Treats what is arguably an expense as a capital item.
	Places DSM on more of an equal footing with supply-side investments with respect to cost recovery.	Creates a regulatory asset that can grow substantially over time; because this asset is not tangible or owned by the utility, it tends to be viewed as more uncertain by the financial community. Delays full recovery and increases recovery risk. Raises the total dollar cost of DSM Programs.

1 **Q. What is NorthWestern's position regarding capitalizing DSM Program costs?**

2 **A.** NorthWestern's ongoing commitment to DSM is evident in its growing portfolio of  
3 DSM Programs and annual DSM results. NorthWestern's financial interest includes  
4 timely recovery of all costs and Lost Revenues associated with cost-effective DSM  
5 Programs. Aligning utility and customer financial interests and removing  
6 disincentives encourages aggressive and enthusiastic pursuit of DSM. NorthWestern  
7 is willing to discuss an acceptable method for capitalizing DSM costs. As evidenced  
8 by the many arguments both for and against either method of DSM cost recovery, full  
9 consideration of this subject and attendant future decision-making might benefit from  
10 a more thorough discussion outside of this Docket, or in a separate proceeding.

11  
12 **Q. Does this complete your testimony?**

13 **A.** Yes, it does.

	A	B	C	D	E	F	G	H
1	<b>Table A: Reported Electricity Savings from 2010-11 USB and DSM Program Activity</b>							
2		<b>Annualized Energy Savings<sup>1</sup></b>						
3		<b>USB</b>		<b>DSM</b>				
4		<b>kWh</b>	<b>aMW</b>	<b>kWh</b>	<b>aMW</b>			
5	<b>Programs</b>							
6	General Default Supply DSM Expenses	-	-	-	-			
7	E+ Energy Audit for the Home or Business	1,979,501	0.23	-	-			
8	E+ Business Partners Program	-	-	3,351,274	0.38			
9	E+ Irrigation	346,238	0.04	-	-			
10	E+ Commercial Lighting Rebate Program	-	-	9,166,233	1.05			
11	E+ Residential Lighting Programs	-	-	38,151,096	4.36			
12	Builder Operator Certification	824,269	0.09	-	-			
13	Northwest Energy Efficiency Alliance (NEEA)	-	-	24,168,087	2.76			
14	Energy Star 80 Plus Program	-	-	791,709	0.09			
15	E+ Free Weatherization Program & Fuel Switch	402,540	0.05	-	-			
16	E+ Renewable Energy Program	743,211	0.08	-	-			
17	E+ New Homes Program	69,475	0.01	-	-			
18	E+ Residential NC Electric Savings Program	-	-	9,191	0.00			
19	E+ Residential Electric Savings Program	-	-	-	-			
20	E+ Energy Audit for the Home or Business (NG)	-	-	-	-			
21	Motor Management Training	-	-	-	-			
22	Vending Miser	-	-	-	-			
23	E+ Electric Motor Rebate Program	-	-	-	-			
24	E+ Resid Existing Gas Rebate Program	-	-	-	-			
25	E+ Resid NC Gas Rebate Program	-	-	-	-			
26	E+ Comm Existing Gas Rebate Program	-	-	-	-			
27	E+ Comm NC Gas Rebate Program	-	-	-	-			
28	DEQ Appliance Rebate Program	610,535	0.07	-	-			
29	E+ Building Blocks Pilot Program	-	-	-	-			
30	Demand Response Program (TOU pilot)	-	-	-	-			
31	<b>Total</b>	<b>4,975,770</b>	<b>0.57</b>	<b>75,637,590</b>	<b>8.63</b>			
32								
33	Note 1: Annualized energy savings are based on 9 months of actual savings (July - March) and 3 months estimated.							
34								
35		USB + DSM savings acquired in 2010-11 Tracker Period (aMW):			<b>9.20</b>			
36								
37	<b>Table B: Residential and Commercial Savings for Calculation of Lost T &amp; D Revenues</b>							
38		<b>USB + DSM Programs</b>						
39	<b>Programs</b>	<b>% Residential</b>	<b>kWh</b>	<b>% Commercial</b>	<b>kWh</b>	<b>Total kWh</b>	<b>Residential % of Total<sup>2</sup></b>	<b>Commercial % of Total<sup>2</sup></b>
40								
41								
42	General Default Supply DSM Expenses <sup>2</sup>	0%	-	0%	-	-		
43	E+ Energy Audit for the Home or Business <sup>3</sup>	88%	1,741,961	12%	237,540	1,979,501		
44	E+ Business Partners Program <sup>4</sup>	0%	-	100%	3,351,274	3,351,274		
45	E+ Irrigation	0%	-	100%	346,238	346,238		
46	E+ Commercial Lighting Rebate Program	0%	-	100%	9,166,233	9,166,233		
47	E+ Residential Lighting Programs	100%	38,151,096	0%	-	38,151,096		
48	Builder Operator Certification	0%	-	100%	824,269	824,269		
49	Northwest Energy Efficiency Alliance (NEEA) <sup>5</sup>	95%	22,959,683	5%	1,208,404	24,168,087		
50	Energy Star 80 Plus Program <sup>6</sup>	0%	-	100%	791,709	791,709		
51	E+ Free Weatherization Program & Fuel Switch <sup>7</sup>	100%	402,540	0%	-	402,540		
52	E+ Renewable Energy Program	70%	520,248	30%	222,963	743,211		
53	E+ New Homes Program <sup>8</sup>	100%	69,475	0%	-	69,475		
54	E+ Residential NC Electric Savings Program	100%	9,191	0%	-	9,191		
55	E+ Residential Electric Savings Program	100%	-	0%	-	-		
56	E+ Energy Audit for the Home or Business (NG) <sup>9</sup>	97%	-	3%	-	-		
57	Motor Management Training	0%	-	100%	-	-		
58	Vending Miser	0%	-	100%	-	-		
59	E+ Electric Motor Rebate Program	0%	-	100%	-	-		
60	E+ Resid Existing Gas Rebate Program	100%	-	0%	-	-		
61	E+ Resid NC Gas Rebate Program	100%	-	0%	-	-		
62	E+ Comm Existing Gas Rebate Program	0%	-	100%	-	-		
63	E+ Comm NC Gas Rebate Program	0%	-	100%	-	-		
64	DEQ Appliance Rebate Program	100%	610,535	0%	-	610,535		
65	E+ Building Blocks Pilot Program	0%	-	100%	-	-		
66	Demand Response Program (TOU pilot)	100%	-	0%	-	-		
67			<b>64,464,729</b>		<b>16,148,631</b>	<b>80,613,360</b>	<b>80.0%</b>	<b>20.0%</b>
68								
69	Note 2: Overall Residential and Commercial percentages are used in calculation of Lost Revenues in Exhibit (WMT-3).							

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
	<b>Electric Supply DSM Program Spending &amp; Budget</b>													
	<b>2010-11 Tracker Year</b>													
	<b>Actual Recorded Spending (July through April)- from SAP Records</b>												<b>Estimated</b>	
	<b>Electric DSM Program Spending</b>	<b>Order</b>	<b>Jul-10</b>	<b>Aug-10</b>	<b>Sep-10</b>	<b>Oct-10</b>	<b>Nov-10</b>	<b>Dec-10</b>	<b>Jan-11</b>	<b>Feb-11</b>	<b>Mar-11</b>	<b>Apr-11</b>	<b>May-11</b>	<b>Jun-11</b>
6	General Expenses Related to All DSM Programs	17054	\$ 22,424	\$ 3,955	\$ 1,500	\$ 14,955	\$ 29,992	\$ 16,114	\$ 7,673	\$ 370	\$ 2,421	\$ 5,021	\$ 380	\$ 195
7	E+ Residential Lighting Program	17055	\$ 83,882	\$ 11,532	\$ 91,553	\$ 28,048	\$ 398,752	\$ 225,103	\$ 2,200	\$ 75,680	\$ 25,518	\$ 228,602	\$ 164,160	\$ 236,792
8	E+ Residential Electric Savings Program	17056	\$ 111	\$ 45	\$ -	\$ 382	\$ 174	\$ 200	\$ 3,795	\$ 77	\$ 7,147	\$ 22,330	\$ 1,921	\$ 41,224
9	E+ Electric Building Blocks Program	17057	\$ 1,001	\$ 6,677	\$ 119	\$ -	\$ 4,203	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
10	E+ Residential New Construction Program	17059	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,076	\$ 7,717	\$ -	\$ -
11	E+ Commercial Lighting Program	17060	\$ 153,775	\$ 41,206	\$ 207,841	\$ 51,609	\$ 138,899	\$ 50,192	\$ 53,020	\$ 160,341	\$ 186,031	\$ 346,077	\$ 627,627	\$ 131,009
12	E+ Electric Motor Rebates Program	17061	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 772	\$ 711	\$ 3,525	\$ 1,936
13	E+ Commercial New Construction Program	17062	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 20	\$ 1,336	\$ 7,067	\$ -	\$ -
14	E+ Business Partners Program	17063	\$ 121,912	\$ 10,360	\$ 96,515	\$ 197,573	\$ 152,204	\$ 105,175	\$ 153,304	\$ 39,522	\$ 27,844	\$ 259,107	\$ 60,207	\$ 283,070
15	E+ Commercial Electric Rebate Program	17064	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 49	\$ 2,279	\$ 8,104	\$ -	\$ -
16	Demand Response Program (TOU Pilot)	17065	\$ -	\$ 780	\$ 187	\$ 407	\$ -	\$ -	\$ -	\$ 83	\$ -	\$ -	\$ -	\$ -
17	Market Transformation (NEEA)	17067	\$ 343,320	\$ (156)	\$ 69	\$ 365,540	\$ 131	\$ 145	\$ 365,540	\$ 188,611	\$ -	\$ 366,030	\$ -	\$ -
18	<b>Monthly Total Spending</b>		\$ 726,427	\$ 74,398	\$ 397,785	\$ 658,514	\$ 724,355	\$ 396,930	\$ 585,532	\$ 464,753	\$ 255,425	\$ 1,250,767	\$ 857,820	\$ 694,226
20	<b>Cumulative Total Spending (for 2010-11 Tracker Year)</b>		\$ 726,427	\$ 800,825	\$ 1,198,610	\$ 1,857,123	\$ 2,581,478	\$ 2,978,408	\$ 3,563,941	\$ 4,028,694	\$ 4,284,119	\$ 5,534,886	\$ 6,392,706	\$ 7,086,931
22	Note: Actual Program Expenses as of April 30, 2011													
	<b>2011-12 Tracker Year</b>													
	<b>Estimated</b>													
	<b>Electric DSM Program Spending</b>	<b>Order</b>	<b>Jul-11</b>	<b>Aug-11</b>	<b>Sep-11</b>	<b>Oct-11</b>	<b>Nov-11</b>	<b>Dec-11</b>	<b>Jan-12</b>	<b>Feb-12</b>	<b>Mar-12</b>	<b>Apr-12</b>	<b>May-12</b>	<b>Jun-12</b>
28	General Expenses Related to All DSM Programs	17054	\$ 24,667	\$ 4,351	\$ 1,650	\$ 16,450	\$ 32,992	\$ 17,725	\$ 8,440	\$ 407	\$ 122,663	\$ 5,523	\$ 418	\$ 120,215
29	E+ Residential Lighting Program	17055	\$ 92,271	\$ 12,685	\$ 100,708	\$ 30,853	\$ 438,627	\$ 247,614	\$ 2,420	\$ 83,248	\$ 28,070	\$ 251,462	\$ 180,576	\$ 260,471
30	E+ Residential Electric Savings Program	17056	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 14,500	\$ 14,500	\$ 7,000	\$ 7,000	\$ 22,000	\$ 22,000	\$ 22,000	\$ 22,000
31	E+ Electric Building Blocks Program	17057	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
32	E+ Residential New Construction Program	17059	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,284	\$ 8,489	\$ -	\$ -
33	E+ Commercial Lighting Program	17060	\$ 169,153	\$ 45,327	\$ 228,625	\$ 56,770	\$ 152,789	\$ 55,211	\$ 145,987	\$ 176,376	\$ 204,634	\$ 380,685	\$ 690,389	\$ 176,155
34	E+ Electric Motor Rebates Program	17061	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 849	\$ 782	\$ 3,877	\$ 2,129
35	E+ Commercial New Construction Program	17062	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 22	\$ 1,470	\$ 7,774	\$ -	\$ -
36	E+ Business Partners Program	17063	\$ 134,104	\$ 11,396	\$ 106,167	\$ 217,330	\$ 167,424	\$ 115,693	\$ 168,635	\$ 43,474	\$ 30,628	\$ 285,018	\$ 66,228	\$ 311,377
37	E+ Commercial Electric Rebate Program	17064	\$ 7,000	\$ 7,000	\$ 7,000	\$ 7,000	\$ 14,500	\$ 14,500	\$ 7,000	\$ 7,000	\$ 22,000	\$ 22,000	\$ 37,000	\$ 37,000
38	Demand Response Program (TOU Pilot)	17065	\$ -	\$ 858	\$ 206	\$ 448	\$ -	\$ -	\$ -	\$ 91	\$ -	\$ -	\$ -	\$ -
39	Market Transformation (NEEA)	17067	\$ 365,540	\$ -	\$ -	\$ 365,540	\$ -	\$ -	\$ 365,540	\$ -	\$ -	\$ 365,540	\$ -	\$ -
40	<b>Monthly Total Spending</b>		\$ 799,734	\$ 88,616	\$ 451,356	\$ 701,392	\$ 820,832	\$ 465,243	\$ 705,022	\$ 317,618	\$ 434,598	\$ 1,349,273	\$ 1,000,488	\$ 929,347
42	<b>Cumulative Total Spending (for 2011-12 Tracker Year)</b>		\$ 799,734	\$ 888,350	\$ 1,339,706	\$ 2,041,098	\$ 2,861,929	\$ 3,327,173	\$ 4,032,195	\$ 4,349,812	\$ 4,784,411	\$ 6,133,684	\$ 7,134,172	\$ 8,063,519

	A	B	C	D	E
1	<b>Electric DSM Lost Revenues</b>				
2	<b>Time Period<sup>1</sup></b>	<b>Montana T&amp;D</b>	<b>Colstrip Unit #4<sup>2</sup></b>	<b>Dave Gates Mill Creek Station<sup>3</sup></b>	<b>Total DSM Lost Revenue<sup>4</sup></b>
3					
4					
5	<b>Tracker 2009-10</b>	\$ 3,062,576	\$ 716,410		\$ 3,778,987
6					
7	<b>Tracker 2010-11:</b>				
8	<b>July-December 2010</b>	\$ 366,926	\$ 778,452	\$ -	\$ 1,145,378
9	<b>January-June 2011</b>	\$ 744,821	\$ 778,452	\$ 79,954	\$ 1,603,227
10	<b>Total Tracker 2010-2011</b>	\$ 1,111,747	\$ 1,556,905	\$ 79,954	\$ 2,748,606
11					
12	Notes:				
13	1. Electric DSM Lost Revenues were reset Jan. 1, 2008 due to newly established T&D rates				
14	Refer to Electric Default Supply Service D2007.7.80, Tariff 144-E and				
15	General Rate Case D2007.7.82 Interim Order No. 6852b, Tariff 145-E				
16	Tracker Period 2010-2011 based on 9+3 energy savings				
17					
18	Electric DSM Lost Revenues were reset again on Jan. 1, 2011 due to newly established T&D rates				
19	Refer to Docket D2009.9.129, Final Order No. 7046h				
20					
21	2. MPSC Final Order 6921c authorizes CU-4 related Lost Revenues in the amount of \$83,021 for the 2008-09 period.				
22	There is no "reset" of DSM savings for CU-4 related Lost Revenues, because there were no new rates established.				
23					
24	3. DGGS began commercial service on January 1, 2011				
25					
26	4. MPSC Final Order 7093c authorizes DSM Lost Revenues in the amount of \$3,778,987 for the 2009-10 period.				
27					

	A	B	C	D	E	F	G	H
1	<b>Electric DSM Lost Revenues</b>							
2								
3	<u>Period July – December 2010</u>				<u>Period January – June 2011</u>			
4	Reference: Compliance Filing on December 21, 2010 Docket D2009.9.129, Final Order 7046h; Work-Papers Section “Electric Utility Approved Revenue Requirement ACOS and Derivation of Rates” Page 3 of 4 Column D.				Reference: 2011 Annual Tax Tracker Filing Application December 23, 2010, Docket D2010.12.116, Final Order 7131a; Appendix A Pages 1 – 4, Column (B) + (E), <u>excluding</u> rebate in Column (C).			
5	<b>Residential:</b>				<b>Residential:</b>			
6	Supply Energy	\$0.056600	per kwh		Supply Energy	\$0.056600	per kwh	
7	Supply Deferred Costs	-\$0.002865	per kwh		Supply Deferred Costs	-\$0.002865	per kwh	
8	Transmission Energy	\$0.008918	per kwh		Transmission Energy	\$0.009051	per kwh	
9	Distribution Energy	\$0.027761	per kwh		Distribution Energy	\$0.028176	per kwh	
10	BPA Credit Exchange	\$0.000449	per kwh		BPA Credit Exchange	\$0.000449	per kwh	
11	CTC-QF	\$0.003209	per kwh		CTC-QF	\$0.003209	per kwh	
12	Res. Sale Credit	\$0.001334	per kwh		USBC	\$0.001334	per kwh	
13	USBC	\$5.000000	per kwh		Distribution Service Charge	\$5.000000	per month	
14					DGGS Fixed Rate (after losses)			
15								
16	<b>GS 1 Secondary, non-demand</b>				<b>GS 1 Secondary, non-demand</b>			
17	Supply Energy	\$0.051201	per kwh		Supply Energy	\$0.051201	per kwh	
18	Supply Deferred Costs	-\$0.002865	per kwh		Supply Deferred Costs	-\$0.002865	per kwh	
19	Transmission Energy	\$0.007765	per kwh		Transmission Energy	\$0.007881	per kwh	
20	Distribution Energy	\$0.035955	per kwh		Distribution Energy	\$0.036493	per kwh	
21	CTC-QF	\$0.003209	per kwh		CTC-QF	\$0.003209	per kwh	
22	USBC	\$0.001143	per kwh		USBC	\$0.001143	per kwh	
23	Distribution Service Charge	\$7.450000	per month		Distribution Service Charge	\$7.450000	per month	
24								
25								
26	<b>GS 1 Secondary, demand</b>				<b>GS 1 Secondary, demand</b>			
27	Supply Energy	\$0.056600	per kwh		Supply Energy	\$0.056600	per kwh	
28	Supply Deferred Costs	-\$0.002865	per kwh		Supply Deferred Costs	-\$0.002865	per kwh	
29	Transmission Demand	\$2.966798	per kw		Transmission Demand	\$3.011163	per kw	
30	Distribution Energy	\$0.004797	per kwh		Distribution Energy	\$0.004869	per kwh	
31	Distribution Demand	\$6.047753	per kw		Distribution Demand	\$6.138191	per kw	
32	CTC-QF	\$0.003209	per kwh		CTC-QF	\$0.003209	per kwh	
33	USBC	\$0.001143	per kwh		USBC	\$0.001143	per kwh	
34	Distribution Service Charge	\$8.700000	per month		Distribution Service Charge	\$8.700000	per month	
35								
36								
37	<b>General Service - 1 Primary, Non Demand:</b>				<b>General Service - 1 Primary, Non Demand:</b>			
38	Supply Energy	\$0.055049	per kwh		Supply Energy	\$0.055049	per kwh	
39	Supply Deferred Costs	-\$0.002786	per kwh		Supply Deferred Costs	-\$0.002786	per kwh	
40	Transmission Energy	\$0.008122	per kwh		Transmission Energy	\$0.008244	per kwh	
41	Distribution Energy	\$0.018623	per kwh		Distribution Energy	\$0.018902	per kwh	
42	CTC-QF	\$0.003121	per kwh		CTC-QF	\$0.003121	per kwh	
43	USBC	\$0.001143	per kwh		USBC	\$0.001143	per kwh	
44	Distribution Service Charge	\$7.450000	per month		Distribution Service Charge	\$7.450000	per month	
45								
46								
47	<b>General Service - 1 Primary, Demand:</b>				<b>General Service - 1 Primary, Demand:</b>			
48	Supply Energy	\$0.050267	per kwh		Supply Energy	\$0.050267	per kwh	
49	Supply Deferred Costs	-\$0.002786	per kwh		Supply Deferred Costs	-\$0.002786	per kwh	
50	Transmission Demand	\$3.605969	per kw		Transmission Demand	\$3.659893	per kw	
51	Distribution Energy	\$0.006936	per kwh		Distribution Energy	\$0.007040	per kwh	
52	Distribution Demand	\$3.959563	per kw		Distribution Demand	\$4.018774	per kw	
53	CTC-QF	\$0.003121	per kwh		CTC-QF	\$0.003121	per kwh	
54	USBC	\$0.001143	per kwh		USBC	\$0.001143	per kwh	
55	Distribution Service Charge	\$24.800000	per month		Distribution Service Charge	\$24.800000	per month	
56								

	A	B	C	D	E	F	G	H	I																																																						
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37	3. "Half-year convention":																																																														
38	Savings resulting from the "Increment" in any year is reduced by 50% in that year as associated projects																																																														
39	are completed and start generating savings at different times throughout the first year. This assumption contemplates that																																																														
40	associated projects start generating savings half way through the year on average. In the second year and																																																														
41	beyond, projects completed in the first year generate savings for the entire year so the "Increment" is credited at 100%																																																														
42	for the second year and each successive year.																																																														
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3	<b>Commercial/Industrial Reduction in Peak Demand:</b>																																				
4																																					
5	<b>1) Commercial/Industrial Average Monthly Load Factor:</b>			66%																																	
6																																					
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8	<b>2) Calculate Coincident Monthly Demand Reduction:</b>			<table border="1"> <thead> <tr> <th colspan="4">Tracker 2010-11</th> </tr> <tr> <th colspan="2">July-December 2010</th> <th colspan="2">January-June 2011</th> </tr> <tr> <th>Target</th> <th>Reported</th> <th>Target</th> <th>Reported</th> </tr> </thead> <tbody> <tr> <td>4,287</td> <td>3,960</td> <td>8,573</td> <td>7,997</td> </tr> <tr> <td>0.5</td> <td>0.5</td> <td>1.0</td> <td>0.9</td> </tr> <tr> <td>741</td> <td>685</td> <td>1,483</td> <td>1,383</td> </tr> <tr> <td>8,897</td> <td>8,219</td> <td>17,794</td> <td>16,598</td> </tr> </tbody> </table>						Tracker 2010-11				July-December 2010		January-June 2011		Target	Reported	Target	Reported	4,287	3,960	8,573	7,997	0.5	0.5	1.0	0.9	741	685	1,483	1,383	8,897	8,219	17,794	16,598
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13	C/I Annual Demand Reduction (KW-Mths)																																				
14																																					
15	<b>3) Coincidence Factor:</b>			100% *																																	
16																																					
17	* Coincidence Factor is estimated. 100% load factor assumes that, from a billing perspective, the impacts																																				
18	of class coincidence are offset by the potential of the impacts of specific technologies/projects to be non-coincident with the peak loads																																				
19	of individual customers.																																				
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23	<b>4) C/I Annual Demand Reduction (KW-Mths)*</b>			<table border="1"> <thead> <tr> <th colspan="4">Tracker 2010-11</th> </tr> <tr> <th colspan="2">July-December 2010</th> <th colspan="2">January-June 2011</th> </tr> <tr> <th>Target</th> <th>Reported</th> <th>Target</th> <th>Reported</th> </tr> </thead> <tbody> <tr> <td>8,897</td> <td>8,219</td> <td>17,794</td> <td>16,598</td> </tr> </tbody> </table>						Tracker 2010-11				July-December 2010		January-June 2011		Target	Reported	Target	Reported	8,897	8,219	17,794	16,598												
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25	* Represents total C/I Demand reduction. Tariffs for GS-1 Primary and Secondary Non-demand customers do not include a demand charge.																																				
26	Demand reductions associated with such customers do not result in lost revenues.																																				

	A	B	C	D	E	F	G	H
1	<b>Electric DSM Lost Revenues</b>							
2								
3								
4	<b>Estimate Energy and Demand "Bill" Savings for Residential and C/I</b>							
5								
6								
7	<b>Tracker 2010-11</b>							
8	<b>July-December 2010</b>				<b>January-June 2011</b>			
9	<b>Target</b>		<b>Reported</b>		<b>Target</b>		<b>Reported</b>	
10	1) Residential Savings (KWH)							
11	8,853,306		15,807,105		17,706,613		31,923,287	
12	2) C/I Savings							
13	Energy (KWH)							
14	4,286,694		3,959,733		8,573,387		7,996,891	
15	Demand (KW-Mths)							
16	8,897		8,219		17,794		16,598	
17	3) Disaggregate C&I Savings by service level (tariff)							
18	C&I Savings is broken out as:*							
19	GS-1 Secondary, non demand							
20	1%		1%		1%		1%	
21	GS-1 Secondary, demand							
22	98%		98%		98%		98%	
23	GS-1 Primary, non demand							
24	0%		0%		0%		0%	
25	GS-1 Primary, demand							
26	1%		1%		1%		1%	
27	Total C&I							
28	100%		100%		100%		100%	
29	4) C&I Reported Programmatic "Bill" Savings Based on Breakout in 3) Above:							
30								
31	<b>Tracker 2010-11</b>							
32	<b>July-December 2010</b>				<b>January-June 2011</b>			
33	<b>Target</b>		<b>Reported</b>		<b>Target</b>		<b>Reported</b>	
34	Energy (KWh)							
35	GS-1 Secondary, non demand							
36	42,867		39,597		85,734		79,969	
37	GS-1 Secondary, demand							
38	4,200,960		3,880,538		8,401,919		7,836,953	
39	GS-1 Primary, non demand							
40	-		-		-		-	
41	GS-1 Primary, demand							
42	42,867		39,597		85,734		79,969	
43	Check Total							
44	4,286,694		3,959,733		8,573,387		7,996,891	
45	Demand (KW-mth)							
46	GS-1 Secondary, demand							
47	8,719		8,054		17,439		16,266	
48	GS-1 Primary, demand							
49	89		82		178		166	
50	Total*							
51	8,808		8,136		17,617		16,432	
52	Totals are less than totals in row 12 above because non-demand C&I customers are not billed for demand.							

	A	B	C	D
1	<b>Electric DSM Lost Revenues</b>			
2				
3				
4	<b>Adjustment Factors (Net Savings Adjustment Ratios)</b>			
5				
6				
7	The Net Savings Adjustment Ratios for these tracker periods			
8	are derived from the results of of NEXANT's DSM Evaluation.			
9				
10				
11				
12	<b>Residential</b>	<b>Net Savings Adjustment Ratio</b>		
13	Segment			
14	All			0.872
15				
16				
17	<b>Commercial/Industrial</b>	<b>Net Savings Adjustment Ratio</b>		
18	Segment			
19	All			0.824

	A	B	C	D	E	F	G	H	I
1	<b>Electric DSM Lost Revenues</b>								
2									
3									
4									
5	<b>July-December 2010</b>								
6									
7									
8	<b>Residential</b>								
9				<b>Gross</b>					<b>Estimated</b>
10				<b>Program</b>			<b>Net</b>		<b>Lost</b>
11		<b>Rate<sup>1</sup></b>		<b>Savings</b>		<b>Adjustment</b>	<b>Savings</b>		<b>Revenue</b>
12	Bill Line Item	(\$ per kwh)		(kwh)		Factor	(kwh)		(\$)
13	Transmission Energy	0.008918		8,853,306		0.872	7,721,608		68,861
14	Distribution Energy	0.027761		8,853,306		0.872	7,721,608		214,360
15						<b>Sub Total Residential:</b>	<b>7,721,608</b>		<b>\$ 283,221</b>
16									
17									
18	<b>Commercial &amp; Industrial</b>								
19				<b>Gross</b>	<b>Gross</b>				<b>Estimated</b>
20				<b>Program</b>	<b>Program</b>		<b>Net</b>	<b>Net</b>	<b>Lost</b>
21		<b>Rate<sup>1</sup></b>	<b>Rate<sup>1</sup></b>	<b>Savings</b>	<b>Savings</b>	<b>Adjustment</b>	<b>Savings</b>	<b>Savings</b>	<b>Revenue</b>
22	Bill Line Item	(\$ per kwh)	(\$ per kw-mth)	(kwh)	(kw-mth)	Factor	(kwh)	(kw-mth)	(\$)
23	GS-1 Secondary, non demand, TX Energy	0.007765		42,867		0.824	35,318		274
24	GS-1 Secondary, non demand, Dist. Energy	0.035955		42,867		0.824	35,318		1,270
25									
26	GS-1 Secondary, demand, TX Demand		2.966798		8,719	0.824		7,184	21,313
27	GS-1 Secondary, demand, Dist. Energy	0.004797		4,200,960		0.824	3,461,148		16,603
28	GS-1 Secondary, demand, Dist. Demand		6.047753		8,719	0.824		7,184	43,446
29									
30	GS-1 Primary, non demand, TX Energy	0.008122		0		0.824	0		0
31	GS-1 Primary, non demand, Dist. Energy	0.018623		0		0.824	0		0
32									
33	GS-1 Primary, demand, TX Demand		3.605969		89	0.824		73	264
34	GS-1 Primary, demand, Dist. Energy	0.006936		42,867		0.824	35,318		245
35	GS-1 Primary, demand, Dist. Demand		3.959563		89	0.824		73	290
36						<b>Sub Total Commercial &amp; Industrial:</b>	<b>3,531,783</b>		<b>\$ 83,705</b>
37									
38						<b>July-December 2010 Estimated Totals:</b>	<b>11,253,392</b>		<b>\$ 366,926</b>
39	Note 1: using rates in effect at the time (see Rates tab)								

	A	B	C	D	E	F	G	H	I
40									
41	<b>January-June 2011</b>								
42									
43									
44	<b>Residential</b>								
45				<b>Gross</b>			<b>Net</b>		<b>Estimated</b>
46				<b>Program</b>			<b>Savings</b>		<b>Lost</b>
47		<b>Rate<sup>1</sup></b>		<b>Savings</b>		<b>Adjustment</b>	<b>Savings</b>		<b>Revenue</b>
48	Bill Line Item	<b>(\$ per kwh)</b>		<b>(kwh)</b>		<b>Factor</b>	<b>(kwh)</b>		<b>(\$)</b>
49	Transmission Energy	0.009051		17,706,613		0.872	15,443,217		139,777
50	Distribution Energy	0.028176		17,706,613		0.872	15,443,217		435,128
51						<b>Sub Total Residential:</b>	<b>15,443,217</b>		<b>\$ 574,905</b>
52									
53									
54	<b>Commercial &amp; Industrial</b>			<b>Reported</b>	<b>Reported</b>				<b>Estimated</b>
55				<b>Gross</b>	<b>Gross</b>				<b>Lost</b>
56				<b>Program</b>	<b>Program</b>		<b>Net</b>	<b>Net</b>	<b>Revenue</b>
57		<b>Rate<sup>1</sup></b>	<b>Rate<sup>1</sup></b>	<b>Savings</b>	<b>Savings</b>	<b>Adjustment</b>	<b>Savings</b>	<b>Savings</b>	<b>Revenue</b>
58	Bill Line Item	<b>(\$ per kwh)</b>	<b>(\$ per kw-mth)</b>	<b>(kwh)</b>	<b>(kw-mth)</b>	<b>Factor</b>	<b>(kwh)</b>	<b>(kw-mth)</b>	<b>(\$)</b>
59	GS-1 Secondary, non demand, TX Energy	0.007881		85,734		0.824	70,636		557
60	GS-1 Secondary, non demand, Dist. Energy	0.036493		85,734		0.824	70,636		2,578
61									
62	GS-1 Secondary, demand, TX Demand		3.011163		17,439	0.824		14,368	43,263
63	GS-1 Secondary, demand, Dist. Energy	0.004869		8,401,919		0.824	6,922,295		33,705
64	GS-1 Secondary, demand, Dist. Demand		6.138191		17,439	0.824		14,368	88,191
65									
66	GS-1 Primary, non demand, TX Energy	0.008244		0		0.824	0		0
67	GS-1 Primary, non demand, Dist. Energy	0.018902		0		0.824	0		0
68									
69	GS-1 Primary, demand, TX Demand		3.659893		178	0.824		147	537
70	GS-1 Primary, demand, Dist. Energy	0.00704		85,734		0.824	70,636		497
71	GS-1 Primary, demand, Dist. Demand		4.018774		178	0.824		147	589
72						<b>Sub Total Commercial &amp; Industrial:</b>	<b>7,063,567</b>		<b>\$ 169,916</b>
73									
74				<b>January-June 2011</b>	<b>Estimated Totals:</b>		<b>22,506,783</b>		<b>\$ 744,821</b>
75	Note 1: using rates in effect at the time (see Rates tab)								
76									

	A	B	C	D	E	F	G	H
1	<b>DSM Lost Revenues - Colstrip Unit 4</b>							
2	(fixed cost portion of CU-4 supply rate)							
3								
4								
5	DSM Targets and Results:		January-June 2009		Tracker 2009-10		Tracker 2010-11	
6			Target	Reported	Target	Reported	Target	Reported
7		Annual (Avg. MW)	2.50	3.34	5.00	8.33	6.00	9.20
8		Cumulative (Avg. MW)	2.50	3.34	8.34	11.67	17.67	20.88
9								
10								
11	Disaggregate Targets into Residential & Commercial/Industrial <sup>1</sup>							
12			January-June 2009		Tracker 2009-10		Tracker 2010-11	
13			Target	Reported	Target	Reported	Target	Reported
14		% Residential	66.5%	62.2%	66.5%	67.4%	67.4%	80.0%
15		% Commercial & Industrial	33.5%	37.8%	33.5%	32.6%	32.6%	20.0%
16								
17		Incremental Res. (Avg. MW)	1.66	2.08	3.33	5.61	4.04	7.36
18		Cumulative Res. (Avg. MW)	1.66	2.08	4.99	7.69	9.03	15.05
19		Incremental C/I (Avg. MW)	0.84	1.26	1.68	2.72	1.96	1.84
20		Cumulative C/I (Avg. MW)	0.84	1.26	2.51	3.98	4.47	5.83
21		check fig:	2.50	3.34	5.00	8.33	6.00	9.20
22								
23	1. Residential/commercial split based on DSM Program results							
24								
25			January-June 2009		Tracker 2009-10		Tracker 2010-11	
26		Cumulative Annual Energy Savings <sup>2</sup>	Target	Reported	Target	Reported	Target	Reported
27		Residential (MWH)	7,282	9,113	32,789	42,806	85,093	99,618
28		C/I (MWH)	3,668	5,538	18,412	22,977	43,452	42,953
29		Total Savings (MWH)	10,950	14,651	51,201	65,783	128,545	142,572
30		Total Savings (Avg. MW)	1.25	1.67	5.84	7.51	14.67	16.28
31								
32	2. "Half-year convention":							
33	Savings resulting from the "Increment" in any year is reduced by 50% in that year as associated projects							
34	are completed and start generating savings at different times throughout the first year. This assumption contemplates that							
35	associated projects start generating savings half way through the year on average. In the second year and							
36	beyond, projects completed in the first year generate savings for the entire year so the "Increment" is credited at 100%							
37	for the second year and each successive year.							
38								
39	3) Disaggregate C&I Savings by service level (tariff)							
40								
41	C&I Savings is broken out as:*							
42		GS-1 Secondary, non demand	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
43		GS-1 Secondary, demand	98.0%	98.0%	98.0%	98.0%	98.0%	98.0%
44		GS-1 Primary, non demand	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
45		GS-1 Primary, demand	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
46		Total C&I	100%	100%	100%	100%	100%	100%
47								

	A	B	C	D	E	F	G	H
48								
49								
50		<b>Rates:</b>						
51		<b>CU4 Fixed Rates: Docket D2009.12.155, Order No. 7075b</b>						
52						01/01/09	01/01/10	01/01/11
53		Residential				\$0.013273	\$0.012734	0.012734
54								
55		GS-1 Sec Non-Demand				\$0.013273	\$0.012734	0.012734
56		GS-1 Sec Demand				\$0.013273	\$0.012734	0.012734
57		GS-1 Pri Non-Demand				\$0.012910	\$0.012385	0.012385
58		GS-1 Pri Demand				\$0.012910	\$0.012385	0.012385
59								
60		GS-2 Substation				\$0.012798	\$0.012278	0.012278
61		GS-2 Transmission				\$0.012721	\$0.012204	0.012204
62								
63								
64								
65		<b>Calculate CU-4 related DSM Lost Revenues</b>						
66		<b>January - June 2009</b>						
67		<b>Based on Cumulative DSM Savings Since January 2009</b>						
68								
69		Residential		<b>Gross</b>			<b>Estimated</b>	
70				<b>Program</b>		<b>Net</b>	<b>Lost</b>	
71			<b>Rate<sup>1</sup></b>	<b>Savings</b>	<b>Adjustment</b>	<b>Savings</b>	<b>Revenue</b>	
72		Bill Line Item	<b>(\$ per kwh)</b>	<b>(kwh)</b>	<b>Factor</b>	<b>(kwh)</b>	<b>(\$)</b>	
73		Residential	\$0.013273	9,112,652	0.87	7,947,802	105,491	
74						7,947,802	105,491	
75								
76		Commercial & Industrial		<b>Gross</b>			<b>Estimated</b>	
77				<b>Program</b>		<b>Net</b>	<b>Lost</b>	
78			<b>Rate<sup>1</sup></b>	<b>Savings</b>	<b>Adjustment</b>	<b>Savings</b>	<b>Revenue</b>	
79		Bill Line Item	<b>(\$ per kwh)</b>	<b>(kwh)</b>	<b>Factor</b>	<b>(kwh)</b>	<b>(\$)</b>	
80		GS-1 Sec Non-Demand	\$0.013273	55,379	0.82	45,627	606	
81		GS-1 Sec Demand	\$0.013273	5,427,155	0.82	4,471,404	59,349	
82		GS-1 Pri Non-Demand	\$0.012910	0	0.82	0	-	
83		GS-1 Pri Demand	\$0.012910	55,379	0.82	45,627	589	
84								
85		GS-2 Substation	\$0.012798	0	0.00	0	-	
86		GS-2 Transmission	\$0.012721	0	0.00	0	-	
87				<b>Sub Total General Service:</b>		<b>4,562,657</b>	<b>60,544</b>	
88								
89				<b>Total CU-4-related DSM Lost Revenues Before Stipulation</b>			<b>\$ 166,035</b>	
90								
91				<b>Stipulated CU-4-related DSM Lost Revenues</b>			<b>\$ 83,021</b>	
92								

A	B	C	D	E	F	G	H
93	Tracker 2009-10						
94	Based on Cumulative DSM Savings Since January 2009						
95							
96	Residential		Gross			Estimated	
97			Program		Net	Lost	
98		Rate <sup>1</sup>	Savings	Adjustment	Savings	Revenue	
99	Bill Line Item	(\$ per kwh)	(kwh)	Factor	(kwh)	(\$)	
100	Residential	\$0.012734	42,805,614	0.87	37,333,869	475,409	
101					37,333,869	475,409	
102							
103	Commercial & Industrial		Gross			Estimated	
104			Program		Net	Lost	
105		Rate <sup>1</sup>	Savings	Adjustment	Savings	Revenue	
106	Bill Line Item	(\$ per kwh)	(kwh)	Factor	(kwh)	(\$)	
107	GS-1 Sec Non-Demand	\$0.012734	229,774	0.82	189,310	2,411	
108	GS-1 Sec Demand	\$0.012734	22,517,851	0.82	18,552,334	236,245	
109	GS-1 Pri Non-Demand	\$0.012385	0	0.82	0	-	
110	GS-1 Pri Demand	\$0.012385	229,774	0.82	189,310	2,345	
111							
112	GS-2 Substation	\$0.012278	0	0.00	0	-	
113	GS-2 Transmission	\$0.012204	0	0.00	0	-	
114			Sub Total General Service:		18,930,953	241,001	
115							
116			Total CU-4-related DSM Lost Revenues			\$ 716,410	
117							
118	Tracker 2010-11						
119	Based on Cumulative DSM Savings Since January 2009						
120							
121	Residential		Gross			Estimated	
122			Program		Net	Lost	
123		Rate <sup>1</sup>	Savings	Adjustment	Savings	Revenue	
124	Bill Line Item	(\$ per kwh)	(kwh)	Factor	(kwh)	(\$)	
125	Residential	\$0.012734	99,618,290	0.87	86,884,309	1,106,385	
126					86,884,309	1,106,385	
127							
128	Commercial & Industrial		Gross			Estimated	
129			Program		Net	Lost	
130		Rate <sup>1</sup>	Savings	Adjustment	Savings	Revenue	
131	Bill Line Item	(\$ per kwh)	(kwh)	Factor	(kwh)	(\$)	
132	GS-1 Sec Non-Demand	\$0.012734	429,533	0.82	353,890	4,506	
133	GS-1 Sec Demand	\$0.012734	42,094,221	0.82	34,681,197	441,630	
134	GS-1 Pri Non-Demand	\$0.012385	0	0.82	0	-	
135	GS-1 Pri Demand	\$0.012385	429,533	0.82	353,890	4,383	
136							
137	GS-2 Substation	\$0.012278	0	0.00	0	-	
138	GS-2 Transmission	\$0.012204	0	0.00	0	-	
139			Sub Total General Service:		35,388,977	450,520	
140							
141			Total CU-4-related DSM Lost Revenues			\$ 1,556,905	

	A	B	C	D	E	F	G	H	I	J	K
1	<b>DSM Lost Revenues - Dave Gates Mill Creek Station</b>										
2	(fixed cost portion of DGGS)										
3											
4	Tracker 2010-11										
5	DSM Targets and Results:		July-December 2010		January-June 2011						
6			Target	Reported	Target	Reported					
7		Annual (Avg. MW)	N/A	N/A	3.00	4.60					
8		Cumulative (Avg. MW)	N/A	N/A	3.00	4.60					
9											
10											
11	Disaggregate Targets into Residential & Commercial/Industrial <sup>1</sup>										
12	Tracker 2010-11										
13			Target	Reported	Target	Reported					
14		% Residential	N/A	N/A	0.67	0.80					
15		% Commercial & Industrial	N/A	N/A	0.33	0.20					
16											
17		Incremental Res. (Avg. MW)	N/A	N/A	2.02	3.68					
18		Cumulative Res. (Avg. MW)	N/A	N/A	2.02	3.68					
19		Incremental C/I (Avg. MW)	N/A	N/A	0.98	0.92					
20		Cumulative C/I (Avg. MW)	N/A	N/A	0.98	0.92					
21		check fig:	N/A	N/A	3.00	4.60					
22											
23	1. Residential/commercial split based on DSM Program results										
24											
25	Tracker 2010-11										
26	Cumulative Annual Energy Savings <sup>2</sup>		Target	Reported	Target	Reported					
27		Residential (MWH)	N/A	N/A	8,853	16,116					
28		C/I (MWH)	N/A	N/A	4,287	4,037					
29		Total Savings (MWH)	N/A	N/A	13,140	20,153					
30		Total Savings (Avg. MW)	N/A	N/A	1.5	2.3					
31											
32	2. "Half-year convention":										
33	Savings resulting from the "Increment" in any year is reduced by 50% in that year as associated projects										
34	are completed and start generating savings at different times throughout the first year. This assumption contemplates that										
35	associated projects start generating savings half way through the year on average. In the second year and										
36	beyond, projects completed in the first year generate savings for the entire year so the "Increment" is credited at 100%										
37	for the second year and each successive year.										
38											
39	3) Disaggregate C&I Savings by service level (tariff)										
40											
41	C&I Savings is broken out as: <sup>4</sup>										
42		GS-1 Secondary, non demand			1.0%	1.0%					
43		GS-1 Secondary, demand			98.0%	98.0%					
44		GS-1 Primary, non demand			0.0%	0.0%					
45		GS-1 Primary, demand			1.0%	1.0%					
46		Total C&I			100%	100%					
47											
48											
49											
50	Rates: Source: Appendix E - 05/01/11 Rate Change Revised, Docket D2010.7.74, page 5 of 10										
51	DGGS Fixed Rate (after losses)										
52						01/01/11					
53		Residential				0.004600					
54		GS-1 Sec Non-Demand				0.004600					
55		GS-1 Sec Demand				0.004600					
56		GS-1 Pri Non-Demand				0.004474					
57		GS-1 Pri Demand				0.004474					
58		GS-2 Substation				0.004435					
59		GS-2 Transmission				0.004409					
60											

	A	B	C	D	E	F	G	H	I	J	K
61											
62											
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87											

  

January-June 2011		Gross		Net		Estimated	
Based on INCREMENTAL DSM Savings Since January 2011							
Residential		Program		Savings		Lost Revenue	
Rate <sup>1</sup>	Savings	Adjustment	Savings	Revenue			
(\$ per kwh)	(kwh)	Factor	(kwh)	(\$)			
\$0.004600	16,116,182	0.87	14,056,087	64,658			
			14,056,087	64,658			
Commercial & Industrial		Gross		Net		Estimated	
Based on INCREMENTAL DSM Savings Since January 2011							
Residential		Program		Savings		Lost Revenue	
Rate <sup>1</sup>	Savings	Adjustment	Savings	Revenue			
(\$ per kwh)	(kwh)	Factor	(kwh)	(\$)			
\$0.004600	40,372	0.82	33,262	153			
\$0.004600	3,956,415	0.82	3,259,668	14,994			
\$0.004474	0	0.82	0	-			
\$0.004474	40,372	0.82	33,262	149			
\$0.004435	0	0.00	0	-			
\$0.004409	0	0.00	0	-			
			<b>Sub Total General Service:</b>	<b>3,326,192</b>			<b>15,296</b>
			<b>Total DGGS-related DSM Lost Revenues</b>				<b>\$ 79,954</b>

# Final Evaluation Report: 2008 Green Blocks Pilot Program

Presented to:



April 6, 2011

Presented by:

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## Section E. Executive Summary

NorthWestern Energy retained Navigant to conduct a measurement and verification impact evaluation of the 2008 Green Blocks Pilot Program<sup>1</sup> in Missoula, Montana. This document presents Navigant's findings and recommendations. For purposes of this evaluation, the term "Green Blocks" or "Green Blocks program" refers to the 2008 *pilot* program only.

### *E.1 Program Description*

The Green Blocks pilot program aimed to:

- Demonstrate home energy savings and bring significant energy-saving home improvements to residents in Missoula homes *free of charge* to participating homeowners
- Bring neighbors together and build community
- Encourage the green economy and create jobs

The pilot program consisted of a residential energy audit, direct install efficiency measures and educational information in a total of 93 individual residences in Missoula, Montana. The primary purpose of participating in the Green Blocks program for NorthWestern Energy was to achieve cost-effective electricity and natural gas savings through the implementation of residential energy audits and energy efficiency measures.

### *E.2 Evaluation Objectives*

The main goal of the evaluation was to measure and verify the 2008 pilot program's energy savings and review the cost-effectiveness of the program.

### *E.3 Evaluation Methods*

The evaluation team reviewed the program reported savings (referred to in this report as "ex-ante gross" energy savings) found in the Green Blocks Pilot Program Assessment previously prepared by NorthWestern Energy. The evaluation team conducted a review of all participant audit files to verify installed measure counts and derive gross evaluation-adjusted amounts (referred to in this report as "ex-post gross" energy savings). The pilot program's default energy savings values for each measure were compared with those values found in previous evaluation reports and market studies provided by NorthWestern Energy. The evaluation team estimated pilot program free ridership and spillover using a self-report approach and calculated

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<sup>1</sup> For purposes of this evaluation, the description of the "Green Blocks" program refers to the 2008 pilot program only.



a pilot program-level net-to-gross ratio to determine the pilot program's net energy savings (referred to as "ex-post net" in this report.)

The evaluation team reviewed the 2008 Green Blocks pilot program's benefit-cost ratio by using calculation methodologies provided by NorthWestern Energy.

#### *E.4 Key Findings*

##### **Key Impact Findings**

Key impact findings include total pilot program savings and the benefit-cost ratio.

##### **Total Pilot Program Savings**

The lifetime impact savings for the 2008 Green Blocks pilot program are shown in the tables below. Additional detailed impact analysis by individual measure is included in Section 3 and in Appendix A.

The total pilot program savings were calculated by multiplying the annual energy savings for each measure by its respective effective useful life. The evaluation team made adjustments to gross pilot program energy savings primarily as a result of the following factors:

1. Changes in measure quantities resulting from census review of participant files.
2. Corrections to calculation errors found in the program tracking spreadsheet.

The gross realization rate, reflecting these adjustments, is 92 percent for gas savings and 101 percent for electric savings, as shown in Table E-2.

Net energy savings were calculated using a self-report approach. The resulting net-to-gross ratio is 0.66, as shown in Table E-2. While the net impact methodology employed in this evaluation is a standard industry calculation, several factors introduce the likelihood of bias in the net savings calculations including the amount of time (28 months) between the evaluation survey and the pilot program's implementation and complicated lines of influence inherent in a neighborhood-based residential energy program.



**Table E-0 Lifetime Gross and Net Energy Savings – All Pilot Program Measures**

Fuel Source	Lifetime Energy Savings				
	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Ex-Post Net	Net-to-Gross Ratio
Gas (dKt)	33,278	30,522	92%	20,145	0.66
Electric (kWh)	285,255	287,649	101%	189,848	0.66

*Navigant analysis of Green Blocks pilot program data.*

### Benefit-Cost Analysis

NorthWestern Energy’s criterion for cost effectiveness is that the total resource (TRC) test result must be greater or equal to 0.9. The pilot program-level net energy benefits were used by the evaluation team to obtain a TRC benefit-cost ratio using methodology consistent with industry standards. The table below shows these results.

**Table E-2 Total Resource Cost Test**

Program Element	Ex-Post Net kWh	Ex-Post Net dKt	Associated Cost	TRC
Total Pilot Program	189,848	20,145	\$146,117	0.52

*Navigant analysis of Green Blocks pilot program data.*

The result of the benefit cost analysis was a TRC value of 0.52, lower than the ex-ante value of 0.86, for the following factors:

- Lifetime gross savings realization rates of 92 percent for gas measures and 101 percent for electric measures.
- A net-to-gross factor of 0.66.

The TRC ratio with a net-to-gross factor of 1.0 would be 0.78.

The value for a full scale program is likely to be higher than this value. Pilot programs typically have a lower benefit-cost ratio than a full scale program. NorthWestern Energy will need to consider the potential for additional efficiencies and economies of scale to determine whether a benefit-cost ratio of 0.9 or greater is achievable with a full-scale program.



## *E.5 Key Recommendations*

### **Impact Recommendations**

- Consider including the wattage of replaced bulbs in home energy audit reports to provide additional documentation to substantiate the proposed kWh reductions associated with CFL direct install replacements.
- Consider updating participant audit files to include data reflecting the specific energy survey recommendations provided to each participant.
- The energy impact associated with insulation is highly sensitive to the levels of pre-existing insulation. While most participant files included notations of existing insulation levels, the notations were somewhat inconsistent. Consider implementing a systematic method of documenting of pre-existing insulation levels for program tracking.

## Section 1. Introduction

### 1.1 Program Description

The 2008 Green Blocks pilot program consisted of a residential energy audit, direct install efficiency measures and educational information in a total of 93 individual residences in Missoula, Montana. The primary purpose of participating in the Green Blocks pilot program for NorthWestern Energy was to achieve cost-effective electricity and natural gas savings through the implementation of residential energy audits and energy efficiency measures.<sup>2</sup>

The Green Blocks pilot program aimed to:

- Demonstrate home energy savings and bring significant energy-saving home improvements to residents in Missoula homes *free of charge* to participating homeowners
- Bring neighbors together and build community
- Encourage the green economy and create jobs

NorthWestern Energy paid for the costs of the insulation materials and installation for all Green Blocks pilot program participants. In addition, the implementation contractor coordinated the work of the insulation contractor with the homeowner.

The Green Blocks pilot program audit expanded on a standard energy audit program previously available to NorthWestern Energy customers by including additional measures and recommendations. As a result of its expanded scope, an average Green Blocks audit required approximately four hours, which was more time than a standard audit implemented through previously existing NorthWestern Energy efficiency programs.

During the Green Blocks audit, the implementation contractor performed a safety check and blower door test, performed direct installation of energy measures, and reviewed the residence for energy efficiency opportunities to include in a brief report. The implementation contractor measured insulation levels and made recommendations for insulation upgrades where appropriate. In order for a customer to be eligible for insulation upgrades, the insulation type and levels at the residence had to have qualified for rebates under the NorthWestern Energy Residential Electric and Gas Savings programs.

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<sup>2</sup> NorthWestern Energy, *Green Blocks Pilot Program Assessment* (January 16, 2009).



## Stakeholder Involvement

Key stakeholders played a significant role in the design, implementation and administration of the 2008 pilot program. The stakeholders each had different purposes for supporting the Green Blocks pilot program and offered various levels of program support. Table 1--1 outlines the key 2008 pilot program stakeholders, roles and activities.

**Table 1--1 Green Blocks 2008 Pilot Program Stakeholders**

Organization	Role	Type	Activity
NorthWestern Energy	Program sponsor	Program Administration, Energy Efficiency	Funding, staff support for Green Blocks audits and insulation
KEMA	Implementation contractor	Energy Efficiency	Green Blocks audit
Insulation Contractors	Sub-contractors	Energy Efficiency	Installed insulation
City of Missoula	Program sponsor	Program Administration	Participant recruitment, education, neighborhood involvement
Mayor's Advisory Group on Climate Change	Program sponsor	Program Design, Administration	Reviewed participant applications
Mountain Water	Program sponsor	Water savings	Water audit
Allied Waste	Program sponsor	Recycling	Garbage audit

*Navigant analysis of Green Blocks pilot program information.*

### 1.1.1 Implementation Strategy

#### Target Market

The 2008 Green Blocks pilot program was designed to encourage voluntary participation by residents of single-family homes built before 1990, located in the City of Missoula and NorthWestern Energy customers in good standing. Additional requirements included a customer agreement that allowed for contractors to perform work associated with the program and that participants be present at the time of program-related work. Preference was given to owner-occupied, single family dwellings that participated in qualifying neighborhood group applications (discussed below).



### **Program Timeline**

Neighborhoods were accepted for the Green Blocks pilot program during May and June of 2008. A series of three voluntary orientation meetings were held by the City of Missoula, NorthWestern Energy and Mountain Water. Participants received energy audits during the summer of 2008. Follow up work, primarily insulation upgrades, was implemented until October 2008.

### **Program Delivery Mechanisms and Marketing Strategy**

One of the distinguishing factors of the 2008 Green Blocks pilot program was the program's delivery mechanism and marketing strategy. In order for an individual resident to be considered for the program, the resident was encouraged to submit their application as part of a neighborhood (or block) submittal. The pilot program guidelines included preference for neighborhoods that could achieve 90 percent participation in the pilot program. The program theory behind encouraging neighborhood-scale pilot program participation was to encourage parallel participation of multiple households in the same neighborhood, thereby creating greater efficiencies in pilot program implementation and the potential for broader participation. The City of Missoula considered the Green Blocks pilot program an opportunity to engage hard-to-reach customers or customers who were not pre-disposed to participate in a City- or utility-sponsored program. In addition, the City of Missoula expected additional non-energy benefits by encouraging social interaction among neighbors through the Green Blocks pilot program.

In order to recruit volunteer block captains, the City of Missoula publicized the pilot program through its Office of Neighborhood Involvement, including its website and newsletters to 18 neighborhood councils and a televised presentation to a monthly meeting of the Missoula Community Forum. In addition, the City sent out a press release that was picked up by local media. The City accepted applications from seven individuals to act as block captains. Block captains were then educated about the Green Blocks pilot program and responsible for recruiting participants in their neighborhood. Four of the seven block captains were able to achieve a 90 percent participation rate for their blocks. The pilot program planners originally budgeted for participation by 150 individual residences. The pilot program's budget enabled NorthWestern Energy to accept applications from the three blocks with participation rates of less than 90 percent because the overall pilot program participation was less than originally anticipated. A total of 93 residences completed the 2008 pilot program. Additional discussion of pilot program recruitment and participation is included in Section 3 of this evaluation report.

### **Role of the Implementation Contractor**

KEMA Services, Inc. (KEMA) implemented the 2008 Green Blocks pilot program on behalf of NorthWestern Energy. KEMA implemented the Green Blocks pilot program through close



communication with NorthWestern Energy and the City of Missoula. Together, representatives from these organizations and other stakeholders collaborated to host orientation meetings for participants. Representatives from KEMA scheduled and conducted the Green Blocks pilot program audits and coordinated communication between the insulation contractors and the homeowners when insulation measures were installed as part of the Green Blocks pilot program. KEMA was responsible for keeping records of Green Blocks audit outcomes and for supervising the work of insulation contractors.

### 1.1.2 Measures and Incentives

The Green Blocks audit expanded upon traditional residential audit measures offered by NorthWestern Energy through its residential energy and natural gas savings programs. In addition, the Green Blocks audit could recommend insulation upgrades where appropriate. All costs associated with the direct install measures and insulation upgrades were paid for by NorthWestern Energy.

Green Blocks audit safety and analysis measures include asbestos testing, blower door test to measure infiltration and exfiltration, a gas appliance safety check and a RECAP structural analysis. Energy savings measures included in the Green Blocks pilot program are listed in the table below.

**Table 1-2 Green Blocks 2008 Pilot Program Measures**

Measure	Classification
<b>Green Blocks Audit</b>	
CFLs	Direct install, deemed savings
Water efficient kitchen and bathroom aerators	Direct install, deemed savings
Low-flow showerheads	Direct install, deemed savings
Hot water tank insulation wrap	Direct install, deemed savings
Hot water pipe insulation (up to 10 feet)	Direct install, deemed savings
Customer education	Indirect savings
Programmable thermostat	Direct install, deemed savings
Weather stripping for exterior doors	Direct install, deemed savings
Door sweeps for exterior doors	Direct install, deemed savings
Foam sealant	Direct install, deemed savings
Window plastic	Direct install, deemed savings
Light switch/electrical outlet gaskets	Direct install, deemed savings
<b>Green Blocks Insulation Measures</b>	
Attic, walls or basement/crawlspace	Average savings from previous evaluations

*Navigant analysis of Green Blocks pilot program information.*



## *1.2 Evaluation Questions*

This evaluation sought to answer the following key questions.

### Impact Questions:

1. What was the program's gross and net energy savings?
2. What was the benefit-cost analysis outcome for this program?

## Section 2. Evaluation Methods

This section describes the analytical methods, data sources, and sampling plan implemented as part of the 2008 Green Blocks pilot program evaluation. The evaluation team reviewed program information from the 2008 Green Blocks pilot program, including NorthWestern Energy's previous assessment of the Green Blocks pilot program. The impact evaluation included a review of default measure savings through a census file review, secondary research to adjust gross program savings where necessary and estimation of free ridership and program spillover.

### 2.1 Analytical Methods

#### 2.1.1 Impact Evaluation Methods

##### Gross Program Savings

The impact evaluation included a review of the 2008 pilot program's audit files and tracking system to review the pilot program's ex-ante gross program savings. The evaluation team also reviewed the default measure savings methodology used to report the ex-ante gross program savings. The purpose of the default measure savings review was to assess the underlying algorithms, assumptions, and calculated default savings reported by the 2008 pilot program. The review utilized secondary data sources including publicly available research and evaluation reports to compare the proposed default energy savings for each measure with current best practices in the residential home energy audit and weatherization sector.

##### Engineering Review

The evaluation team conducted an in-depth engineering review to assess the claimed energy savings attributed to the Green Blocks pilot program. The engineering review consisted of a detailed examination of each of the 93 audit files to tabulate audit measure counts, DSM measure counts, insulation square footage, insulation R-value upgrades, and CFL wattages.

Additionally, the engineering analysis included a detailed assessment of measure-specific energy savings values. This was accomplished by comparing pilot program savings claims to secondary sources including published technical reference manuals (TRMs) for residential measure savings and public database sources. The pilot program reported savings spreadsheet provided by the utility was carefully examined to verify that all calculations were accurately carried out.



### **File Verification Process**

The file review portion of the evaluation was intended to verify pilot program tracking data quantities reported by the utility. Methods applied in this evaluation included careful review of each program file for comparison with pilot program tracking data and KEMA tracking data. The field documentation supplied included field forms and audits paperwork for each program participant detailing the individual measures installed. The forms were thoroughly reviewed to determine the actual quantities for each unique measure.

### **Indirect Savings (Education)**

While “Direct savings” for these programs are defined as those resulting from energy-efficiency measures installed directly by the auditors at the time of the audit (direct measures). Energy savings associated with actions taken by the customer as a result of the recommendations generated by the audit (indirect measures) are deemed “indirect savings.”

Savings associated with indirect savings are estimated as part of the ex-post gross impact analysis; they are not part of net impact adjustments. This distinction is consistent with a standard approach to program impact evaluation; based on the observation that implementation of recommended measures from a residential audit is immediately connected to program activities, unlike spillover which is closer in nature to a market effect.

### **Interactive Effects**

The impact of interactive effects on the overall estimates of indirect energy savings would be much less than the statistical or modeling error band surrounding the estimates. This inconsequential level of impact did not warrant the substantial work required to model it more precisely.

### **Net Program Savings**

The primary objective of the net savings analysis for the pilot program is to determine the pilot program's net effect on customers' electricity and natural gas usage. After gross program impacts are adjusted, net program impacts are derived by estimating a Net-to-Gross (NTG) ratio. A NTG ratio quantifies the percentage of the evaluation-adjusted (“ex-post gross”) program impacts that are attributable to the program. This ratio includes an adjustment for free ridership (“the portion of impact that would have occurred even without the program”) and spillover (“the portion of impact that occurred outside of the program, but would not have occurred in the absence of the program”). The evaluation team estimated pilot program free ridership and spillover using the self-report approach via a telephone survey conducted in November and December 2010. The results from this survey were compared with a previous participant survey conducted February 2009 to attempt to measure program influence and



participant satisfaction over time. The evaluation team also utilized secondary research, including an end-use market research study provided by NorthWestern Energy.

## 2.2 Data Sources

The evaluation team conducted data collection efforts to support this evaluation through reviewing pilot program information, pilot program tracking data, research of secondary sources, interviews with key stakeholders and telephone surveys with participants. Table 2-1 below illustrates the data sources for this evaluation.

**Table 2-1 Data Collection Sources**

Data Collection Type	Targeted Population	Sample Frame	Sample Design	Sample Size	Timing
Tracking Data Analysis	All Program Participants	Tracking Spreadsheet	-	Census	October-November 2010
Secondary Research	Technical Resource Documents	Residential Energy Efficiency programs	-	5	October-November 2010
In-depth Phone Interview	Key Stakeholders	Contacts from NorthWestern	Representatives from Sponsoring Organizations, Program Implementer	8	October-November 2010
CATI Phone Surveys	Program Participants/Non-Participants	Tracking Database	Random Sample of Program Participants	100	November 2010

*Navigant analysis of Green Blocks pilot program data.*

### 2008 Pilot Program Documentation Review

The evaluation team reviewed documents provided by NorthWestern Energy, KEMA, the City of Missoula and publicly available information about the 2008 Green Blocks pilot program to inform this evaluation. Of particular benefit were the Green Blocks pilot program assessment written previously by NorthWestern Energy in January 2009 and the results of an informal participant survey conducted by NorthWestern Energy in February 2009.

### Secondary Research

The evaluation team conducted secondary research including publicly available documents and Technical Resource Manuals from a variety of leading utility-sponsored residential energy efficiency programs. Of particular relevance was research into the Pacific Northwest Power Planning Council's Regional Technical Forum, an impact evaluation conducted for



NorthWestern Energy by Nexant in 2007 to reference direct energy savings from residential audits and another impact evaluation, conducted by Summit Blue Consulting and the National Center for Appropriate Technology for NorthWestern Energy in 2008 that measured indirect savings from residential audits. The evaluation team reviewed a recent end use market study conducted by Nexant and The Cadmus Group, Inc. in 2009. Citations for these research sources are included in the footnotes in this evaluation report.

### Stakeholder Interviews

The evaluation team conducted a kick-off meeting at NorthWestern Energy offices in Butte, MT to review program information with representatives from NorthWestern Energy, the City of Missoula and the County of Missoula. Additional stakeholder interviews were conducted via telephone primarily for the purpose of clarifying stakeholder involvement, investigating efficiencies in program implementation and lessons learned from the 2008 pilot program. The evaluation team wishes to thank those individuals that participated in the kick-off meeting and telephone surveys. A complete list of people interviewed and the interview guide is included in Appendix B.

### 2.3 Sampling Plan

The evaluation team designed a telephone survey to ask participants and non-participants about pilot program awareness, views about energy efficiency, program satisfaction and to attempt to measure program free-ridership and program spillover. The survey instrument was developed by Navigant and implemented by Dierenger Research Group. A copy of the instrument is included in Appendix B.

The sample design for the telephone survey was constructed to meet a sampling precision of +/- 10 percent at a 90 percent confidence level. Based on a participant sample size of 93, the target complete rate number was 39 participants. After receiving participant contact information, the telephone survey research group was able to reach 31 participants. The remaining participants were either not able to be contacted or did not answer the phone after five or more attempts.

**Table 2-2 Telephone Survey Sample Target and Actual Completes**

Respondent Type	Completes	Target Completes
Participant	31	39
Non-Participant	69	68
Total	100	107

*Dierenger Research Group, Navigant analysis of Green Blocks program data.*

## Section 3. Program Level Results

### 3.1 Impact Results

This section includes key findings and recommendations resulting from the default savings review and adjustments made by the evaluation team. A complete documentation of the review is presented in Appendix A. Second, this section includes a net-to-gross analysis and ex-post net impact estimates for the 2008 pilot program. Third, this section includes a benefit-cost analysis.

#### 3.1.1 Tracking System Review

The tracking system review consisted of a review of all of the 2008 Green Blocks pilot program participant audit files and summary spreadsheets provided by NorthWestern Energy and KEMA. The review was intended to verify program tracking data quantities reported by the 2008 pilot program only. Each participant's file included field documentation and audit paperwork for each program participant detailing the individual measures installed at the location. The forms were thoroughly reviewed to determine the actual quantities for each unique measure. The evaluation team found no inherent flaws in the record keeping, with a small number of errors commonly found in such evaluations. Table 3-1 below indicates the total counts for each measure reported by the 2008 pilot program and those found by the evaluation team.

**Table 3-1 File Review – 2008 Pilot Program Measure Counts**

Measure	Pilot Program Reported	Evaluation Verified	Difference	Percentage Difference
Water heater wrap	44	42	-2	-5%
Pipe wrap	252	252	0	0%
Low flow shower head	68	68	0	0%
Kitchen sink aerator	51	51	0	0%
Bathroom sink aerator	108	109	1	1%
CFL	490	496	6	1%
Programmable thermostat	43	43	0	0%
Window plastic	82	59	-23	-28%
Insulation foam can	16	15	-1	-6%
Light switch and outlet gasket	364	356	-8	-2%
Door weather strip	49	45	-4	-8%
Door sweep	35	41	6	17%
<b>Total</b>	<b>1,602</b>	<b>1,577</b>	<b>-25</b>	<b>-2%</b>

*Navigant analysis of Green Blocks pilot program data.*



The difference in the amount of installed measure counts for window plastic and door sweeps and CFLs was attributed to inconsistencies in the records found in the participant audit files. These totals resulted in only a small difference (2 percent) between the measure counts reported by the program and those found by the evaluation team.

### 3.1.2 Review of Ex-Ante Gross Program Savings Estimates for 2008 Pilot Program

The engineering analysis included a detailed assessment of the measure counts and default savings for each measure to review the 2008 pilot program's estimated ex-ante gross savings. The ex-ante gross savings were presented in a document prepared by NorthWestern Energy in January 2009<sup>3</sup>. This document reported 2008 pilot program savings separated into three categories: standard audit savings, Green Blocks audit savings and Green Blocks insulation measure savings.

- **Standard audit measures include:** water heater wraps, pipe wraps, low flow shower heads, kitchen sink aerators, bathroom aerators, and indirect audit savings due to participant education.
- **Green Blocks audit measures include:** up to six CFLs, a programmable thermostat, window plastic and a weatherization kit that included: one can of insulating foam, twenty light switch/electrical gaskets, two door weather strips, and two door sweeps.
- **Green Blocks insulation measures include:** the insulation upgrade measures performed when a contractor returned to a participant's home and installed insulated as recommended in the Green Blocks audit.

**Table 3-2 2008 Pilot Program Reported ("Ex-Ante") Gross Savings**

Measure	First-Year kWh	First-Year dKt	Lifetime kWh	Lifetime dKt
Standard Audit	17,949	1291	89,745	9,333
Green Blocks Audit	27,930	416	195,510	4,420
Green Blocks Insulation	-	651	-	19,525
<b>Total Program</b>	<b>45,879</b>	<b>2,358</b>	<b>285,255</b>	<b>33,278</b>

*Navigant analysis of Green Blocks pilot program data.*

<sup>3</sup> NorthWestern Energy, *Green Blocks Pilot Program Assessment*, January 16, 2009.



### 3.1.3 Ex-Post Gross Impact Results

The 2008 pilot program reported first-year ex-ante gross savings of 2,358 dKt (gas) and 45,879 kWh (electric) and lifetime ex-ante gross savings of 33,278 dKt (gas) and 285,255 kWh (electric), as shown in Table 3-2 above. The evaluation team found first-year ex-post gross savings of 2,173 dKt (gas) and 46,221 kWh (electric) and lifetime ex-post gross savings of 30,522 dKt (gas) and 287,649 kWh (electric). Based on engineering review and default savings adjustments, the evaluation team found gross realization rates of 92 percent for first-year gas savings and 101 percent for first-year electric savings. The gross realization rates for lifetime savings were 92 percent for gas measures and 101 percent for electric measures. A complete analysis of each individual measure default savings value and evaluation adjusted value (if applicable) is included in Appendix A.

Adjustments to gross program reported savings resulted from two actions:

1. Changes in measure quantities resulting from review of all 2008 pilot program files.
2. Quality control and assurance to make adjustments to the 2008 pilot program reporting spreadsheet corresponding to review of 2008 pilot program files.

Table 3-3 compares the first-year and lifetime program-reported (“ex-ante”) savings and evaluation adjusted (“ex-post”) savings for the program.

**Table 3-3 Ex-Ante and Ex-Post Gross Savings for 2008 Pilot Program**

Fuel Source	First-Year Savings			Lifetime Savings		
	Ex-Ante	Ex-Post	Gross Realization Rate	Ex-Ante	Ex-Post	Gross Realization Rate
Electric (kWh)	45,879	46,221	101%	285,255	287,649	101%
Gas (dKt)	2,358	2,173	92%	33,278	30,522	92%

*Navigant analysis of Green Blocks pilot program data.*

### Analysis of Program Measure Savings

As noted above, the ex-ante gross savings were presented in a document prepared by NorthWestern Energy. This document reported 2008 pilot program savings separated into three categories: standard audit savings, Green Blocks audit savings and Green Blocks insulation measure savings. For ease of comparison, the evaluation team analyzed the 2008 pilot program savings according to the same categories from the NorthWestern Energy report.



The standard audit measures comprise approximately 31 percent of the total pilot program gas savings and 31 percent of the total program electricity savings. The Green Blocks audit measures comprise approximately 15 percent of the total gas program savings and 69 percent of the total electric program savings. The Green Blocks insulation measures account for 55 percent of the program's gas savings. Table 3-4 summarizes the savings by component. Please note that numbers may not add to 100 percent due to rounding.

**Table 3-4 Components of Ex-Post Gross Savings from 2008 Pilot Program**

Source	Ex-Post Gross Lifetime Savings			
	Gas		Electric	
	dKt	% of total program savings	kWh	% of total program savings
Standard Audit	9,313	31%	89,745	31%
Green Blocks Audit	4,439	15%	197,904	69%
Green Blocks Insulation	16,770	55%	-	-
Total	30,522	100%	287,649	100%

*Navigant analysis of Green Blocks pilot program data.*

The NorthWestern Energy report used a default average residential audit savings value from previous evaluations to estimate the program reported savings<sup>4</sup>. The evaluation team chose to use available measure savings information to calculate the 2008 pilot program savings. Table 3-5 and Table 3-6 below indicate the savings calculated by the evaluation team. Table 3-7 illustrates the average residential energy audit savings from the previous evaluations. Appendix B compares the average standard residential audit savings found in the previous evaluations and reported by NorthWestern Energy to those calculated by the evaluation team.

### Standard Audit Measures

Table 3-5 presents first year energy savings, effective useful lives, and lifetime energy savings for the standard audit measures. Values are included for both direct install measures and indirect audit savings. The ex-ante values are the savings reported by NorthWestern Energy, and ex-post values are the adjusted values resulting from the engineering analysis. The lifetime energy savings were calculated by multiplying the annual (or first-year) energy savings by the effective useful life. For purposes of this report, standard audit measures include: water heater wraps, pipe wraps, low flow shower heads, kitchen sink aerators, bathroom aerators, and indirect audit savings due to participant education.

<sup>4</sup> NorthWestern Energy, *Green Blocks Pilot Program Assessment* (January 16, 2009).

**Table 3-5 Standard Audit Savings (gas)**

Measure Description	First-Year Savings (dKt)		Useful Life (years)		Lifetime Savings (dKt)	
	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post
Water Heater Wrap	106	101	7	7	739	706
Pipe Wrap	171	171	7	7	1,200	1,200
Low Flow Shower Head	84	84	15	15	1,265	1,265
Kitchen Sink Aerator	47	47	15	15	711	711
Bathroom Sink Aerator	100	101	15	15	1,507	1,521
Indirect Audit Savings (gas)	782	782	5	5	3,911	3,911
<b>Total</b>	<b>1,291</b>	<b>1,287</b>	<b>-</b>	<b>-</b>	<b>9,333</b>	<b>9,313</b>

*Navigant analysis of Green Blocks pilot program data.*

The following table presents the indirect audit savings (for participant education) for electric measures.

**Table 3-6 Standard Audit Savings (electric)**

Measure Description	First-Year Savings (kWh)		Useful Life (years)		Lifetime Savings (kWh)	
	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post
Indirect Audit Savings (electric)	17,949	17,949	5	5	89,745	89,745

*Navigant analysis of Green Blocks program data.*

### Green Blocks Audit Measures

Green Blocks Audit Measures include measures that ordinarily, are not installed as part of a standard residential audit. The Green Blocks audit measures, for purposes of this report, include up to six CFLs, a programmable thermostat, window plastic and a weatherization kit that included: one can of insulating foam, twenty light switch/electrical gaskets, two door weather strips, and two door sweeps. The estimated energy savings for the weatherization kit was reported by the program as a single unit; therefore ex-ante savings are not reported for each individual component of the weatherization kit. Table 3-9 presents the ex-ante and ex-post gas savings for the Green Blocks Audit measures.



**Table 3-7 Ex-Ante and Ex-Post Gross Green Blocks Audit Savings (gas)**

Measure Description	First-Year Savings (dKt)		Useful Life (years)		Lifetime Savings (dKt)	
	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post
Programmable Thermostat	193	193	20	20	3,859	3,859
Window Plastic	185	133	1	1	185	133
Insulation Foam Can	N/A	9 <sup>1</sup>	10	10	376	450
Switch/Outlet Gaskets	N/A	10 <sup>2</sup>				
Door Weather Strip	N/A	13 <sup>3</sup>				
Door Sweep	N/A	12 <sup>3</sup>				
<b>Total</b>	<b>416</b>	<b>327</b>	<b>-</b>	<b>-</b>	<b>4,420</b>	<b>4,442</b>

*Navigant analysis of Green Blocks program data.*

<sup>1</sup>savings are assumed to be ¼ of entire weatherization kit

<sup>2</sup>savings calculated for groups of 20 gaskets, which represents ¼ weatherization kit

<sup>3</sup>savings calculated for groups of 2 weather strips, 2 door sweeps, which represents ¼ weatherization kit

Table 3-10 presents the ex-ante and ex-post electric savings for the Green Blocks Audit measure, in this case, CFLs.

**Table 3-8 Ex-Ante and Ex-Post Gross Green Blocks Audit Savings (electric)**

Measure Description	First-Year Savings (kWh)		Useful Life (years)		Lifetime Savings (kWh)	
	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post
CFL	27,930	28,272	7	7	195,510	197,904

*Navigant analysis of Green Blocks pilot program data.*

### Green Blocks Insulation Measures

The following table presents the ex-ante and ex-post lifetime energy savings for the insulation upgrade measures performed when a contractor returned to a participant's home and installed insulated as recommended in the Green Blocks audit. The ex-ante energy savings reported for all types of insulation upgrades fell within the range specified by several published TRMs, and therefore no adjustment was recommended for energy savings. Changes made to gross realization rates are based on review of audit and contractor reports and represent adjustments made to the installed square footage of insulation only. Table 3-11 presents the ex-ante and ex-post gas savings for Green Blocks Insulation measures.

**Table 3-9 Insulation Measures Ex-Ante Gross and Ex-Post Gross Savings**

Measure Description	First-Year Savings (dKt)		Useful Life (years)		Lifetime Savings (dKt)	
	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post
Attic R0 - R49	98	41	30	30	2,945	1,221
Attic R11 - R49	56	58	30	30	1,672	1,735
Attic R19 - R49	44	40	30	30	1,400	1,198
Exterior Wall R0 - R13	126	95	30	30	3,794	2,840
Basement Wall R0 - R13	178	177	30	30	5,338	5,320
Crawl Space R0 - R19	146	149	30	30	4,376	4,455
<b>Total</b>	<b>651</b>	<b>559</b>	<b>-</b>	<b>-</b>	<b>19,525</b>	<b>16,770</b>

*Navigant analysis of Green Blocks pilot program data.*

### 3.1.4 Net Program Impact Results

This section summarizes the net program impacts for the 2008 Green Blocks pilot program.

The net-to-gross ratio (NTGR) was calculated for the program according to the following:

Where,

*Free ridership* is the energy savings that would have occurred even in the absence of program activities and sponsorship, expressed as a percent of gross impact.

and,

*Spillover* is the energy savings that occurred as a result of program activities and sponsorships, but was not included in the gross impact accounting, expressed as a percent of gross impact.

#### Free Ridership

The objective of the free ridership assessment is to estimate the impact of program incited measures that would have been installed even in the absence of the program. Free ridership is assessed as a probability score for the program. This evaluation relies on 1) self-reported data collected during participant telephone surveys to assign free ridership probability scores to the



program and 2) a recent energy end use market study<sup>5</sup> conducted by Nexant and The Cadmus Group, Inc. in 2009.

### Spillover

The objective of the spillover assessment is to estimate the impact arising from efficient measures installed as a result of the program that were not incented by the program. This evaluation relies on self-reported data collected during the telephone survey to assess the role of the program in the decision to install additional efficient measures.

Table 3-10 illustrates evaluation-based adjustments from ex-post gross to ex-post net first-year and lifetime savings when applying the net-to-gross ratio of 0.66 across the program. The first-year ex-post net savings are 61 percent of ex-ante gas savings and 66 percent of ex-ante electric savings. The lifetime ex-post net savings are 61 percent of ex-ante gas savings and 67 percent of ex-ante electric savings.

**Table 3-10 Ex-Post Gross and Net Impact Summary**

Fuel Source	First-Year Savings			Lifetime Savings		
	Gross	Net	NTGR	Gross	Net	NTGR
Electric (kWh)	46,221	30,506	0.66	287,649	189,848	0.66
Gas (dKt)	2,173	1,434	0.66	30,522	20,145	0.66

*Navigant analysis of Green Blocks pilot program data.*

### 3.1.5 Benefit-Cost Analysis

The evaluation team used a benefit cost analysis tool developed by NorthWestern Energy to apply the 2008 pilot program's net energy savings and obtain a total resource cost (TRC) test result. The TRC test is used by NorthWestern Energy to evaluate the cost-effectiveness of its energy efficiency programs. NorthWestern Energy's criterion for cost effectiveness is that the TRC Test result must be greater or equal to 0.9.

NorthWestern Energy reported costs of \$146,117 for the 2008 Green Blocks pilot program.

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<sup>5</sup> Nexant and The Cadmus Group, Inc., "Energy End Use and Load Profile Study," December 16, 2009.

**Table 3-11 Total Resource Cost Test**

Program Element	Ex-Post Net kWh	Ex-Post Net dKt	TRC	Associated Cost
<b>Lifetime Savings</b>	<b>189,848</b>	<b>20,145</b>	<b>0.52</b>	<b>\$146,117</b>

*Navigant analysis of Green Blocks program data, NorthWestern Energy.*

The result of the benefit cost analysis was a TRC value of 0.52, lower than the ex-ante value of 0.86, for the following factors:

- Lifetime gross savings realization rates of 92 percent for gas measures and 101 percent for electric measures.
- A net-to-gross factor of 0.66.

The TRC ratio with a net-to-gross factor of 1.0 would be 0.78.

The value for a full scale program is likely to be higher than this value. Pilot programs typically have a lower benefit-cost ratio than a full scale program because of the following factors:

- Extra costs for ramp up and overhead
- Relatively small program participation
- Complications in estimating program net energy impacts. Specifically, a high likelihood of free ridership for some measures, including CFLs; and uncertain effects of program spillover impacts, due to bias caused by complicated influences and the time delay between the evaluation and the implementation of the pilot program.

NorthWestern Energy will need to consider the potential for additional efficiencies and economies of scale realized to determine whether a benefit-cost ratio of 0.9 or greater is achievable with a full-scale program.

## Section 4. Conclusions and Recommendations

### 4.1 Conclusions

This section includes the evaluation team's conclusions and recommendations from the evaluation of the 2008 Green Blocks pilot program.

The 2008 pilot program achieved gross and net energy savings as indicated below. Gas savings were derived from direct install, customer education and insulation measures, while electric savings were derived from CFLs and customer education. Table 4-1 presents key impact evaluation results by measure, including ex-ante and ex-post gross and net savings.

**Table 4-1 Gross and Net Energy Savings**

Fuel Source	First-Year Savings			Lifetime Savings		
	Gross	Net	NTGR	Gross	Net	NTGR
Electric (kWh)	46,221	30,506	0.66	287,649	189,848	0.66
Gas (dKt)	2,173	1,434	0.66	30,522	20,145	0.66

Due to the time between the 2008 pilot program implementation and the telephone survey administered as part of this evaluation, the program's spillover was not possible to be counted with a requisite degree of certainty. As a result, the net to gross analysis only included the impact of free ridership on the program and did not include the benefits of program spillover.

The net-to-gross analysis found free ridership rates to be relatively high for this program, influenced especially by CFLs. The estimated free ridership rate for CFLs was 23 percent. While the high CFL free ridership is reflective of an evolving market for CFLs, due in part to residential midstream lighting programs (such as those found in large retail outlets), as well as other market forces, the evaluation team assigned a free ridership rate consistent with findings based on a recent market study<sup>6</sup> provided by NorthWestern Energy.

### 4.2 Recommendations

A Green Blocks pilot program operations manual would be a valuable resource for future program implementation. The purpose of the manual would be to establish procedures and best practices for direct install measures, to further clarify roles and responsibilities of all parties, and document program successes and lessons learned to date. The evaluation team

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<sup>6</sup> Nexant and The Cadmus Group, Inc., "Energy End Use and Load Profile Study," December 16, 2009.



recommends that the manual include audit report forms that enable the auditor to more clearly indicate the value of the removed or replaced equipment for CFLs, faucet aerators and showerheads. Currently there is little documentation of the efficiency characteristics of the removed equipment. The evaluation team recommends adjusting the annual energy savings for CFL replacement from 57 kWh to 47 kWh. This recommendation is based on review of several reputable sources that quantify annual savings from CFLs. These sources include the Northwest Regional Technical Forum's residential measures database<sup>7</sup>, and TRMs from New York<sup>8</sup> and Connecticut<sup>9</sup>.

Additionally, we recommend that the program implementer note the wattage of replaced bulbs to provide additional documentation to substantiate the proposed kWh reductions associated with CFL direct install replacements.

**Table 4-2 Average Delta Watts Reduction for CFL Replacement Lamps**

Measure	Base Incandescent (watts/lamp)	CFL (watts/lamp)	Delta Watts Reduction (watts/lamp)
9W CFL replacing 40W incandescent	40	9	31
13W CFL replacing 40W incandescent	40	13	27
14W CFL replacing 60W incandescent	60	14	46
15W CFL replacing 60W incandescent	60	15	45
19W CFL replacing 75W incandescent	75	19	56
20W CFL replacing 75W incandescent	75	20	55

The evaluation team recommends that the participant audit files be updated to include data reflecting the specific energy survey recommendations provided to each participant. Ideally, the tracking system data would include the recommended measure description, and estimated costs and energy savings expressed in kWh and dKt.

The energy impact associated with insulation is highly sensitive to the levels of pre-existing insulation. While most participant files included notations of existing insulation levels, the

<sup>7</sup>Regional Technical Forum website, accessed December 2010, <http://www.nwcouncil.org/energy/rtf/measures/Default.asp#res>

<sup>8</sup> *New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs, Single Family Residential Measures*, (2009).

<sup>9</sup> *CL&P and UI Program Savings Documentation for 2008 Program Year*, Connecticut Light and Power and The United Illuminating Company, (2007)



notations were somewhat inconsistent. Careful documenting of pre-existing insulation levels for program tracking would be valuable to future impact evaluation efforts.

NorthWestern will need to consider the possibilities for additional efficiencies and economies of scale to determine whether a benefit-cost ratio of 0.9 or greater is achievable with a full-scale program.

## Appendix A: Measure Default Energy Savings Review

In this section, a summary of evaluation methodology and energy savings is provided for each measure including in the 2008 pilot program. The tables present the first-year savings for the entire pilot program, on a per-measure basis.

### CFLs

The following table presents the program quantities and annual energy savings for CFL installation.

**Table A-1**

CFL				
Program Annual Savings Summary (n=81 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	490	496	101%	6
Savings (kWh/year)	27,930	28,272	101%	349

The realization rate for the CFL measure count is 101%. The evaluation team found that there were 496 CFL's of varying wattages installed at 81 sites. This figure corresponded closely to the KEMA count, which reported 497. The difference of 1 CFL was due to participant site 215061 not having any field information. In place of the field form in the database was site 215062 with incorrect file labeling.

For the 2008 Green Blocks pilot program, nearly 70% of the CFL installs were 14W bulbs. Due to the fact that wattages are not specified for the bulbs being replaced, the annual energy savings must be estimated.

The additional measure counts lead to a gross realization rate of 101% for annual energy savings. The average savings per residence was calculated by dividing the ex-post gross savings by the number of residences that had CFLs installed, which was 81.



## Water Heater Tank Wrap

The following table presents the program quantities and annual energy savings for water heater tank wrap installation.

**TableA-2**

Water Heater Tank Wrap				
Program Annual Savings Summary (n=41 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	44	42	95%	1
Savings (dKt/year)	106	101	95%	2

The measure realization rate for the water heater tank wrap was 95% when compared to the program reported numbers. The evaluation team found that 42 wraps were installed, which agrees with the values given by KEMA. The utility reported a total of 44 wraps and the difference could be from an incorrect summarization of the total installed measures.

The ex-ante savings reported for water heater wraps fell within the range specified by several published TRMs, and therefore no adjustment was recommended for energy savings per wrap. The quantity adjustment leads to a gross realization rate of 95%.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that received water heater wraps, which was 41.



### Pipe Wrap

The following table presents the program quantities and annual energy savings for pipe wrap installation.

**Table A-3**

Pipe Wrap				
Program Annual Savings Summary (n=42 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed (feet)	252	252	100%	6
Savings (dKt/year)	171	171	100%	4

A measure realization rate of 100% was reached for the pipe wrap measure. The evaluation team found that 252 linear feet of pipe wrapping had been installed which agreed with both the values given by the program and reporting from KEMA.

The ex-ante savings reported for pipe wraps fell within the range specified by several published TRMs, and therefore no adjustment was recommended for energy savings per foot of pipe wrap.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that had pipe wrap installed, which was 42.

### Low Flow Showerhead

The following table presents the program quantities and annual energy savings for low flow showerhead installation.

**Table A-4**

Low Flow Showerhead				
Program Annual Savings Summary (n=49 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	68	68	100%	1
Savings (dKt/year)	84	84	100%	2



A measure realization rate of 100% was reached for the low flow showerhead measure. The evaluation team found that 68 shower heads were installed. This value directly corresponds with both the values given by the program and reporting from KEMA.

The Regional Technical Forum<sup>10</sup> reports annual energy savings ranging from 0.71 to 1.28 Dkt/year. The CT TRM<sup>11</sup> gives a deemed savings of 1.36 Dkt/year for an average of 5 baseline showerhead flow rates with an accompanying upgrade to a 2.2 gallon per minute flow rate. Due to the fact that baseline showerhead flow rates were not reported for the Green Blocks program, the evaluation team recommends retaining the program reported savings of 1.24 Dkt/year as it falls within range of other reported values.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that had low flow showerheads installed, which was 49.

### Kitchen Sink Aerator

The following table presents the program quantities and annual energy savings for kitchen sink aerator installation.

**Table A-5**

Kitchen Sink Aerator				
Program Annual Savings Summary (n=50 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	51	51	100%	1
Savings (dKt/year)	47	47	100%	1

A measure realization rate of 100% was reached for the kitchen sink aerator measure. The installed quantity matched both the values given by the program and reporting from KEMA.

The ex-ante savings reported for kitchen sink aerators fell within the range specified by several published TRMs, and therefore no adjustment was recommended for annual energy savings per aerator.

<sup>10</sup> Regional Technical Forum website, accessed December 2010, <http://www.nwcouncil.org/energy/rtf/measures/Default.asp#res>

<sup>11</sup> *CL&P and UI Program Savings Documentation for 2008 Program Year*, Connecticut Light and Power and The United Illuminating Company, (2007)



The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that had kitchen sink aerators installed, which was 50.

### Bathroom Sink Aerator

The following table presents the program quantities and annual energy savings for bathroom sink aerator installation.

**Table A-6**

Bathroom Sink Aerator				
Program Annual Savings Summary (n=67 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	108	109	101%	2
Savings (dKt/year)	100	101	101%	2

A measure realization rate of 101% was reached for the bathroom sink aerator measure. The evaluation team found that 109 aerators were installed while KEMA reported 107. The difference of 2 comes from participant site 211532 because the auditor recorded 3 aerators on the cover page but only recorded 1 where the list of installed measures is located. The evaluation team assumed the initial reference is the accurate value. The program utility recorded 108 aerators which closely correlates the evaluation team's total.

The ex-ante savings reported for bathroom sink aerators fell within the range specified by several published TRMs, and therefore no adjustment was recommended for annual energy savings per aerator.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that had bathroom sink aerators installed, which was 67.



### Programmable Thermostat

The following table presents the program quantities and annual energy savings for programmable thermostat installation.

**Table A-7**

Programmable Thermostat				
Program Annual Savings Summary (n=42 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	43	43	100%	1
Savings (dKt/year)	193	193	100%	5

The installation of programmable thermostats had a realization rate of 100%. The evaluation team found that 43 thermostats were installed which directly corresponds to both the values given by the program and reporting from KEMA.

The ex-ante savings reported for programmable thermostats fell within the range specified by several published TRMs, and therefore no adjustment was recommended for annual energy savings per thermostat.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that had programmable thermostats installed, which was 42.

### Window Plastic

The following table presents the program quantities and annual energy savings for window plastic installation.

**Table A-8**

Window Plastic				
Program Annual Savings Summary (n=31 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	82	59	72%	2
Savings (dKt/year)	185	133	72%	4

The realization rate for the window plastic is 72% when comparing it to the program reporting numbers. The evaluation team found that 59 windows kits were installed which differs from



the utility's numbers, which reported a total of 82 windows that were fitted with plastic. The variation was perhaps due to the inconsistency of the field forms. The quantities appeared in different locations throughout the forms and sometimes didn't correspond if recorded in multiple areas. The evaluation team recommends that the use of a single location on the field form to record the measures installed could prevent the variations of quantities that have been documented.

The ex-ante savings reported for window plastic fell within the range specified by several published TRMs, and therefore no adjustment was recommended for annual energy savings per window covered. The differences in quantity counts lead to a gross realization rate of 72%.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that had window plastic installed, which was 31.

### **Weatherization Kits**

The utility program savings spreadsheet reported savings for weatherization kits. This spreadsheet specified that kits were to include: 1 can of insulating foam, 10 light switch gaskets, 10 electrical outlet gaskets, 2 door weather strips, and 2 door sweeps. However, the utility reported measure counts could not be broken down into an equal number of weatherization kits with these specified quantities. For the purpose of measure count verification during the file review process, the individual components of these kits were tallied and compared to the reported counts. This is because field forms listed these measures on an individual basis, not a per-kit basis.

For energy savings purposes, the utility reported a savings of 2.35 Dkt/year for each kit. The total energy savings were reported as containing 16 kits, which did not match with the individual measure counts. To calculate energy savings, the evaluation team assumed that each of the four component categories of the weatherization kit contributed equally to the savings. Therefore, the energy savings from 1 can of insulating foam were assumed equal to energy savings from 2 door weather strips, which are also equal to energy savings from 20 light/electrical gaskets, which are also equal to energy savings from 2 door sweeps. Each component of the kit contributes 0.59 Dkt/year of energy savings (2.35 Dkt divided by four components). By categorizing the individual measure counts into the quantities contained in each kit, and averaging those totals, the evaluator recommends adjusting the number of installed weatherization kits from 16 to 19. By applying this same method to the average number of each measure installed per participant residence, it was determined that an average of 0.79 weatherization kits were installed per household. The following table summarizes the measure count and annual energy savings for the weatherization kits as a whole. Breakdowns for each component follow.

**Table A-9**

Weatherization Kits				
Program Annual Savings Summary	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	16	19	119%	1
Savings (dKt/year)	38*	45*	118%	2

\*savings are for entire weatherization kit

### Insulation Foam Can

The following table presents individual results for the insulation foam can measure.

**Table A-10**

Insulation Foam Can				
Program Annual Savings Summary (n=13 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	16	15	94%	1
Savings (dKt/year)	N/A	9*	N/A	1

\*savings for each can are assumed to be ¼ of entire weatherization kit

The realization rate for the quantity of insulating foam cans used was 94% when comparing it to the program reporting numbers. The evaluation team found that 15 cans were installed and the utility reported 16. The difference could be due to the inconsistency of recording the measures in the same location on the field forms.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that were given insulation foam cans, which was 13.

### Lighting Switch and Electrical Outlet Gasket

The following table presents individual results for the light switch and electrical outlet gasket measure.

**Table A-11**

Light Switch and Electrical Outlet Gasket				
Program Annual Savings Summary (n=32 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	364	356	98%	11
Savings (dKt/year)	N/A	11*	N/A	0

\*savings calculated for groups of 20 gaskets, which represents ¼ weatherization kit

The realization rate for the quantity of electrical gaskets used is 98% when comparing it to the program reporting numbers. The evaluation team found that 356 gaskets were either installed or left for the client to use at a later date. The utility reported 364 which could be based on assumptions. Most of the field forms included the exact number of gaskets but a few only marked 1 as a quantity. In this case, the evaluation team assumed that this meant 1 gasket and not 1 package of 10. This situation was seen more than once which could sway the exact totals from the most accurate counts.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that were given light switch and electrical outlet gaskets, which was 32.

### Door Weather Strip

The following table presents individual results for the door weather strip measure.

**Table A-12**

Door Weather Strip				
Program Annual Savings Summary (n=30 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	49	45	92%	2
Savings (dKt/year)	N/A	13*	N/A	0

\*savings calculated for groups of 2 weather strips, which represents ¼ weatherization kit

The realization rate for the quantity of weather stripping used is 92% when comparing it to the program reporting numbers. The evaluation team found that 45 strips were installed and the



utility reported 49. The difference could be due to the irregularity of recording the measures in the consistent location on the field forms.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that were given door weather strips, which was 30.

### Door Sweep

The following table presents individual results for the door sweep measure.

**Table A-13**

Door Sweep				
Program Annual Savings Summary (n=29 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed	35	41	117%	1
Savings (dKt/year)	N/A	12*	N/A	0

\*savings calculated for groups of 2 door sweeps, which represents ¼ weatherization kit

The realization rate for the quantity of door sweeps used is 117% when comparing it to the program reporting numbers. The evaluation team found that 41 sweeps were installed and the utility reported 35. The difference could be due to the irregularity of recording the measures in the consistent location on the field forms.

The average savings per residence was calculated by dividing the ex-post gross savings by the total number of residences that were given door sweeps, which was 29.

### Insulation Measures

The insulation measure counts were verified by summing up the square footage of upgraded insulation for each participant site. The initial and final R-values were placed into the categories specified by the program.

The ex-ante energy savings reported for all types of insulation upgrades fell within the range specified by several published TRMs, and therefore no adjustment was recommended for energy savings. Gross realization rates are therefore based on changes in square footage only.

Values for average insulation savings per residence were calculated by dividing the ex-post gross savings by the total number of residences that received the respective measure.



### Attic Insulation

A total measure realization rate of 86% was determined for square footage of attic insulation. The evaluation team used the square feet that were provided by the insulation installer invoices to obtain 12,728 total sq ft. These numbers corresponded to the numbers reported by KEMA, which were 12,367 but were significantly lower than the program reported values.

The following three tables present the findings from the file review for specified attic insulation R-value upgrades. R-values were sometimes rounded to the most appropriate category.

**Table A-14**

Attic Insulation (R0 upgraded to R49)				
Program Annual Savings Summary (n=2 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed (ft <sup>2</sup> )	1,963	814	41%	407
Savings (dKt/year)	98	41	42%	20

**Table A-15**

Attic Insulation (R11 upgraded to R49)*				
Program Annual Savings Summary (n=11 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed (ft <sup>2</sup> )	5,067	5,258	104%	478
Savings (dKt/year)	56	58	104%	5

\*Initial insulation R-values ranged from R5 to R15 based on auditor's assessment.

**Table A-16**

Attic Insulation (R19 upgraded to R49)*				
Program Annual Savings Summary (n=9 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed (ft <sup>2</sup> )	7,780	6,656	86%	740
Savings (dKt/year)	47	40	85%	4

\*Initial insulation R-values ranged from R17 to R28 based on auditor's assessment.



### Exterior Wall Insulation

A realization rate of 75% was determined for the installation square footage of exterior wall insulation. The evaluation team verified that 5,259 sq ft. was installed based on the invoices provided for each specific site. The reported numbers from the utility of 7,026 sq ft. corresponded more with the numbers from KEMA which reported 7,227 sq ft. Upon reviewing the spreadsheet from KEMA (GB insulation SS.xlsx) further, the evaluation team found several errors and believes that the lower measure count is correct. The initial process for this corroboration was to verify the spreadsheet from KEMA which was confirmed to be accurate on a per-residence basis. However, the summed totals were incorrect.

**Table A-17**

Exterior Wall Insulation (R0 upgraded to R13)				
Program Annual Savings Summary (n=11 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed (ft <sup>2</sup> )	7,026	5,259	75%	478
Savings (dKt/year)	126	95	75%	9

### Basement Insulation

Verification of the total square footage of installed basement insulation gave a realization rate of 100%. The evaluation team found that 14,779 sq ft. was installed which varied slightly from the reported numbers of 14,829 sq ft.

**Table A-18**

Basement Wall Insulation (R0 upgraded to R13)				
Program Annual Savings Summary (n=30 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed (ft <sup>2</sup> )	14,829	14,779	100%	493
Savings (dKt/year)	178	177	100%	6

### Crawl Space Insulation

Verification of the total square footage of installed crawl space insulation gave a 102% realization rate. The evaluation team verified 5,940 sq ft. of crawl space insulation based on the invoices packaged in the sites information. This number did not correspond with the counts from both the reported program which recorded 5,834 sq ft. and KEMA which recorded 5,391 sq



ft. Upon the assumption that the installer gave more accurate totals, the evaluation team used the installers numbers and utilized the auditors totals to verify the installation occurred in the correct space.

**Table A-19**

Crawl Space Insulation (R0 upgraded to R19)				
Program Annual Savings Summary (n=23 sites)	Ex-Ante Gross	Ex-Post Gross	Gross Realization Rate	Avg/ Residence
Quantity Installed (ft <sup>2</sup> )	5,834	5,940	102%	245
Savings (dKt/year)	146	149	102%	6

### Comparison of Average Standard Audit Savings to Program Audit Savings

#### Average Direct and Indirect Energy Savings Reports

In its report, NorthWestern Energy presented an alternate results section for standard audit savings, based on combination of results from a 2008 Summit Blue study<sup>12</sup> and a 2007 Nexant study<sup>13</sup>. The two studies quantified average direct and indirect savings for standard residential audits in NorthWestern Energy's territory. Table 3-7 illustrates the values used in the NorthWestern Energy report.

**Table A-20 Average Direct and Indirect Energy Savings**

Standard Audit Savings n=93	First-Year Savings		Useful Life (years)		Lifetime Savings (kWh)	
	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post	Ex-Ante	Ex-Post
Electric (kWh)	22,320	22,320	5	5	111,600	111,600
Gas (dKt)	1,311	1,311	5	5	6,557	6,557

*Summit Blue (2007) and Nexant (2008); Navigant analysis of Green Blocks program data.*

<sup>12</sup> NorthWestern Energy Indirect Savings Analysis for the Residential Audit and Commercial Appraisal Programs, Summit Blue report (2008)

<sup>13</sup> Evaluation of NorthWestern Energy's DSM Energy Efficiency Programs, Nexant report, (2007).



### Comparison of Calculated Audit Savings with Average Report Savings

The evaluation team recommends using the “calculated audit savings” instead of the “average audit savings” to estimate program savings attributed to direct install measures and indirect savings during a residential audit. While the comprehensive nature of the Summit Blue and Nexant studies was helpful for estimating generalized gas and electric savings from residential audits, the evaluation team decided that using the calculated savings from actual participating homes in the pilot program is a preferred metric to apply for purposes of this impact evaluation. Table 3-8 compares the impact results of the two methods.

**Table A-21 Comparison of Calculated and Standard Audit Estimates**

Standard Audit Savings n=93	First-Year Savings		Useful Life (years)		Lifetime Savings (kWh)	
	Average	Calculated	Ex-Ante	Ex-Post	Average	Calculated
Electric (kWh)	22,320	17,949	5	5	111,600	89,745
Gas (dKt)	1,311	1,288	5	5	6,557	8,833

*Summit Blue (2008) and Nexant (2007); Navigant analysis of Green Blocks program data.*

## Appendix B: Data Collection Instruments

### Stakeholder Interview Guide

#### Introduction

This Green Blocks interview guide includes questions for the following program stakeholders:

- NorthWestern Energy (NWE) Staff
- City/County of Missoula staff
- Mountain Water
- KEMA (project implementer)
- Mayor's Advisory Committee on Climate Change

#### Proposed Stakeholder Interview Schedule

Stakeholder interviews are scheduled between November 22 and November 30, 2010. We anticipate that interviews will last between 30 and 45 minutes.



## Interview Objectives

**Table B-1**

Topic	Questions	NWE staff	City/County	Mountain Water	KEMA	Advisory Committee
Review and Refine Effectiveness Criteria	Do goals in contract of Green Blocks differ substantially from similar programs in other utility territories?	XX	XX	XX	XX	
Compare Administrative Processes	Identify and document administrative processes. Review administrative actions by market actors and solicit ideas to improve efficiency and communication.	XX	XX	XX	XX	
Compare Marketing and Outreach Efforts	Identify and document efforts. Compare market uptake in neighborhoods.	XX	XX	XX	X	XX
Program delivery experience	Describe the Green Blocks program from the stakeholder perspective. Note any program delivery issues.		X	X	X	XX
External Market Variations	Discuss external market drivers: electricity rates, market demographics, the economy. How do external variations affect program uptake, if at all?			X	X	XX

## Green Blocks Interview Guide

### Introduction

Hello, my name is Josh Arnold with Navigant Consulting. I am calling on behalf of NorthWestern Energy regarding the 2008 Green Blocks Pilot Program. I am interviewing people who work the 2008 Green Blocks Pilot Program to get their comments about their experiences and observations in working with the program. I would like to ask you some prepared questions about your experience with the 2008 Green Blocks Pilot Program. I expect our conversation to last between 30 min to 45 min. Your responses in this interview will remain confidential. We will be using your comments, as well as those of other interviewees to help inform our report, but we will not attribute your comments directly to you unless we confirm



with you at a later date that it is OK to do so. Your name will be listed as an interviewee in an appendix to the report that we will submit to NorthWestern Energy. Is this acceptable to you?

**Confirm contact information**

Date: \_\_ Interviewer: \_\_\_\_\_

Name:

Address:

Phone:

Email:

**Effectiveness Criteria**

1. In your opinion, did all of the stakeholders have a clear understanding of their roles and responsibilities, including communication and reporting, under the current contract? Please describe.
2. How could communication channels have been improved?
3. **(For KEMA only)**. Have you conducted field inspections for the Green Blocks program? What percent of your time is devoted to scheduling and conducting inspections? How efficient was the scheduling and inspections process? How could it have been improved? What were some of the barriers to work with participating stakeholders (e.g. Allied Waste, Mountain Water) to schedule audits with residents?
4. Do you have any other comments on your experience with the Green Blocks program?

**Administrative Process**

5. Please comment on the effectiveness of the following Green Blocks program administrative processes:

In your view, how well did the 2008 Green Blocks Pilot Program do the following? Which activities did the 2008 Green Blocks Pilot Program perform best?

- Promote the program?
- Work with NWE to inform their stakeholders about the Green Blocks programs?
- Recruit participants?



- Include program energy efficiency measures?
- Provide for customer/project tracking
- Provide reporting on program goals and achievements to stakeholders?
- Work with participating stakeholders (e.g. Allied Waste, Mountain Water) to minimize the amount of administrative burden on the Green Blocks program and time for residents?

6. Do you see any specific opportunities to streamline any of the administrative processes discussed previously?

7. Do you have any other comments on the program's administrative processes?

### **Marketing & Outreach Efforts**

8. Please comment on the effectiveness of the following Green Blocks program marketing and outreach efforts to recruit utility participation. What marketing and outreach piece is most effective?

- Block Captains
- Website
- Promotional printed materials, such as program brochure
- Customer applications and other printed forms
- In-person presentations, such as trade shows or events
- One-on-one phone calls or office visits

9. How well did the Green Blocks program develop, improve and update marketing and identity materials?

10. Please comment on how well the Green Blocks block captains recruited participants?

11. Do you have any ideas on ways that Green Blocks could increase participation? Do you have any other comments on the program's participation?

### **Program Delivery Experience**

12. Does the Green Blocks program provide an appropriate program package to motivate the target markets in question?



13. Is the Green Blocks program responsive to its customers? Have you heard about any customers not being satisfied with any of the following:

- Initial recruitment and program introduction to utility representative
- Implementation of the Green Blocks program
- Response times with answers to questions
- End-use customer satisfaction
- End-use trade allies satisfaction
- Any others not mentioned previously

**External/Internal Market Variations**

14. Have any stakeholders expressed concerns about the success of the Green Blocks program due to the current economic environment? If so, please describe:

15. What other factors outside of the Green Blocks program may be driving interest in participation?

**Wrap Up (only ask if topics haven't been explored already)**

16. Overall, how satisfied are you with the Green Blocks program?

17. Do you have any other recommendations to improve the Green Blocks program?

18. Do you have anything else that you would like to share about the Green Blocks program?

19. Do you have any recommendations for opportunities to potentially increase marketing and outreach for the Green Blocks program?

*Thank you for participating!*



### **List of Interviews**

Navigant wishes to thank the following individuals for participating in our stakeholder interviews:

- David Bausch, NorthWestern Energy
- Danie Williams, NorthWestern Energy
- Ginny Merriam, City of Missoula
- Chase Jones, County of Missoula
- Greg Gullickson, Mountain Water
- Jim O'Donnell, KEMA
- Justin Hyatt, KEMA
- Cherie Peacock, Mayor's Advisory Committee on Climate Change
- Gerald Mueller, Mayor's Advisory Committee on Climate Change



## Participant Survey

The following section includes the telephone survey instrument written by Navigant and conducted by The Dieringer Research Group, Inc. for the 2008 Green Blocks pilot program.

**Background:** This survey is intended for residential retrofit customers that participated in the 2008 GreenBlocks Pilot program.

**Sample:** The sample size includes a total of 93 residential units.

**Goals:** The goals of the survey are to understand the program processes and determine measure persistence and impacts and capture any spillover effect from the 2008 GreenBlocks pilot program.

**Qualifiers:** Must have participated in the 2008 GreenBlocks Pilot program and passed.

**Quotas:** Interviews will be split between customers who have and have not participated in the utility's GreenBlocks Pilot program, as shown below

Quotas	
Segment	Number of Interviews
Program participants	39
Non-participants	68
<b>Total Interviews</b>	<b>107</b>

**Survey Target Length:** 10-15 Minutes

**Incidence:** Taking into consideration the current respondent qualifiers and list source, The DRG is estimating incidence to be 90%.

Incidence is derived by taking the total number of qualified respondents and dividing by the total number who are qualified plus the total number who are not qualified for the survey. All incidence numbers are derived from respondents spoken to who are past the qualification point. Dispositions such as disconnected phones, initial refusals, etc. are never considered in incidence calculations.



## Introduction

### **[READ IF STATUS = PASSED]**

Hello, may I speak with **[NAME FROM SAMPLE]**.

Hello, my name is \_\_\_\_\_. I'm calling on behalf of The City of Missoula's Mayor's Office and the 2008 GreenBlocks Pilot program. I'm calling from The Dieringer Research Group, an independent research firm. Our records indicate that your household was eligible to participate in the 2008 GreenBlocks Pilot residential retrofit program. The Mayor's Office has asked us to speak with you so that they can make improvements to potential future GreenBlocks Pilot programs. I'm not selling anything; I'd just like to ask you some questions to better understand your opinions and knowledge of the program. We would be grateful for your cooperation in our research.

### **READ IF ASKED:**

- Re-emphasize this is a survey, not a sales call.
- Responses are completely confidential.
- Depending on your responses, the survey will take about 10-15 minutes to complete.
- We are a professional research organization that surveys the attitudes and opinions of people on various issues

This call may be monitored for quality and training purposes.

## Screener Questions

SA. Were you living in the city of Missoula in 2008? (Added 12/02/2010 for Non participant sample)

- 1 Yes **[CONTINUE]**
- 2 No **[THANK AND TERM]**

S1. Do you recall participating in the 2008 GreenBlocks Pilot program?

- 1 Yes **[CONTINUE]**
- 2 No **[SKIP TO Q13]**
- 3 Don't remember **[SKIP TO Q13]**
- 4 Never heard of program **[SKIP TO Q13]**

S2. Are you the person at your household who is most knowledgeable about your home's participation in the 2008 GreenBlocks Pilot program?

**[IF NOT]** Can I please speak to the person who is most knowledgeable about your home's participation in this program? **[REPEAT INTRO]**



Project Initiation and Program Sign Up –**PARTICIPANTS ONLY**

**[IF S1=1, PROCEED TO Q1; OTHERWISE SKIP TO Q13]**

Q1. How did your household first hear about the 2008 GreenBlocks Pilot program? **(DO NOT READ LIST, SELECT ONE ANSWER).**

- 1 2008 GreenBlocks Pilot program newsletter
- 2 2008 GreenBlocks Pilot program seminar
- 3 2008 GreenBlocks Pilot program website
- 4 Colleague or neighbor (not a block Captain)
- 5 Contractor
- 6 Equipment vendor
- 7 Flyer/brochure
- 8 **Mayor's Office Representative**
- 9 Neighborhood Block Captain
- 10 Newspaper (specify)\_\_\_\_\_
- 11 NorthWestern Energy utility bill insert
- 97 Other (specify)\_\_\_\_\_
- 98 **DO NOT READ: Don't know**

Q2. What measures, if any, do you recall installing through participation in the 2008 GreenBlocks Pilot program? **(DO NOT READ LIST, CHECK ALL THAT APPLY).**

- 1 Home energy audit
- 2 Insulation
- 3 Air sealing
- 4 Waste audit
- 5 Low flow showerheads
- 6 Low flow faucet aerators
- 7 Compact Fluorescent Lamps (CFLs)
- 97 Other (specify)\_\_\_\_\_
- 98 **DO NOT READ: Don't know [TERMINATE AND THANK, D31]**



Q3. For this project did you interact with... **(READ LIST, CHECK ALL THAT APPLY).**

- 3 An architect
- 4 A contractor
- 5 A distributor
- 6 An engineer
- 7 A home performance energy specialist
- 8 A manufacturer
- 97 Other (specify)\_\_\_\_\_
- 98 **Don't know**
- 99 None of these

Q4. Who was most involved in choosing the energy efficiency measures that were installed in 2008? **(READ LIST, CHECK ONE RESPONSE).**

**[SHOW CODES 3-97 ONLY IF MENTIONED IN Q3]**

- 1 Yourself (Respondent)
- 2 Somebody else within your home/company
- 3 An architect
- 4 A contractor
- 5 A distributor
- 6 An engineer
- 7 A home performance energy specialist
- 8 A manufacturer
- 97 Other (specify)\_\_\_\_\_
- 98 **Don't know**
- 99 None of these

**[IF Q4=1 OR 98, SKIP TO Q6]**

Q5. How influential was this person in your household's decision to install these energy efficiency measures? **(READ LIST, SELECT ONE RESPONSE).**

Would you say...

- 4 Very influential
- 3 Somewhat influential
- 2 Slightly influential
- 1 Not at all influential
- 8 **Don't know**



Q6. Why did your household decide to participate in the 2008 GreenBlocks Pilot program?

**(PROBE WITH: Were there any other motivating factors? Were there any other reasons?)**

**(READ LIST, ACCEPT UP TO 4 RESPONSES).**

- 1 To save energy
- 2 Little or no cost upgrades
- 3 To help the environment
- 4 Other (specify) \_\_\_\_\_
- 5 Other (specify) \_\_\_\_\_
- 6 Other (specify) \_\_\_\_\_
- 7 Other (specify) \_\_\_\_\_
- 98 Don't know

### Net to Gross Factors – PARTICIPANTS ONLY

**[IF Q2=2 OR 3 OR 5 OR 6 OR 7, REPEAT Q7-Q12 FOR EACH MEASURE MENTIONED IN Q2.]**

Q7. Why did your household decide to install the energy efficient **[INSERT Q2 MEASURE]** instead of standard efficiency **[INSERT Q2 MEASURE]**? **(DO NOT READ LIST, SELECT ONE RESPONSE).**

- 1 Little or no cost upgrades
- 2 Save money on utility bill
- 3 Save energy
- 4 Environmental reasons
- 5 Higher quality product
- 6 Contractor suggested it
- 7 Improve comfort of home
- 97 Other (specify) \_\_\_\_\_
- 98 Don't know

Q8. Is the new equipment still in use? **(DO NOT READ LIST).**

- 1 Yes
- 2 No
- 3 Don't know



**[If Q8=2, PROCEED TO Q9; OTHERWISE SKIP TO Q10]**

Q9. Why is the new equipment not in use? SELECT ALL APPLY

- 1 Not functioning properly/broken
- 2 Removed and installed somewhere else
- 97 Other (specify)\_\_\_\_\_
- 98 Don't know

Q10. On a scale of 1 to 10, where 10 is 'Very Satisfied' and 1 is 'Very Dissatisfied,' how would you rate your satisfaction with the new **[INSERT Q2 MEASURE]** equipment installed through the 2008 GreenBlocks Pilot program? You may use any number from 1 to 10.

<b>Very Dissatisfied</b>									<b>Very Satisfied</b>	<b>Don't know</b>
1	2	3	4	5	6	7	8	9	10	18

**Timing**

Q11. Without the 2008 GreenBlocks Pilot program would you have installed the new **[INSERT Q2 MEASURE]** equipment: **(READ LIST, SELECT ONE RESPONSE).**

- 1 At the same time that you did
- 2 Within a year of the time you did
- 3 More than a year later
- 4 Never
- 8 **DO NOT READ:** Don't know

**Efficiency**

**[IF Q11=4 OR 98, SKIP TO Q16]**

Q12. Without the 2008 GreenBlocks Pilot program, how likely is it that the **[INSERT Q2 MEASURE]** equipment you would have installed would have been as efficient as the equipment you installed through the program? Would you say it would have been: **(READ LIST, SELECT ONE RESPONSE).**

- 4 Definitely as efficient
- 3 Probably as efficient
- 2 Probably not as efficient
- 1 Definitely not as efficient
- 8 **DO NOT READ:** Don't know



### Non-Participant Questions

**[IF QS1=2 OR 9, PROCEED TO Q13; OTHERWISE SKIP TO Q16]**

**[IF QS1= 4, SKIP TO 22A]**

Q13. Do you recall learning about the 2008 pilot Greenblocks program?

**[READ IF NECESSARY: this is different than the GreenBlocks programs that are currently being implemented]**

- 1 Yes
- 2 No **[SKIP TO 22a]**
- 3 **DO NOT READ:** Don't know **[SKIP TO 22a]**

Q13a. How did your household first hear about the 2008 GreenBlocks Pilot program? **(DO NOT READ LIST, SELECT ONE ANSWER).**

- 1 2008 GreenBlocks Pilot program newsletter
- 2 2008 GreenBlocks Pilot program seminar
- 3 2008 GreenBlocks Pilot program website
- 4 Colleague or neighbor (not a block Captain)
- 5 Contractor
- 6 Equipment vendor
- 7 Flyer/brochure
- 8 **Mayor's Office Representative**
- 9 Neighborhood Block Captain
- 10 Newspaper (specify)\_\_\_\_\_
- 11 NorthWestern Energy utility bill insert
- 98 Other (specify)\_\_\_\_\_
- 98 **DO NOT READ:** Don't know

Q14. When did you hear about the 2008 GreenBlocks Pilot program? **[READ LIST, SELECT ONE RESPONSE]**

- 1 During application process
- 2 After it was too late to apply
- 3 **DO NOT READ:** Not Sure



**[ASK IF Q14=1; OTHERWISE SKIP TO Q22a]**

Q15. From your perspective, what were the greatest barriers to your household participating in the 2008 GreenBlocks pilot program? **(DO NOT READ LIST, SELECT ALL THAT APPLY).**

- 1 Lack of information
- 2 Financial reasons
- 3 Paperwork too burdensome
- 4 Time constraints
- 97 Other (specify)\_\_\_\_\_
- 98 Don't know
- 99 None

Program Processes and Satisfaction **PATRICIPANTS ONLY**

**[ASK ONLY IF S1=1; OTHERWISE SKIP TO Q22a]**

Next, I would like to ask you a few questions about various processes of the 2008 GreenBlocks Pilot program.

Q16. Using a scale from 1 to 10, where a 10 means 'Very Satisfied' and a 1 means 'Very Dissatisfied.' On a scale of 1 to 10, how would you rate...

**[IF Q2=2 OR 3 OR 5 OR 6 OR 7, REPEAT Q16c FOR EACH MEASURE MENTIONED IN Q2.]**

<b>[RANDOMIZE BLOCK]</b>	<b>Very Dissatisfied</b>										<b>Very Satisfied</b>	<b>Don't know</b>	<b>Refused</b>
a. The value of the home energy audit	1	2	3	4	5	6	7	8	9	10	18	19	
b. The value of the home energy audit report	1	2	3	4	5	6	7	8	9	10	18	19	
c. The response of the contractor in installing the <b>[Q2 MEASURE]</b>	1	2	3	4	5	6	7	8	9	10	18	19	
d. The response of the contractor in installing the <b>[Q2 MEASURE]</b>	1	2	3	4	5	6	7	8	9	10	18	19	
e. The response of the contractor in installing the <b>[Q2 MEASURE]</b>	1	2	3	4	5	6	7	8	9	10	18	19	
f. The response of the contractor in installing the <b>[Q2 MEASURE]</b>	1	2	3	4	5	6	7	8	9	10	18	19	
g. The response of the contractor in installing the <b>[Q2 MEASURE]</b>	1	2	3	4	5	6	7	8	9	10	18	19	



h. The quality of the work performed by the contractor	1	2	3	4	5	6	7	8	9	10	18	19
i. <b>[HOLD AT BOTTOM]</b> Your overall satisfaction with 2008 GreenBlocks Pilot program	1	2	3	4	5	6	7	8	9	10	18	19

**[IF Q16a-i= 1-4, ASK Q17 FOR EACH ATTRIBUTE RANKED 1-4; OTHERWISE SKIP TO Q17]**

Q17. Why did you give **[INSERT ATTRIBUTE]** a **[RANK]**? **(ASK AS OPEN END).**

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**[ASK Q18 FOR THOSE RANKED 5-10 IN Q16]**

Q18. Why did you give **[Q16e attribute]** a **[RANK]**? **(ASK AS OPEN END).**

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Q19. What recommendations do you have for improving the 2008 GreenBlocks Pilot program? **(ASK AS OPEN END. PROBE AND CLARIFY.)**

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**Benefits and Barriers PARTICIPANTS ONLY**

Q20. What was the greatest benefit of participating in the 2008 GreenBlocks Pilot program? **(DO NOT READ LIST, SELECT ONE RESPONSE).**

- 1 Increased occupant comfort
- 2 Learning about energy efficiency
- 3 Saving energy
- 4 Saving money on utility bills
- 5 Saving water
- 97 Other (specify)
- 98 Don't know



Q21. What were the greatest drawbacks of participating in the 2008 GreenBlocks Pilot program? **(DO NOT READ LIST, SELECT ALL THAT APPLY).**

- 1 Paperwork
- 2 Takes too much time
- 97 Other (specify)\_\_\_\_\_
- 98 **Don't know**
- 99 None

Future Projects & Opportunities **BOTH PARTICIPANTS AND NON PARTICIPANTS**

Q22a. Are you planning any additional energy efficiency improvements AT YOUR home in the next year?

- 1 Yes
- 2 No
- 3 **Don't know**

**[IF 22a=1, ASK Q22b; OTHERWISE PROCEED TO Q22c]**

Q22b. What energy efficiency improvements are you planning? **(DO NOT READ LIST, SELECT ALL THAT APPLY).**

**(INTERVIEWER NOTE: We are looking for general or broad types of actions, not specific project descriptions)**

- 1 Replaced lighting
- 2 Replaced furnace or heater
- 3 Replaced water heater
- 4 Replaced air conditioner
- 5 Replaced windows
- 6 Modified building envelope – **(Prompt if necessary, for example – installed insulation in attic)**
- 97 Other (specify)\_\_\_\_\_
- 98 **Don't know**

Q22b.1 Do you plan to apply for any incentives from NorthWestern Energy for your energy efficiency improvements? **(DO NOT READ LIST, SELECT ONE)**

- 1 Yes **(SKIP TO 22)**
- 2 No
- 3 Not aware of any



Q22b.2 What are the greatest barriers for you to apply for incentives from NorthWestern Energy? **(DO NOT READ LIST, SELECT ALL THAT APPLY).**

- 1 Lack of information
- 2 Financial reasons
- 3 Paperwork too burdensome
- 4 Time constraints
- 97 Other (specify)\_\_\_\_\_
- 98 **Don't know**
- 99 None

Q22c. Do you own other homes within NorthWestern Energy's service territory?

- 1 Yes
- 2 No **[SKIP TO Q22f]**
- 3 Don't know **[SKIP TO Q22f]**

**[ASK Q22d. ONLY IF Q22c = 1]**

Q22d. Are you planning any additional energy efficiency improvements AT ANOTHER EXISTING HOME in NorthWestern Energy territory in the next year?

- 1 Yes
- 2 No **(SKIP TO Q22f)**
- 3 Don't know

**[ASK IF 22d=1]**

Q22e. What energy efficiency improvements are you planning? **(DO NOT READ LIST, SELECT ALL THAT APPLY).**

**(INTERVIEWER NOTE: We are looking for general or broad types of actions, not specific project descriptions)**

- 1 Replaced lighting
- 2 Replaced furnace or heater
- 3 Replaced water heater
- 4 Replaced air conditioner
- 5 Replaced windows
- 6 Modified building envelope – **(Prompt if necessary, for example – installed insulation in attic)**
- 97 Other (specify)\_\_\_\_\_
- 98 **Don't know**



Q22f. What are the barriers for you to make these improvements? **(ASK AS OPEN END. PROBE AND CLARIFY.)**

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Spillover **BOTH PARTICIPANTS AND NON PARTICIPANTS**

Q23. Since **[IF NON-PARTICIPANT, INSERT 'learning about', IF PARTICIPANT, INSERT 'participating in']** the 2008 Green Blocks Pilot program, have you taken any other energy efficiency actions at your home for which you have NOT received incentives from NorthWestern Energy?

- 1 Yes
- 2 No
- 3 **DO NOT READ:** Don't know

**[IF Q23= 2 OR 9, SKIP TO Q27]**

Q24. What other types of energy efficient actions have you taken? **(DO NOT READ LIST, SELECT ALL THAT APPLY).**

**(INTERVIEWER NOTE: We are looking for general or broad types of actions, not specific project descriptions)**

- 1 Replaced lighting
- 2 Replaced furnace or heater
- 3 Replaced water heater
- 4 Replaced air conditioner
- 5 Replaced windows
- 6 Modified building envelope – **(Prompt if necessary, for example – installed insulation in attic)**
- 97 Other (specify)\_\_\_\_\_
- 98 Don't know

Q25. How influential was **[IF NON-PARTICIPANT, INSERT 'knowledge of', IF PARTICIPANT, INSERT 'your experience']** with the 2008 GreenBlocks Pilot program in your decision to take the additional energy efficiency action(s)? **(READ LIST).**

- 4 Very influential
- 3 Somewhat influential
- 2 Slightly influential
- 1 Not at all influential
- 8 **DO NOT READ:** Don't know



**[IF Q22C=1, THEN ASK Q27; ELSE SKIP TO Q30]**

Q27. Since **[IF NON-PARTICIPANT, INSERT 'learning about', IF PARTICIPANT, INSERT 'participating in']** the program, are you aware of any energy efficiency actions at YOUR OTHER HOME(S) that did NOT receive incentives from NorthWestern Energy?

- 1 Yes
- 2 No **[SKIP TO Q30]**
- 3 Don't know **[SKIP TO Q30]**

Q28. What other energy efficient actions have you taken at THESE OTHER HOME(S)? **(DO NOT READ LIST, SELECT ALL THAT APPLY).**

**[INTERVIEWER NOTE: We are looking for general or broad types of actions, not specific project descriptions]**

- 1 Replaced lighting
- 2 Replaced furnace or heater
- 3 Replaced water heater
- 4 Replaced air conditioner
- 5 Replaced windows
- 6 Modified building envelope – **(Prompt if necessary, for example – installed insulation in attic, weatherization, door sweeps, window treatments, air sealing)**
- 97 Other (specify)\_\_\_\_\_
- 98 Don't know

Q29. How influential was **[IF NON-PARTICIPANT, INSERT 'knowledge of', IF PARTICIPANT, INSERT 'your experience']** with the 2008 GreenBlocks Pilot program in your decision to take the additional energy efficiency action(s) at the other home(s)?

- 4 Very influential
- 3 Somewhat influential
- 2 Slightly influential
- 1 Not at all influential
- 8 **DO NOT READ:** Don't know

Feedback and Recommendations **BOTH PARTICIPANTS AND NON PARTICIPANTS**

Q30. What are the best ways to inform you about energy efficiency programs? **(READ LIST, SELECT ALL THAT APPLY).**

**[ROTATE]**

- 1 A representative
- 2 Website
- 3 Seminar
- 4 Utility bill
- 5 Newsletter
- 6 Contractor
- 7 Architect/engineer
- 8 Equipment vendor
- 9 Journal/magazine (specify)\_\_\_\_\_
- 10 Flyer/brochure
- 11 Direct mail
- 12 Newspaper (specify)\_\_\_\_\_
- 13 TV
- 14 Radio
- 15 Outdoor advertising (e.g. billboards, buses)
- 97 Other (specify)\_\_\_\_\_
- 98 **DO NOT READ: Don't know**

Q31. What are the barriers for you to participate in a similar program in the future? **(ASK AS OPEN END.)**

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Q32. Should a similar GreenBlocks pilot program be offered again in the future, what features would you like to see included in a future pilot program?

**(DO NOT READ LIST, SELECT ALL THAT APPLY).**

- 1 Higher incentives
- 2 More measures
- 3 Greater publicity
- 4 No recommendations
- 97 Other (specify)\_\_\_\_\_
- 98 **Don't know**
- 99 Refused



## Demographics

I just have a few more general questions about your primary home.

**D1. What is the home's approximate square footage? (DO NOT READ LIST).**

- 1 Less than 1,000 sq ft
- 2 1,001-2,500 sq ft
- 3 2,501-5,000 sq ft
- 4 5,001-7,500 sq ft
- 5 More than 7,500 ft
- 8 **DO NOT READ: Don't know**

**D2. How old is your home? (DO NOT READ LIST).**

- 1 Less than 2 years
- 2 2-5 years
- 3 5-10 years
- 4 10-20 years
- 5 20-30 years
- 6 30 or more years
- 8 **DO NOT READ: Don't know**

**D3. Including yourself, how many people, live at your home year-round (full-time)? (READ LIST IF NECESSARY, ENTER ONE RESPONSE ONLY)**

- 1 1
- 2 2
- 3 3
- 4 4
- 5 5
- 6 Over 5
- 8 **Don't know**

**D4. Can I please have your name for validation purposes?**

Name: \_\_\_\_\_

## Closings

**Complete:** Thank you for your time; those are all the questions I have for you. Have a great day/night.

**Terminate:** I'm sorry, but we are trying to speak with people who fit a certain criteria. But we do appreciate your willingness to help us today.

# NorthWestern<sup>™</sup> Energy

## 2011 DSM/USB Communications Plan

NorthWestern Energy offers a broad selection of energy efficiency, renewable energy, and low income programs and services funded by customers through electric and natural gas supply rates and the electric and natural gas Universal System Benefits Charges (USBC). The energy savings resulting from these programs are a key piece of NorthWestern Energy's supply portfolio.

The electric and natural gas resource acquisition targets for these programs are defined in the set forth in the supply portfolio plans filed with the Montana Public Service Commission (MPSC).

Program offerings and participation have been accelerated over the past several years. Findings of the electric DSM assessment and end use survey have been integrated into program offerings and this plan.

Compact Fluorescent Lights (CFLs) continue to contribute a significant portion of the electric savings in recent years. Savings from the commercial and industrial markets have not grown as rapidly.

A comprehensive independent evaluation of all NorthWestern Energy demand side management (DSM) and USB programs was completed in 2007. The evaluation concluded that NorthWestern Energy's programs deliver cost effective natural gas and electric savings, are well-run and follow many best practices. The evaluation provided specific recommendations for program changes, some of which relate to communication, education, and marketing.

Nationally and locally, attention to energy efficiency, renewable energy, and “green” or sustainable has continued.

The DSM targets and the heightened awareness of “green” help frame the need and opportunities set forth in this communication plan. The plan is intended to be an active, adaptive product--one that can be filed with the MPSC as part of the implementation strategies to achieve the DSM targets and can be modified to meet current needs and opportunities.

The plan is implemented consistent with NorthWestern Energy graphics and image standards and strategies.

When referring to DSM in this plan, both DSM activities funded with supply rates and Universal System Benefits (USB) activities funded with the USBC are included. Generally, DSM refers to both activities but where appropriate, USB has been specifically broken out.

The plan refines and sustains residential, low income, and renewable generation communications strategies and substantially increases the communication of the commercial/industrial programs. The following table lists the programs by customer sector addressed in the plan.

**Table 1: DSM Programs**

EFFICIENCY PLUS (E+) PROGRAM		
ELECTRIC PROGRAMS	NATURAL GAS PROGRAMS	CUSTOMER SECTOR
E+ Audit for the Home	E+ Audit for the Home	Residential
E+ Residential Lighting		Residential
E+ Residential Rebates Program— Existing Homes	E+ Residential Rebates Program— Existing Homes	Residential
E+ Residential New Homes Program	E+ Residential New Homes Program	Residential
E+ Free Weatherization/Fuel Switch	E+ Free Weatherization	Residential
E+ Appraisal for Small Business		Commercial
E+ Commercial Lighting Rebate		Commercial/Industrial
E+ Business Partners Electric	E+ Business Partners Natural Gas	Commercial/Industrial
E+ Business Partners –Irrigation		Agriculture
E+ Commercial Savings-New Construction	E+ Commercial Savings-New Construction	Commercial /Industrial
E+ Commercial Savings-Existing Facilities	E+ Commercial Savings-Existing Facilities	Commercial /Industrial
E+ Motor Rebate		Commercial/Industrial /Agriculture
E+ Renewable Generation		All
E+ Green Power		All
Northwest Energy Efficiency Alliance		All
80 Plus Computers for Business		Commercial/Industrial

The DSM programs are not offered to Large USB Electric Choice customers or to Natural Gas Choice customers so these customers are not targeted in the plan.

The DSM Communications Plan is intended as a guide to identify and direct the communications strategies associated with the implementation of NorthWestern Energy’s DSM programs. The plan will be modified as needed to suit changing opportunities and conditions.

The 2009 American Recovery and Reinvestment Act (ARRA) has resulted in some new partnership opportunities for qualifying energy efficiency and renewable projects which are included.

## GOAL

Effectively and efficiently market DSM programs to achieve defensible natural gas and electric resource acquisition results for the supply portfolios through NorthWestern Energy employees and its program contractors, and by generating increased public awareness of the programs and the opportunity to save energy.

## OBJECTIVES

- Engage trade ally community and public entities to incorporate energy efficiency in their messages and marketing
- Engage customers to demand energy efficiency from service providers
- Build participation with emphasis on commercial/industrial DSM sector projects

## AUDIENCES

- NorthWestern Energy employees
- NorthWestern Energy program contractors and partner contractors
- Commercial and industrial sector customers (electric and natural gas supply)
- Residential customers (gas and electric supply)
- Trade Allies: electrical vendors—i.e. Crescent Electric, Grainger, WesCo, CED; service providers—electricians, refrigeration, HVAC, motors, architects, engineers, insulation; distributors—lighting, equipment; retailers—of CFLs, building supplies, appliances, air sealing, and water

measures; building contractors and general contractors; HVAC and insulation contractors; trade associations—i.e. AIA, ASHRAE, Montana Hospital Association, Innkeepers.

- Public officials and government departments
- Media—mass and trades
- Related organizations—Green Build, community climate change organizations

#### IMPLEMENTATION STRATEGIES

NorthWestern Energy will engage its employees, program implementation representatives, and program/partner contractors to utilize existing and new methods and tools to cultivate greater customer participation in the DSM programs.

Implementation tactics are targeted by customer sector and directed at defined audiences in most cases. Cross-marketing of programs within the customer sector is incorporated as appropriate. A general calendar of implementation tactics by quarter, sector, program and audience is provided.

## TACTICS

### Residential Programs

- Update program materials/resources (Web and Brochures)
- Coordinate display materials for Home Shows (Spring Shows run February – May; selected Fall Shows run September-October)
- Continue existing natural gas program campaign
- Develop updated program-at-a-glance summary
- CFL instant coupon offerings to increase installation of CFLs, incorporating the educational messages (4L's) and contest into various residential lighting messages for lighting activities (direct mail, tradeshow, events)
- Target direct mail and limited media for E+ Audits for the Home with cross marketing of Energy Appraisal
- Continue contacts by program contractors/community relations managers (CRMs)
- Update Customer Service Representative (CSR) training for new CSRs
- Messages in Energy Connections and news releases regarding saving energy.
- Participate in local events as appropriate
- Contact various program trade allies with updates and solicitations of new trade allies (Preferred Contractors, lighting retailers, homebuilding associations)
- Complete “Green Blocks” participation in targeted communities
- Target participation in Fall Weatherization events

### Commercial/Industrial Programs

- Update existing program materials/resources (web and brochures) to incorporate program additions and changes.
- Develop new materials (brochure copy, case studies, feature articles, etc.) for expanded Business Partners (natural gas and electric), lighting and

motors programs, commercial natural gas rebate programs, new commercial electric rebate program offerings.

- Execute new project case studies on commercial/industrial customers
- Integrate commercial program messages into tradeshow displays
- Continue customer and trade ally contacts by program/partner contractors and CRMs
- Participate in local events where appropriate
- Develop timeline and strategy for the energy efficiency conference for commercial customers and energy service providers
- Targeted outreach for customer/trade ally training and partnership opportunities
- Review and update trade ally databases
- Update program-at-a-glance summary
- Update web resources with program changes and additions

METHODS/TOOLS

**Residential Sector**

**Residential family of Program Brochures** that describe individual program and cross-market same sector programs and highlight resources for more information directing customers to website or program contact phone numbers. GENERAL AUDIENCES

**Web/interactive media tools**— Efficiency Plus (E+) web section of [www.northwesternenergy.com](http://www.northwesternenergy.com), Facebook, Search Engine Marketing (SEM), , microsites, such as [www.brightfuturechallenge.com](http://www.brightfuturechallenge.com) and [www.montanahomeenergy.com](http://www.montanahomeenergy.com). GENERAL AUDIENCES

**Internal Communications** throughout the year such as FYI, TEAM, iConnect, emails, employee training sessions, etc. to inform all or targeted groups of employees of programs, featured projects/promotions, training, and events. EMPLOYEES

**Billing messages** in the message box of the NorthWestern Energy billing statement and in Energy Connections to encourage program participation. RESIDENTIAL CUSTOMERS

**Direct Mail** to Trade Allies and targeted customers of individual program offering and related trainings along with cross-marketing of other programs. TARGETED FOR INDIVIDUAL MAILING

**One-on-one** by program representatives, program contractors, CRMs, CSRs – communicate residential program offerings based upon opportunity and direct to appropriate resources. May include interactions during: E+ Audit for the Home,

tradeshaw discussions, customer care calls, or normal company interactions with the customer. OPPORTUNITY DRIVEN

**One-to-Many** through speakers' bureau, service organization presentations by program contractors and CRMs to increase awareness of programs and opportunities to save energy. COMPANY OR CUSTOMER INITIATED

**Home Improvement Shows, Farmers' Markets, Parade of Homes, community events** to reach targeted audiences with information about programs and opportunities and, as appropriate, distribute CFLs. COMPANY OR ORGANIZATION INITIATED

**Trade association events, publications, and websites** to target presentations, displays and messages about opportunities for customers to save energy and the programs that NorthWestern Energy offers. TARGETED TRADE ALLIES OR CUSTOMER GROUP

**NorthWestern Energy Fall Home Energy Events** to distribute starter weatherization kits, to educate residential customers on low cost ways to save energy, and to inform residential customers of the various programs and services offered by NorthWestern Energy. CFLs are also provided to residential electric customers who have not received free CFLs at a distribution event earlier in the year. TARGETED RESIDENTIAL CUSTOMERS THAT HAVE NOT PARTICIPATED IN THE PAST

**Targeted media advertising** tied to special campaigns, programs or events. TARGETED TO ELIGIBLE RESIDENTIAL AUDIENCE

**Earned media** feature stories on projects and opportunities in trade or mass media. GENERAL AUDIENCE WITH EMPHASIS ON ELIGIBLE AUDIENCE.

**Customer contests** provide customer awards tied to energy efficient products such as most efficient ENERGY STAR televisions for customer care contests.

**Other Resources** Coordinate activities and messages with the American Recovery and Reinvestment Act of 2009 (ARRA) initiatives and Montana Tax Credits where possible—i.e. Missoula Green Blocks.

### **Commercial/Industrial Sector**

**Commercial/Industrial family of Program Brochures** that describe individual program and cross-market same sector programs and highlight resources for more information directing customers to website or program contact phone numbers. GENERAL AUDIENCES

**Web/interactive media tools**— Efficiency Plus (E+) web section of [www.northwesternenergy.com](http://www.northwesternenergy.com), SEM, micro sites as appropriate. GENERAL AUDIENCES

**Internal Communications** throughout the year such as FYI, TEAM, TeamLink, e-mails, CSR trainings, etc. to inform all or targeted groups of employees of programs, featured projects/promotions, training, and events. EMPLOYEES AND PROGRAM PARTNERS AS APPROPRIATE

**Case Studies** of E+ Business Partners and substantial E+ Commercial Lighting Rebate Program projects to demonstrate various types of customer participation and customer benefits. TARGETED TRADE ALLIES AND KEY CONTACTS AND TARGETED CUSTOMERS

**Billing Messages** in the message box of the NorthWestern Energy billing statement and in Energy Connections to encourage program participation  
COMMERCIAL/INDUSTRIAL CUSTOMERS

**Direct Mail** to trade allies and targeted customers of individual program offering and related trainings along with cross-marketing of other programs. TARGETED FOR INDIVIDUAL MAILING

**Customer Care E-Newsletter** to key customers will include information about programs, training, and case studies throughout the year

**One-on-one** by program representatives, program contractors, CRMs, and CSRs – communicate commercial and industrial program offerings based upon opportunity and direct to appropriate resources. May include interactions during: E+ Energy Appraisal, informal facility assessment, project completion review, cold calls, trade ally visits, or normal company interactions with the customer.  
OPPORTUNITY DRIVEN

**One-to-Many** through speakers' bureau, service organization presentations by program contractors and CRMs to increase awareness of programs and opportunities to save energy. COMPANY OR CUSTOMER INITIATED

**Vendor breakfast/Brown Bags/After Hour events/Community Events** to reach targeted audiences with information about programs and opportunities.  
COMPANY OR ORGANIZATION INITIATED

**Commercial Conference on Energy Efficiency** partner with others to offer conference to commercial customers, trade allies, and service providers to provide training and education conference in conjunction with the Montana BetterBricks Awards.

**Trade Association Events, publications, and websites** to target presentations, displays and messages about opportunities for customers to save energy and the programs that NorthWestern Energy offers. Northwestern Energy Lighting Trade Ally Network is an example of an activity that provides technical training and cultivates trade ally participation in programs. TARGETED TRADE ALLY OR CUSTOMER GROUP

**Targeted media advertising** tied to events, projects, or programs. Initiating E+ Commercial Lighting Rebate program advertising through television and radio to promote lighting as a universal way for businesses to save energy. GENERAL AUDIENCE WITH EMPHASIS ON COMMERCIAL LIGHTING OR OTHER SPECIFIC PROJECT-RELATED AUDIENCES

**Earned media** feature stories on projects and opportunities in trade or mass media. GENERAL AUDIENCE WITH EMPHASIS ON SPECIFIC PROJECT-RELATED AUDIENCES

**Supporting commercial program contractors** with consistent marketing materials to describe working relationship with NorthWestern Energy. GENERAL COMMERCIAL CUSTOMERS AND TRADE ALLIES AS IDENTIFIED BY PROGRAM CONTRACTORS.

**Other Resources** Coordinate activities and messages with the American Recovery and Reinvestment Act of 2009 (ARRA) initiatives and Montana Tax Credits where possible—i.e. Tri-County Small Business Program and International Code Council (ICC) training. .

NorthWestern Energy has defined an overall budget for marketing and communication for the electric and natural gas DSM programs of \$1M. This

includes mass media development and placement as well as all other marketing expenses.

## MEASUREMENT

Measurement of this communications plan will be achieved through program participation in comparison to the resource acquisition goals set forth in the supply plans filed with the MPSC.

*The DSM targets are based on a June 1 – May 31 year. USB programs operate on Calendar year.*

Other supporting measurement will gathered through existing customer and employee survey tools, tracking of participation in comparison to past performance.

Attached is a calendar for 2011 which will be modified based upon opportunities and needs.

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
2	R0x	<b>Residential</b>												
3	R0x	<b>Tips--electric</b>	Spot media and Campaigns			x		Residential electric customers	Act to save electricity; check out programs	Television; radio		Tips	Brochure	
4	R0x	<b>Tips--Natural Gas</b>	Spot media and Campaigns				x	Residential natural gas customers	Act to save natural gas; check out programs	Television; radio		Tips	Brochure	
5	R1x	<b>Residential Audits</b>			On-going	x	x	Residential space or water heating customers whose home has not previously been audit (home 5 yrs old or older), Residential electric baseload customers	Call to Action--Schedule an Audit; follow-up on recommendations	2 Xs /Year Energy Connections--more as needed; news releases as needed; bill statement messages; direct mail to targeted customers	CSR, CRM reminders of qualifications	<i>On-going description, contact, qualifications</i>	Tradeshaw and event handouts/sign-ups/display/brochures of all residential programs/resources in audit packets	
6	R1x	Outreach	Targeted Direct Mail	Jan	Jan Feb more as needed		x	Residential natural gas customers who've not previously had an audit	Call to Action--Schedule an Audit; follow-up on recommendations	Direct Mail/ reinforcing press release	E-mail notice of mailing		Direct Mail	
7	R1x	Electric Baseload	Targeted Direct Mail		On-going	x		Residential electric baseload customers	Call to Action--Complete Energy Usage survey; follow-up on recommendations	Direct Mail			Direct Mail Non-NWE production	
8	R2x	<b>E+ Home Lighting -- CFLs</b>	<i>Campaign Focus on Education--opportunities to save electricity</i>		On-going	x		Residential electric customers	Call to Action--Install CFLs in High Use Locations (Educate--4L's)	Multiple Xs Energy Connections; Direct Mail, Radio, Newspaper, billboard, micro-web site, web advertising, events, Spot TV		<i>Mail-in offer, education messages, reinforce special offers/events, list participating retailers</i>	<i>Tradeshaw Display/Retailer support &amp; POP</i>	
9		<b>Bright Future Challenge contest Wrap</b>												
10	R2x	Mail-in Rebate Offer	Web, Audits, Distribution Events, Energy Connections		On-going	x		Residential electric customers	Call to Action--Install CFLs in High Use Locations (Educate--4L's) offer up to \$2 off for up to 15 CFLs			on-line application	Brochure	
11	R2a	Spring Trade Shows a)	CFL distribution (Missoula, Billings, Helena, Great Falls, Butte); Displays; promote all appropriate programs	Feb	Feb - May	x		Residential electric customers	Call to Action--Install CFLs in High Use Locations (Educate--4L's)	Spot Newspaper/TV	local market e-mail	List in events/training/workshops?	Canvas Bags, Brochures/Signage	

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
12	R2x	E+ Home Lighting -- CFLs Spring Instant Coupon Offer	Direct Mail to residential electric customers for up to \$2 off on CFLs from Participating Retailers	Apr	Apr 22-Jun 13	x		Residential electric customers	Call to Action--Buy from participating retailers. Ltd time offer. Install CFLs in High Use Locations (Educate--4L's)	Multiple Xs Energy Connections; Direct Mail, Radio, Newspaper, billboard, micro-web site, web advertising, events, Spot TV, Retailer POP/Education	e-mail of mailing and qualifications	Reference, list of participating retailers	see media	
13	R2x	Farmers' Market	CFL Distribution Events	Jul	Jul- Aug	x		Residential electric customers who've not rec'd Free CFLs at event earlier in year	Call to Action--Install CFLs in High Use Locations (Educate--4L's)	Newspaper, spot Radio	local market e-mail	List in events/training/work shops?		
14	R2a	Fall Trade Shows a)	Displays, all programs, CFL distribution (Missoula, Billings, Bozeman?, Helena?, Great Falls, Butte)	Sep	Sep - Oct	x		Residential electric customers who've not rec'd Free CFLs at event earlier in year	Call to Action--Install CFLs in High Use Locations (Educate--4L's)	Spot Newspaper	local market e-mail	List in events/training/work shops?	Canvas Bags, Brochures/Signage	
15	R2x	Regional Buy downs	Review POP/agreements for Regional efforts	Jan	Jan- Dec	x		Residential electric customers	Call to Action for specialty CFLs	POP/Retailer ed		Info on specialty CFLs and retailers		
16	R2x	E+ Home Lighting -- CFLs Fall Instant Coupon Offer	Direct Mail to residential electric customers for up to \$2 off on CFLs from Participating Retailers	Oct	Tentative Oct 1 - Nov 15	x		Residential electric customers	Call to Action--Buy from participating retailers. Ltd time offer. Install CFLs in High Use Locations (Educate--4L's)	Multiple Xs Energy Connections; Direct Mail, Radio, Newspaper, billboard, micro-web site, web advertising, events, Spot TV, Retailer POP/Education	e-mail of mailing and qualifications	Reference, list of participating retailers	see media	
17	R2b	Weatherization Events b)	CFL Distribution Events in conjunction with Gas/Customer Appreciation	Sep	Sep-Dec 15	x		Residential electric customers who've not rec'd Free CFLs at event earlier in year	Call to Action--Install CFLs in High Use Locations (Educate--4L's)	Direct Mail, Newspaper, Radio, bill insert, participating partners recognition, news release, mass and locals	e-mail of mailing and qualifications, schedule, request for help, I-connect, local e-mails at time of events	Schedule, event descriptions, how-to-info	Canvas Bags, how-to-DVDs, Brochures/Signage	

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
18	R3x	<b>E+ Gas Savings for the Home</b>	Promote Rebates for homes with natural gas space or water heat		On-going		x	Residential natural gas space and water heating customers (New or Existing Homes)	Call to Action--Install qualifying measures for rebates (Insulation, Programmable Thermostats, High Efficiency heating or water Equipment replacements, heating system retrofit upgrades)	2 Xs /Year Energy Connections--more as needed		Description of Rebate offers, forms, preferred contractor lists (Heating Contractors/Insulation Contractors)	General Brochure, description, application, preferred installers /Display materials / supporting Preferred Contractor advertising	
19	R3x	Gas Savings Mass Media Campaign 1	Mass Media targeted at residential natural gas customers	Jan	Q 1-2		x	Residential natural gas space or water heating customers	Call to Action--Install qualifying measures for rebates	TV, Billboard, Radio, Newspaper	e-mail of campaign to CSRs, CRMs, key contractors	Call to Action	General Brochure, description, application, preferred installers /Display materials / supporting Preferred Contractor advertising	
20	R3x	Gas Savings Mass Media Campaign 2	Expanded messages?	Sep	Q 3-4		x	Residential natural gas space or water heating customers	Call to Action--Install qualifying measures for rebates	TV, Billboard, Radio, Newspaper; direct mail?	e-mail of campaign to CSRs, CRMs, key contractors	Call to Action	General Brochure, description, application, preferred installers /Display materials / supporting Preferred Contractor advertising	
21	R3b	Weatherization Events b)	Distribute Air Sealing Measures to qualifying natural gas residential customers, educate on programs	Sep	Sep-Dec 15		x	Residential natural gas space or water heating customers--qualifications around past participation	Call to Action--Receive and Install air-sealing measures; learn about programs and saving energy	Direct Mail, Newspaper, Radio, bill insert, participating partners recognition, news release, mass and locals	e-mail of mailing and qualifications, schedule, request for help, I-connect, local e-mails at time of events;	Schedule, event descriptions, how-to-info	Canvas Bags, how-to-DVDs, Brochures/Signage	
22	R3a	Spring Tradeshows a)	Program Education in Natural Gas markets	Feb	Feb- May		x	Residential natural gas space or water heating customers	Call to Action--Install qualifying measures for rebates	spot newspaper/TV		Call to Action	Displays/brochures program materials	
23	R3a	Fall Tradeshows a)	Program Education in Natural Gas markets	Sep	Sep- Oct		x	Residential natural gas space or water heating customers	Call to Action--Install qualifying measures for rebates	Spot newspaper	local market e-mail	Call to Action	Displays/brochures program materials	
24	R3x	Green Blocks--Missoula/Helena	Promote natural gas energy efficiency programs in existing homes, partners with local allies, includes installation of qualifying measures,	Jul	Throughout yr		x	Residential natural gas space or water heating customers in existing homes; targeted communities; CFLs installed as appropriate	Local partners coordinate participation; NWE provides information in advance; follow-up after event	as needed	CSR and local market e-mail	reports as appropriate	Educational brochures; signage	

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement-ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
25	R0x	Special Events--Dust to Dazzle, CSR Training, Bozeman Historic Preservation	Promote natural gas energy efficiency programs in existing homes, partners with local allies,		As needed	x	x	Residential natural gas space or water heating customers in existing homes; targeted Events	Call to Action-- Participate in programs; prioritize measures; Install qualifying measures for rebates;	Spot newspaper; news releases as appropriate	CSR and local e-mails as appropriate	Schedule on site	Educational brochures; signage; displays; presentations	
26	R4x	<b>E+ New Homes</b>	Promote energy efficiency in new homes, rebates for qualifying measures, rebates for Energy Star manufactured homes; Training/promote Northwest Energy Star Homes/builders; new MT Code			x	x	Residential customers building new homes		Energy Connections	E-mail of program qualifications and links; Training	Rebate forms, link to all Energy Star builders, Energy Star support; training events	Brochure	
27	R4x	E+ New Homes Natural Gas	Promote natural gas energy efficiency in new homes, rebates for qualifying measures, training/promote Northwest Energy Star Homes; new MT Code	Sep	Sep		x	Residential natural gas customers building new homes	Call to Action--install high efficiency heating or water heating measures; Northwest Energy Star manufactured homes	Special Publication, Newspaper at Parade of Homes		Schedule/homes, Rebate forms, link to all Energy Star builders, Energy Star support	Brochures/Signage as needed	
28	R4x	E+ New Homes Electric	Rebates for CFLs and Fixtures or Northwest Energy Star electrically heated manufactured homes, and information about Northwest Energy Star Homes; Train/promote NW Energy Star Homes/Builders; new MT Code		Apr Sep	x		Residential Electric Customers building new homes	Call to Action--Include ENERGY STAR lighting in new homes; Northwest Energy Star homes/builders	Special Publication, Newspaper at Parade of Homes		Schedule/homes, Rebate forms, link to all Energy Star builders, Energy Star support	Brochures/Signage as needed	
29	R4x	<b>E+ Residential Electric Savings</b>	Promote energy efficiency and fuel switching in homes with electric space or water heat		as needed	x		Residential Electric space or water heat customers in existing homes	Call to Action--Install qualifying efficiency measures or switch to natural gas (NWE or other)	Targeted direct mail; trade ally		Description of Rebate offers, forms, preferred contractor lists (Heating Contractors/Insulation Contractors)	forms/application	
30	R5	<b>MT State Appliance Rebate Program</b>	Promote State Appliance Rebate Offer and Energy Star Appliances		As needed	x		Residential Customers buying new Energy Star Appliances	Call to Action--State program and educate on Energy Star Appliances	Newspaper, Web		Description of State Offer/refer to State website		

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
31	R6x	<b>E+ Free Weatherization</b>	Supportive advertising for low income energy assistance--	Sep	Sep - Apr as needed	x	x	Income Qualified space or water heating customers for free Audit and installation of qualifying measures (LIEAP qualified) also receive NWE low income discount; may qualify for Energy Share	Call to Action--Apply for LIEAP as soon as possible to receive LIEAP and heating season discounts; and potentially qualify for free weatherization. Income Guidelines have been relaxed.	Energy Connections; Newspaper; radio , September? news release on NWE programs & funding		Description of program/discount and refer customers to Human Resource Councils to apply.	energy efficiency education materials	
32	R7x	<b>Low Income Appliance Replacement (Refrigerator)</b>	Target LIEAP customers whose homes have been previously Weatherized with Energy Star Refrigerator replacements		Feb - Nov	x		LIEAP Qualified electric customers whose homes have been previously weatherized and who have old, inefficient refrigerators;	Call to Action--respond to survey to replace old, inefficient refrigerators	Direct Mail, Customer Education for on-site, information about programs/recycling included	e-mail to CSRs	Updates on actions	Energy efficiency/recycling/ assistance education materials	
33														
34	C0	<b>Commercial *</b>											PowerPoint presentation for internal and key contractor use: Messages for Commercial Cust/Trade Allies	
35	C1	<b>E+ Commercial Lighting Rebates</b>	Promote rebates energy efficient lighting in commercial facilities		on-going	x		Commercial and industrial electric customers and the trade allies who serve them	Call to Action--Install high efficiency lighting products	Special Publications (display ads or articles); Case Studies; Lighting trade ally network; Association/Vendor Events; targeted direct mail; business Solutions E-newsletter; solicit features	e-mail to CRMs and key staff	Description of Rebate offers, forms, Lighting Trade Ally lists, case studies; schedule of training events; links to other resources as appropriate	Brochure/Case Studies/Display Signage	

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
36	C1	<b>NWE Lighting Trade Ally Network</b>	Engage Lighting Trade Allies as Partners for program success		on-going	x		Lighting Trade Allies and key facility operators	Call to Action--technical training to improve ability to design, sell, install commercial/industrial energy efficient lighting equipment and to promote NWE Lighting Rebate Program	Qtrly Newsletters, e-mail Direct Mail, web	e-mail to CRMs and key staff	Schedule of training; Registration information; session description; "Qualified" List of Trade Ally Network Members for customers	Training invitation, Program brochure, Newsletter	
37	C2	<b>E+ Energy Appraisal for Business</b>	Energy audits for commercial facilities under 300kW with emphasis on electric savings		on-going	x		Electric Commercial facilities under 300 kW	Call to Action--Schedule Appraisal and follow-up on recommendations	Energy Connections; Business Solutions E-newsletter; Event Displays; presentations		<b>Description of offer and contact information</b>	<b>Brochure</b>	
38	C3	<b>E+ Business Partners</b>	Promote custom incentives for electric or natural gas cost effective energy efficiency measures in new or existing commercial/industrial facilities		on-going May- Jun & Fall emphasis	x	x	Commercial and industrial electric or natural gas customers and the trade allies who serve them	Call to Action--Install energy saving measures	Special Publications (display ads or articles); Case Studies; trade ally events; Association/Vendor Events; targeted direct mail; Business Solutions E-Newsletter, solicit feature articles		Description of program, application, case studies; Schedule of training events; links to other resources as appropriate	Brochure/Case Studies/Display Signage	
39	C3a	<b>E+ Business Partners Natural Gas Measures</b>	Introduce new commercial natural gas offering custom incentives for new or existing facilities		May- Jun & Fall emphasis		x	Commercial and industrial natural gas customers and the trade allies who serve them	Call to Action--Install energy saving measures; explore offer	Special Publications (display ads or articles); Case Studies as they become available; trade ally events; Association/Vendor Events; targeted direct mail; Business Solutions E-Newsletter		Description of program, application, case studies as become available; Schedule of training events; links to other resources as appropriate	Brochure/Case Studies/Display Signage; presentations	

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
40	C3b	<b>E+ Natural Gas Savings Rebates for Commercial Customers -- Existing Buildings</b>	Promote rebates for qualifying energy efficient equipment and improvements in existing commercial facilities		May-June & Fall emphasis		x	Commercial and industrial natural gas customers and the trade allies who serve them	Call to Action--Install energy saving measures for rebates	Special Publications (display ads or articles); Case Studies as they become available; trade ally events; Association/Vendor Events; targeted direct mail; Business Solutions E-Newsletter, solicit feature articles		Description of program, application, case studies as become available; Schedule of training events; links to other resources as appropriate	Brochure/Case Studies/Display Signage; presentations	
41	C4a	<b>E+ Natural Gas Savings Rebates for Commercial Customers--New Construction</b>	Promote rebates for qualifying energy efficient equipment and improvements in new construction commercial facilities		May-June & (Fall?)		x	Commercial and industrial natural gas customers and the trade allies who serve them	Call to Action--Install energy saving measures for rebates	Special Publications (display ads or articles); Case Studies as they become available; trade ally events; Association/Vendor Events; targeted direct mail; Business Solutions E-Newsletter		Description of program, application, case studies as become available; Schedule of training events; links to other resources as appropriate	Brochure/Case Studies/Display Signage presentations	
42	C4b	<b>E+ Commercial Gas Program</b>	Engage natural gas Trade Allies as Partners for program success		On-going		x	Commercial and industrial natural gas trade allies and key facility operators	Call to Action--Promote NWE natural gas commercial rebate programs to improve trade allies ability to design, sell, install commercial/industrial qualifying energy efficient natural gas measures.	Multiple site Breakfast/Brown Bag. Direct Mail; e-mail; trade ally newsletters		Schedule of sessions; registration information; preferred contractors as available	Invitation to session; presentation; forms/ applications	
43	C5a	<b>E+ Motor Rebates</b>	Promote rebates for NEMA Premium motors in commercial/industrial facilities		as needed		x	Commercial and industrial electric customers with motors and the trade allies who serve them	Call to Action--Choose NEMA Premium motors when buying new motors.	Special Publications (display ads or articles); Case Studies as they become available; trade ally events; Association/Vendor Events; targeted direct mail; Business Solutions E-Newsletter		Description of program, application, case studies; Schedule of training events; links to other resources as appropriate	Brochure/Case Studies/Display Signage; presentations	

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	
1														Jan
44	C5b	<b>E+ Green Motor Rewind Rebates</b>	Promote rebates for motors rewound to Green Motors Standards in commercial/industrial facilities		as needed	x		Commercial and industrial electric customers with motors and the trade allies who serve them	Call to Action-- Demand GREEN motor standards when having motors rewound	Special Publications (display ads or articles); Case Studies as they become available; trade ally events; Association/Vendor Events; targeted direct mail; Business Solutions E-Newsletter		Description of program, application, case studies as become available; Schedule of training events; links to other resources as appropriate	Brochure/Case Studies/Display Signage; presentations	
45	C5	<b>Motor Training</b>	Training/education/ CEU		May (Fall?)	x		Commercial and industrial electric customers with motors and the trade allies who serve them	Education on value of effective motor management techniques; information on NWE programs	Direct Mail; e-mail; trade ally newsletters	e-mail to CSRs, CRMs and key staff	Schedule of training events; course description; registration information	Direct Mail flyer and PDF of same; training manuals	
46	C6	<b>E+ Irrigation</b>	Promote custom incentives for cost effective electric irrigation measures		Apr Sept	x		Irrigation customers	Call to Action--submit proposal for custom incentives for cost effective electric irrigation system improvements	Bi-annual mailing to irrigation customers through customer care	e-mail to CSRs, CRMs and key staff	Description of program, application,	Direct mail and Include in Business Partner brochure	
47	C7	<b>Lighting Design Lab</b>	Promote energy efficient lighting design through training/education (CEUs)		Apr Sep	x		Architects, Engineers, interested customers with lighting design and installation responsibilities	Improve energy efficiency of lighting with better knowledge; use NWE Rebates	Direct Mail; e-mail; trade ally newsletters;	e-mail to CSRs, CRMs and key staff	Schedule of training events; course description; registration information		
48	C8	<b>Commercial Conference on Energy/BetterBricks Awards</b>	Promote energy efficiency through conference and BetterBricks Awards by recognizing individuals who are energy efficiency champions for commercial facilities Nominations in '09 Awards '10		Q-2	x	x	Architects, Engineers, facility managers, Public Buildings, others with commitment in developing/operating high performance commercial facilities	Encourage energy efficiency and how it can improve bottom line to businesses	Direct Mail, trade ally newsletters, e-mail, event booths	e-mail to CRMs and key staff	Schedule/Registration, Nomination process; BetterBricks Winners winners		

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	<b>Campaign/initiative</b>	<b>MO</b>	<b>Implement-ation Dates</b>	<b>E</b>	<b>G</b>	<b>Audience</b>	<b>Message</b>	<b>Media</b>	<b>Internal (includes employees and key contractors)</b>	<b>Web</b>	<b>Hard Materials</b>	
1														Jan
49	C9	<b>Building Operator Certification Training</b>	Training/education/certification for facility managers; emphasis on schools, public buildings, non-profit hospitals		Apr maybe Fall as well	x	x	Facility managers with interest in reducing energy costs through operations and maintenance and incorporating energy efficiency in purchases and practices	Call to Action--enroll; scholarships for tuition and travel for public schools, public buildings, and non-profit hospitals	Direct Mail, trade ally newsletters, e-mail, event booths	e-mail to CSRs, CRMs and key staff	Schedule of training events; course description; registration information	Direct Mail flyer and PDF of same; training manuals	
50	C10	<b>Tri--county Commercial Project</b>	Promote energy efficiency in existing buildings in partnership with L &C, Broadwater, Jefferson Counties	Mar	3 yr project	x	x	Target small businesses to increase adoption of energy efficiency improvements	Call to Action-- Appraisal, recommendations, standard rebates (Fed. Grants)	Direct contact with targeted businesses			Description for targeted businesses	
51	C11	<b>New E+ Commercial Electric Rebates</b>	Promote prescriptive rebates for expanded commercial /industrial/irrigation energy efficiency opportunities in existing facilities and new construction			x		Promote opportunities to commercial/industrial/irrigation customers -- Target audiences as appropriate	Call to Action-- install qualifying measures, add to bottom line	Mix	e-mail to CSRs, CRMs and key staff; Team?	Description of program; Add Program contractors; on-line forms; list of events/training;resources	Mix	
52		<b>Renewables</b>												
53	G1	<b>E+ Renewable Energy</b>	Support education and development of small scale renewable generation			x		Residential and commercial electric customers and the renewable trade allies who support renewable generation	Educate electric customers on small scale renewables and direct them to resources to develop	Special NWE publications; ltd print ads; energy connections; montanagreenpower.com; trade allies & Associations		Description of program; NWE publications; Schedule of training events; List of events where NWE is present with display or speakers; links to other resources as appropriate	NWE publications and Brochures; Signage & presentations	
54	G2	<b>E+ Green Power **</b>	Offer premium service option of green power product to electric customers		on-going	x		Residential and commercial electric customers who support renewable generation	Call to Action-- Opportunity to support renewable generation through premium on electric bill	Energy Connections; Public Radio Sponsorships; other events or sites as appropriate and available		Description of program; on-line enrollment	Brochure; signage	
55														

	A	B	C	D	E	F	G	H	I	J	K	L	M	P
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Campaign/initiative	MO	Implement- ation Dates	E	G	Audience	Message	Media	Internal (includes employees and key contractors)	Web	Hard Materials	Jan
56	O	<b>Northwest Energy Efficiency Alliance</b>	Promote		on-going	x		Residential, Commercial, Industrial, and agriculture customers and the trade allies and infrastructure that serve them	Varies with initiative	NWE supporting materials to NEEA messages	AS APPROPRIATE	Training Information; links to other resources	Varies with initiative	
57														
58	*Large Universal System Benefits Choice (USBC) Customers are not eligible for electric programs. Natural gas commercial programs are not offered to natural gas Choice customers.													
59														
60														
61	**E+ Green is not a DSM program but is part of NWE's renewable offerings.													

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	R0x	<b>Residential</b>											
3	R0x	<b>Tips--electric</b>											
4	R0x	<b>Tips--Natural Gas</b>											
5	R1x	<b>Residential Audits</b>											
6	R1x	Outreach											
7	R1x	Electric Baseload											
8	R2x	<b>E+ Home Lighting -- CFLs</b>											
9		<b>Bright Future Challenge contest Wrap</b>											
10	R2x	Mail-in Rebate Offer											
11	R2a	Spring Trade Shows a)											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12	R2x	E+ Home Lighting -- CFLs Spring Instant Coupon Offer											
13	R2x	Farmers' Market											
14	R2a	Fall Trade Shows a)											
15	R2x	Regional Buy downs											
16	R2x	E+ Home Lighting -- CFLs Fall Instant Coupon Offer											
17	R2b	Weatherization Events b)											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
18	R3x	<b>E+ Gas Savings for the Home</b>											
19	R3x	Gas Savings Mass Media Campaign 1											
20	R3x	Gas Savings Mass Media Campaign 2											
21	R3b	Weatherization Events b)											
22	R3a	Spring Tradeshows a)											
23	R3a	Fall Tradeshows a)											
24	R3x	Green Blocks--Missoula/Helena											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
25	R0x	Special Events--Dust to Dazzle, CSR Training, Bozeman Historic Preservation											
26	R4x	<b>E+ New Homes</b>											
27	R4x	E+ New Homes Natural Gas											
28	R4x	E+ New Homes Electric											
29	R4x	<b>E+ Residential Electric Savings</b>											
30	R5	<b>MT State Appliance Rebate Program</b>											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
31	R6x	<b>E+ Free Weatherization</b>											
32	R7x	<b>Low Income Appliance Replacement (Refrigerator)</b>											
33													
34	C0	<b>Commercial *</b>											
35	C1	<b>E+ Commercial Lighting Rebates</b>											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
36	C1	<b>NWE Lighting Trade Ally Network</b>											
37	C2	<b>E+ Energy Appraisal for Business</b>											
38	C3	<b>E+ Business Partners</b>											
39	C3a	<b>E+ Business Partners Natural Gas Measures</b>											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
40	C3b	<b>E+ Natural Gas Savings Rebates for Commercial Customers -- Existing Buildings</b>											
41	C4a	<b>E+ Natural Gas Savings Rebates for Commercial Customers--New Construction</b>											
42	C4b	<b>E+ Commercial Gas Program</b>											
43	C5a	<b>E+ Motor Rebates</b>											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
1		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
44	C5b	<b>E+ Green Motor Rewind Rebates</b>											
45	C5	<b>Motor Training</b>											
46	C6	<b>E+ Irrigation</b>											
47	C7	<b>Lighting Design Lab</b>											
48	C8	<b>Commercial Conference on Energy/BetterBricks Awards</b>											

	A	B	Q	R	S	T	U	V	W	X	Y	Z	AA
		<b>DSM Communications Calendar</b> subject to change based upon Need or Opportunity	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1													
49	C9	<b>Building Operator Certification Training</b>											
50	C10	<b>Tri--county Commercial Project</b>											
51	C11	<b>New E+ Commercial Electric Rebates</b>											
52		<b>Renewables</b>											
53	G1	<b>E+ Renewable Energy</b>											
54	G2	<b>E+ Green Power **</b>											
55													

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Notes:

1. Source: Exhibit\_\_(WMT-4) Work Papers
2. Source: Nexant, *Evaluation of Northwestern Energy's DSM Energy Efficiency Programs*, Aug. 13, 2007
3. The costs associated with the Energy Star 80 Plus Program are included in the NEEA costs.
4. Energy Star 80 Plus Program did not exist in 2007 and TRC, UC, and P are now included in NEEA calculations.
5. Residential New Construction Electric Savings Program was new in 2007 and additional measures were added in 2011.
6. Program was new in 2007 and additional measures added in 2011 & no customer activity during 07/01/10 thru 06/30/11.
7. There was no customer activity during 07/01/10 thru 06/30/11.
8. Program did not exist in 2007 and there was no customer activity from 07/01/10 thru 06/30/11.

**Definitions:**

**Total Resource Cost (TRC) test** assesses whether the program improves economic efficiency in the broad sense of the term.

**Utility Cost (UC) test** counts utility expenditures for running the program, including marketing expenses, incentive payments and any other costs, such as those for program administration.

**Participant (P) test** measure the impact of the program on the participating customers by measuring the change in their monthly electric bills and by adding applicable incentive payments and subtracting participation fees and equipment costs incurred by customers.



## **REQUEST FOR PROPOSAL**

**To provide:**

**Demand Side Management Program Evaluation Services**

**Issued:** , 2011  
**Due:** , 2011

**Demand Side Management Program Evaluation Services**

**REQUEST FOR PROPOSAL**

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**APPENDIX 2 – SAMPLE NWE SERVICES AGREEMENT**

**APPENDIX 3A & 3B – DSM PROGRAM LOST REVENUE ADJUSTMENT MECHANISM**

**APPENDIX 4 – NWE SERVICE TERRITORY MAPS**

**APPENDIX 5 – USB INFORMATION**

## A. INTRODUCTION

NorthWestern Energy (NWE) requests proposals for a third party contractor (DSM Evaluation Contractor or Contractor) to provide program evaluation services for the NWE electric and natural gas Demand Side Management (DSM) and Universal System Benefits (USB) electric and natural gas energy conservation programs within the NWE Montana service territory for both residential and non-residential customer segments. For the balance of this document the DSM and USB programs will be referred to collectively as **DSM Programs**. This work product shall be an independent third-party evaluation and analysis for filing by NWE with the Montana Public Service Commission (PSC) in a contested regulatory proceeding. The DSM Evaluation Contractor should be able to start initial work on or before February 1, 2012 and provide a final report to NWE by October 31, 2012 for filing by NWE with the PSC no later than November 30, 2012.

### **Background**

In NWE's Montana service territory, legislation was enacted in the late 1990's to allow customers to make arrangements for energy supply in competitive markets. NWE, as the distribution utility, had the responsibility to secure electric and natural gas commodity through its electric and natural gas energy supply portfolios for customers that did not moved to competitive supply markets.

To date, the largest electric customers have moved to the competitive markets with limited movement by customers in the 50 kW to 1MW range. Statute allowed customers under 50 kW limited opportunity to move to competitive supply under specified conditions with PSC oversight. Customers have not been able to move from supply to choice, or vice versa, since October 1, 2007.

The movement between energy supply and competitive supply for the natural gas markets has been largely unchanged over the past several years with limited opportunity/interest for additional customers to move to competitive supply markets.

NWE has been conducting DSM programs since the 1980's to help customers save energy and improve efficiency. Beginning in 2004, NWE expanded its DSM Programs as part of its effort to secure supply resources for electric and natural gas energy supply customers. DSM Programs are marketed under the Efficiency Plus (E+) name, and include DSM Program offerings for all classes of electric and natural gas customers in the NWE Montana service territory.

In addition to funding DSM programs through its energy supply portfolios, NWE operates certain energy efficiency and renewable energy programs that are funded through a USB Charge. Additional information about USB funding and programs is provided in Appendix 5. The electric and natural gas energy supply DSM programs and the USB programs are offered in the NWE Montana service territory and are available to NWE's electric and natural gas customers, of which there are approximately:

- 138,600 residential electric customers
- 40,500 non-residential electric NWE customers
- 32,000 residential natural gas customers
- 6,200 non-residential natural gas customers

In the residential sector, approximately 137,900 customers are combined electric and natural gas NWE customers. Non-residential combined NWE customers total 21,800.

NWE primarily uses third party Implementation Contractors to operate its DSM Programs. Contractor services include operation and administration, direct interface with program participants, technical assistance, some marketing and promotion, limited distribution and/or installation of measures, inspection/verification of installed measures, and collection and maintenance of program records and databases about participants, installed measures, estimated energy savings, reported energy savings, program rebates, and other related costs.

NWE owns and operates electric and natural gas transmission and distribution systems to deliver electricity and natural gas to its customers. NWE currently is allowed to recover the lost transmission and distribution revenues (Lost Revenues) that result from energy sales reductions caused by customer participation in its DSM Programs. This Lost Revenue Adjustment Mechanism (LRAM) uses reported DSM Program energy savings and incorporates various Adjustment Factors for free riders, free drivers, spillover, and realization rates to adjust reported program energy savings. These are also referred to as Net-to-Gross Factors.

The selected DSM Evaluation Contractor (or team of contractors) will provide evaluation services for the whole portfolio of electric and natural gas DSM Programs offered throughout the entire NWE Montana service territory. Maps of the NWE electric and natural gas service territories in Montana are included as Appendix 4. The DSM Evaluation Contractor should be prepared for travel within the state as necessary to coordinate DSM Evaluation efforts statewide. The time period covered by the DSM Evaluation work is for DSM Programs conducted during January 1, 2007 through December 31, 2011.

## **B. STATEMENT OF EVALUATION OBJECTIVES**

The purpose of this evaluation is to conduct a comprehensive independent third-party evaluation of NWE's DSM Programs and produce a thorough documentation of the research and analysis used to perform the evaluation, and the findings and recommendations resulting from that work. This comprehensive evaluation will examine the processes used to solicit interest in the programs, recruit customer participation, deliver program services to participants, and acquire energy savings.

This evaluation will analyze the energy savings produced by the programs, and the costs and benefits of acquiring those energy savings from the economic perspective of the customer, utility company, and society (Total Resource Cost test). The work results will include recommendations for improvement where justified.

## **C. STATEMENT OF DSM PROGRAM GOALS**

The goals of NWE's Energy Supply DSM Programs are:

1. Acquire cost-effective demand side resources for the electric and natural gas energy supply resource portfolios.
2. Maintain a steady, sustainable DSM acquisition schedule that meets the targets set forth in the DSM Plan.
3. Maintain cost-effectiveness of each energy supply DSM program.
4. Implement and administer programs that reach broadly across the NWE customer base and maximize opportunities for customer participation.

The goals of NWE's USB Programs are:

1. To efficiently deliver public purpose benefits to NWE's Montana distribution customers to the fullest extent possible. These public purpose benefits include low-income activities, conservation and market transformation programs, and the development and promotion of small-scale renewable generation. NorthWestern Energy implements its USB programs and activities consistent with the requirements of legislation for USB, the Department of Revenue administrative rules for USB Programs, and tariffs and orders of the Montana Public Service Commission.

**D. DESCRIPTION OF DSM PROGRAMS**

The DSM Program portfolio includes a balanced mix of programs to address a diversity of NWE customer segments so that all customer classes and segments have an opportunity to benefit from at least one DSM Program. The focus and scope of this RFP is for DSM evaluation services for all DSM Programs in all three DSM Program Groups. The evaluation will be performed on each individual program, and evaluation results will be aggregated for each of the three DSM Program Groups. Additional information about NWE's DSM Programs is available at: [www.northwesternenergy.com](http://www.northwesternenergy.com)

**Table 1: DSM Program Groups**

<b>DSM Program Groups</b>	<b>Customer Sector</b>
<b><u>Group 1: Electric Supply Programs</u></b>	
E+ Commercial - Existing Facility Programs - Electric	Commercial/Industrial
E+ Commercial - New Construction Facility Programs - Electric	Commercial/Industrial
E+ Residential - Existing Home Programs - Electric	Residential
E+ Residential - New Construction Home Programs - Electric	Residential
Northwest Energy Efficiency Alliance (NEEA)	All
Energy Star 80 Plus Efficient Power Supplies	Commercial/Industrial
Energy Star Television Program	Residential
E+ Building Blocks Pilot Program (Electric and Gas)	Commercial
<b><u>Group 2: USB Programs</u></b>	
E+ Energy Audit for the Home Program (electric and gas)	Residential
E+ Energy Appraisal for Businesses Program	Commercial
E+ Irrigation Program	Agricultural
Building Operator Certification Program	Commercial/Industrial
E+ Free Weatherization Program (electric and gas)	Residential
E+ Renewable Energy Program	All
Vending Miser	Commercial
E+ New Homes Program	Residential
<b><u>Group 3: Natural Gas Supply Programs</u></b>	
E+ Residential - Existing Home Programs - Natural Gas	Residential
E+ Residential - New Construction Home Programs - Natural Gas	Residential
E+ Commercial - Existing Facility Programs - Natural Gas	Commercial/Industrial
E+ Commercial - New Construction Facility Programs - Natural Gas	Commercial/Industrial
Note: Many of the programs listed above have multiple sub-programs	

## ***E. DESCRIPTION OF WORK TO BE PERFORMED***

### ***Deliverables***

There are several distinct deliverables (shown in underlined bold here) that are anticipated from DSM Evaluation activities. The DSM Evaluation Contractor will develop a comprehensive **DSM Evaluation Plan** that includes a description of the work to be done for each of the following items<sup>1</sup>:

1. **DSM Program Impact Evaluation**: to quantify the actual program electric and natural gas energy savings (kWh, dKt, and the effect of the DSM program on the average load shape in terms of peak demand savings-kW) that are achieved from equipment installations and other program measures.
2. **DSM Program Process Evaluation**: to evaluate how well NWE DSM Programs are working to achieve objectives, and to identify opportunities for process and program improvements<sup>2</sup>.
3. **DSM Program Economic Analysis**: to determine benefits and costs and cost-effectiveness of each of the three DSM Program Groups, and for each individual DSM Program within the DSM Program Groups.

The DSM Evaluation Contractor will prepare a comprehensive **DSM Program Evaluation Final Report** describing the work performed, research methodologies and instruments used, supporting data and calculations, and presentation of findings and recommendations.

### ***Description of Tasks***

The tasks listed below provide a general description of the type of work that the selected Contractor will be required to perform. Bidders should explain how they intend to complete each task and provide a timeline for each expected deliverable. Bidders are encouraged to propose additional tasks deemed necessary to complete the work in an efficient and effective manner.

**Task 1: DSM Evaluation Plan:** In this task, the DSM Evaluation Contractor will be responsible for developing a comprehensive DSM Evaluation Plan to cover all DSM Evaluation tasks. This will involve the following:

1. Reviewing the DSM sections of NWE's 2009 Electric Energy Supply Resource Procurement Plan, and the NWE 2010 Natural Gas Procurement Plan. Electronic copies of the electric Plans are available at [http://www.northwesternenergy.com/display.aspx?Page=Default\\_Supply\\_Electric](http://www.northwesternenergy.com/display.aspx?Page=Default_Supply_Electric) and the natural gas Plan at [http://www.northwesternenergy.com/display.aspx?Page=Default\\_Supply\\_Gas](http://www.northwesternenergy.com/display.aspx?Page=Default_Supply_Gas).
2. Examination of all related program DSM Program documents available from NWE. This information includes scope of work documents for each of the Implementation Contractors for the programs they are administering for NWE and various other pertinent DSM documents.

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<sup>1</sup> Evaluation of the Northwest Energy Efficiency Alliance (NEEA) program will consist of a summary of evaluations completed for NEEA and a review of the methods used by NWE and NEEA to report NEEA energy savings in the NWE service territory. NWE is a funding utility of NEEA and claims energy savings in its Montana electric service territory resulting from NEEA's regional market transformation activities. NEEA regularly conducts independent evaluations of its work. Additional information on NEEA is available at <http://www.nwalliance.org/>.

<sup>2</sup> The Free Weatherization Program is a Universal System Benefits program funded in partnership with the Montana Department of Public Health and Human Services (DPHHS) and is implemented through contracts administered by DPHHS. The program process is reviewed as part of DPHHS's Federal contract compliance activities. Contractor will determine whether existing compliance activities provide an adequate process evaluation and make a recommendation whether a separate process evaluation is warranted.

3. Working closely with NWE and its DSM program Implementation Contractors to identify existing data, records, and documents that have been accumulated in the course of providing DSM Program services to NWE.
4. Identification of other research needs for each of the DSM Programs and development of the data collection methodologies that will be used to complete the DSM Evaluation.
  - a. The data collection plan will include a physical inspection and measurement plan, plus the sampling methodology and testing design.
  - b. The DSM Evaluation Plan should also indicate the approach the DSM Evaluation Contractor will use to expand analysis results from the evaluation sample to the program population.
5. In addition, the DSM Evaluation Plan should include a description of how program data will be collected, organized, compiled, and reported.
6. Preparation of a DSM Evaluation Plan timeline.

**Task 2: Project Management:** The DSM Evaluation Contractor must designate a project manager to be NWE's key contact and maintain sufficient staff resources to effectively and efficiently complete the work. The project manager must:

1. Maintain direct communication with NWE.
2. Interface with other NWE DSM Implementation Contractors.
3. Comply with DSM Evaluation schedule.
4. Provide Bi-weekly Project Status Report including:
  - a. Current DSM Evaluation progress and results to date.
  - b. Tasks to be accomplished in the next month/near future.
  - c. Problems/issues that have been encountered.
  - d. Items that require NWE action or approval.
5. Provide quality control and assurance that work conforms to the scope of evaluation work.

**Task 3: DSM Program Process Evaluation:** This task addresses ways to improve the NWE DSM Programs over time. This task includes examining NWE DSM Program processes for each individual DSM Program<sup>3</sup>, and for each DSM Program Group, and comparing these processes to the Best Practices within the U.S. utility industry. Sub-tasks include but are not limited to evaluation of:

1. Appropriateness of program design for achieving program goals.
2. Program participation procedures.

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<sup>3</sup> Ibid Free Weatherization.

3. Application and payment processing (ease of use, cycle time, etc.).
4. Accuracy, consistency, and completeness of each Implementation Contractor's program records, to be performed by checking a representative sample of completed program application forms and projects. Confidentiality of customer information and proprietary software shall be protected.
  - a. Identify data anomalies and areas for data collection improvement.
  - b. Identify areas where excess, unnecessary, or duplicative data collection is occurring.
  - c. Identify areas of concern or discrepancy, immediately provide recommendations to NWE for correcting the situation.
5. Effectiveness of program incentive and/or rebate levels in compelling customers to take action.
6. Identify the barriers to customer participation in all DSM programs, with specific emphasis on the E+ Business Partners Program.
7. Marketing and promotional efforts by NWE and its Implementation Contractors.
8. Communication effectiveness between NWE and its Implementation Contractors.
9. Participant satisfaction with DSM Programs.
10. Results from interviewing participants and non-participants (NWE customers, trade allies, NWE personnel, Implementation Contractors) for the purpose of getting their ideas on process improvement.
11. For each individual program and/or all Program Groups, research, compare, and contrast NWE's DSM program activities and practices with Best Practices for utility-sponsored DSM Programs within and across the U.S. utility industry. Provide documentation, descriptions and examples of Best Practices. Identify and fully describe where NWE conforms to, meets or exceeds Best Practices, as well as areas where improvements could be considered.

**Task 4: DSM Program Impact Evaluation:** The Program Impact Evaluation will utilize appropriate engineering calculations, sampling of on-site verifications, customer interviews and surveys, appropriate statistical techniques, and other industry-accepted practices to determine energy savings achieved by NWE DSM Programs. Where and as applicable, this evaluation will be performed for each individual DSM Program, and results will be aggregated by DSM Program Group<sup>4</sup>. NWE will make available historical energy consumption data for program participants, and provide access to its Implementation Contractor's DSM Program databases. Specific sub-tasks to be completed include, but are not limited to:

1. Accurate and supportable quantification of the peak (kW) and energy (kWh, dKt) savings amounts for each program.
2. Energy savings estimates in two time periods to enable correlation with Lost Revenue estimates:
  - a. Calendar year time periods (January 1 – December 31, for each 2007; 2008; 2009; 2010; 2011)

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<sup>4</sup> Ibid NEEA

- b. Tracker year time periods (July 1, 2006 - June 30, 2007; July 1, 2007 - June 30, 2008; July 1, 2008 – June 30, 2009; July 1, 2009 – June 30, 2010; July 1, 2010 – June 30, 2011)
- 3. Review of NWE engineering calculations used to develop energy savings estimates for measures included in DSM program offerings.
- 4. Review of the appropriateness and application of building simulation models used by NWE and its Implementation Contractors<sup>5</sup> and model results produced for commercial DSM projects. (Proprietary software shall be protected.)
- 5. Physical verification of a representative sample of the DSM program installations to verify that energy conservation measures have been installed as documented by the Implementation Contractor.
- 6. Physical on-site measurement of a representative sample of energy projects participating in the DSM Programs. The purpose of this task is to verify the assumptions and calculations of peak (kW) and energy (kWh and dKt) savings from the Implementation Contractors’ databases. The measurements shall be performed by a Montana state licensed Professional Engineer. The projects and installations to be measured will be selected from a statistically representative sample of completed projects.
- 7. Calculation of average annual energy savings for high volume measures/services and programs, for comparison to the values NWE is currently using:
  - a. Compact fluorescent lamps (for each watt rating used in the lighting program): distribution at events, direct install, mail-in rebate, mail-out product, in-store coupon, and upstream buydown for select retailers.
  - b. Each of the different home and business energy audit types (15 audit types). The DSM Evaluation Contractor shall provide average annual energy savings for audit direct measure savings and separately for audit in-direct savings.

<b>Audit Type</b>	<b>Description</b>
A1	ONSITE GAS, NWE ELEC (split)
AR	A AUDIT WITH MAILOUT CREDIT
B1	ONSITE GAS SPACE AND DHW (NON-NWE ELEC)
C1	ONSITE GAS SPACE ONLY (NON-NWE ELEC)
D	ONSITE ELEC SPACE & DHW
DR	D AUDIT WITH MAILOUT CREDIT
E	ONSITE ELEC DHW ONLY
ER	TYPE E WITH MAILOUT CREDIT
F	ONSITE GAS SPACE ELEC DHW (split)
G1	ONSITE ELEC SPACE, GAS DHW (split)
H	ONSITE ELEC SPACE W/ MISC GAS APPLIANCE
J	ONSITE FUEL SWITCH
M	ONSITE MULTI-FAMILY
O	ONSITE SMALL BUSINESS
R	RESIDENTIAL MAIL-OUT

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<sup>5</sup> Ibid

- c. Northwest Energy Efficiency Alliance—NorthWestern Energy adjustments to NEEA reported energy savings for NWE territory based upon NWE market assumptions.
  - d. Capacity factors used to calculate resource for E+ Renewable Energy Program.
  - e. Rebate measures for all of the electric prescriptive rebate programs (residential & commercial) offered during the years of 2007, 2008, 2009, 2010, and 2011.
  - f. Rebate measures for all of the natural gas prescriptive rebate programs (residential & commercial) offered during the years of 2007, 2008, 2009, 2010, and 2011.
  - g. E+ Free Weatherization Program electric and natural gas measures.
8. Analysis of the lag in reported DSM Program savings caused by NWE’s practice of claiming energy savings beginning with the date the rebate is paid, instead of the date(s) when measures are installed. Evaluation work should include research on a sample of program participants to determine date of measures installation compared with date of program payment, and development of a means to correct reported energy savings caused by this lag.
  9. Assessment of the rate of free riders and free drivers within each of the programs and all Program Groups.<sup>6</sup>
  10. Assessment of the realization rate of DSM measures for which program incentives/rebates were paid by NWE.
  11. Assessment of persistence of energy savings produced by DSM measures installed. This includes an assessment of whether building use, operation, size, or configuration has changed since DSM measures were installed.
  12. Assessment of “spillover” or “leakage” of NWE funded DSM measures into non-NWE service areas and non-rebates measures in NWE service area customer homes/facilities. Integrate the findings from Task 4: DSM Program Impact Evaluation on rates of free riders and free drivers, realization rates, spillover, and leakage for the purpose of evaluating the methodology NWE uses to develop and apply Adjustment Factors when estimating DSM lost revenue. Prepare and present analysis to support any changes to the Adjustment Factors (87% for residential programs and 82% for commercial programs) that NWE is currently using in its Lost Revenue Adjustment Tracker spreadsheet (refer to Appendix 3A and 3B).
  13. The DSM Evaluation Contractor shall complete the tables for each tab of the spreadsheet shown in Appendix 1 for each program listed in Table 1 on page 5. The DSM Evaluation Contractor shall provide complete documentation of all calculations and procedures used to derive the information for the tables in each tab of the spreadsheet.

**Task 5: DSM Program Economic Analysis:** The DSM Evaluation Contractor will evaluate the cost-effectiveness of the DSM Programs using an industry accepted benefit-cost analysis from the perspective of the Company (Utility Cost Test). This cost-effectiveness evaluation will be performed for each individual DSM Program, and results aggregated for each DSM Program Group identified in Table 1 on page 5. NWE will make available cost and spending records for all DSM Programs, and will provide access to records and staff associated with its Implementation Contractor. Calculate the levelized cost of DSM acquisition for each

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<sup>6</sup> Ibid.

DSM Program, and each DSM Program Group in aggregate. NWE will provide the avoided costs for use in the economic analysis.

NWE applies an environmental benefits factor of 10% when evaluating electric and natural gas measures for cost-effectiveness for DSM Programs. More detail on this approach is provided in the 2004 Electric Energy Supply Resource Procurement Plan and the 2006 Electric Energy Supply Resource Procurement Plan (these documents will be made available to bidders as requested and required). This task includes the examination of the 10% environmental benefits factor and how NWE applies this to its various cost-effectiveness tests. Compare this to other industry approaches to quantifying environmental benefits and applying it to DSM Program economic evaluation.

**Task 6: DSM Program Evaluation Final Report:** The DSM Evaluation Contractor will prepare a high-quality, detailed and comprehensive report, including an executive summary, that describes and documents the DSM Program evaluation project and each Task therein, and presents findings and recommendations in a clear, understandable manner. The DSM Evaluation Contractor will work closely with NWE regarding the layout, organization, and task completeness of this report prior to its completion. It is expected this report will be used in future, contested, regulatory proceedings.

## ***F. PROPOSAL REQUIREMENTS AND TIMING***

An electronic copy of your proposal as described in this document and in accordance with the submissions requirements must be submitted by [REDACTED]. The hard copies shall be mailed no later than the next business day. Failure to submit required information within the specified time frame could be considered cause for rejection of this or any subsequent proposals. It is NWE's intent that the bidder (or team of bidders) provides a proposal for the entire scope of work as outlined in this RFP.

Proposals should include the following information:

1. Project approach and scope of work.
2. A list of all project deliverables by task (see Proposal Deliverables - Tasks on page 12).
3. A breakdown by task of all staffing and resource requirements.
4. A breakdown by task of resources required from NWE – office space, data sets, etc.
5. Proposed schedule and/or work flow chart. Indicate key tasks and timelines. This project must be completed in its entirety and a final report submitted to NWE by October 31, 2012 for submittal to the Montana Public Service Commission no later than November 30, 2012.
6. Identify all staff and subcontractors that will perform work on this project. Include a list of key personnel by task with biographical information. Indicate the role of each team member on this project as well as which team members will be based in Montana. If some of the people have not been identified at this time, at a minimum, describe the different job positions functions and roles.
7. Compensation -- Provide a task cost breakdown for each task for these evaluation services. The preferred compensation method is a fixed fee with a not-to-exceed limit. Provide a projected payment (cash flow) schedule and describe how it is related to the level of effort and deliverable associated with each task.
8. Proof of qualification/references from successful projects of a similar nature.

9. Briefly describe the features and benefits of your proposal that may be unique and more desirable than your competitors.
10. A description of your company's background and any relationship to the utility industry.
11. Whether your company currently certified as a minority or woman-owned business—for reporting purposes.

### ***Proposal Deliverables – Tasks***

**General:** The proposal shall include a statement affirming the bidder's intention to conduct an independent, objective, and unbiased third-party analysis that will be used in a contested proceeding before the PSC.

**Task 1: DSM Evaluation Plan:** Describe in your proposal, any additional documents that you may need to review. Describe the elements to be included in the plan and provide a draft DSM Evaluation plan outline. Describe how you will choose projects to be monitored and how you will ensure any samples are representative of all completed projects. Describe your recommended approach for each program.

**Task 2: Project Management:** Describe in your proposal, the process you envision for communicating and reporting to NWE's DSM program manager, as well as interactions with other key DSM participants. Discuss your organization's quality control and project tracking of budgets and schedule. Provide samples of a typical bi-weekly project status report. Provide samples of your technical reports demonstrating your writing and presentation style and skills. Bidders are encouraged to outline and describe additional tasks they would perform in order to successfully implement the project.

**Task 3: Program Process Evaluation:** Your proposal should describe the steps that will be taken to evaluate the NWE DSM Program process. Include samples of data collection forms. Discuss your data collection protocol and how you will integrate these activities with the Implementation Contractors. Describe key types of data that you recommend are collected for each DSM Program. Provide recommendation(s) for making data collection easy and accurate. Discuss the possibility of these forms being available on-line and giving the customers and trade-allies the opportunity to complete and submit these forms on-line. Include examples of process improvements from prior engagements with recognition/analysis/adaption of research as it relates to NWE's unique market characteristics (geographic, climate, residential and small commercial customer class, rural with pockets of urban, etc). Your proposal should describe, in detail, how you will evaluate NWE's practices compared to industry "best practices".

**Task 4: DSM Program Impact Evaluation:** Describe in your proposal, the Program Impact Evaluation Report that will be developed as a result of this Task. Describe the key tables, charts, graphs, and/or figures that will be developed and presented. Discuss how a representative sample of projects to be measured will be determined. Discuss sampling protocol and ways to ensure a representative sample of installations. Describe the process and the amount of effort that it would take one of your Energy Engineers to verify a typical on-site DSM measure or group of measures. How does measurement for prescriptive measures differ from custom measures? How do you verify performance of new construction? Offer approaches for making field verification accurate, efficient, and hassle-free for program participants. Provide an illustrative example of one of these efforts. Give examples of success from prior engagements.

What are some of your past experiences and findings from DSM Program Impact Evaluation? What are some of the challenges NWE might face when evaluating these DSM programs? Are there additional elements that should be addressed that were not included in NWE's task list?

**Task 5: DSM Program Economic Analysis:** Describe in your proposal, the methods to be used to analyze the cost-effectiveness of each DSM program and each of the three Program Groups. Discuss the economic tests used to analyze program economics from the Utility Company, ratepayer, and societal perspectives. Discuss your approach to calculation of levelized cost of DSM resources.

In addition to the tasks/deliverables discussed above, please provide any additional tasks that you feel are appropriate in order to provide comprehensive DSM Evaluation services.

### ***Submission Requirements***

Bidders shall submit a total of four electronic copies of the proposal; one copy showing pricing and submitted in both protected PDF format and unprotected Microsoft Word format, and one copy without pricing in each format. These four electronic copies are to be forwarded along with any related documents to (---name here---) at (---email address here ---). In addition, bidders shall mail two hard copies of the proposal, one priced and one non-priced, to the address below. A third party administrator will lead review of the responses to this RFP for NWE.

Mailing address for hard copy submittal:

(RFP Administrator's contact information here)

### ***Proposal Schedule***

The following proposal schedule is an estimate of when major milestones will occur relative to this RFP. Timing may change due to unanticipated delays.

(date)	RFP Distributed to Bidders
(date)	Deadline for Questions on RFP
(date)	Reponses to Questions Submitted to All Bidders
(date)	RFP Responses are due
(date)	Selection of Final 2 Bidders
(date)	Oral Presentations by Selected Bidders
(date)	Final Selection Completed

### ***Awarding Projects***

NWE reserves the right at its sole discretion to choose not to award this project if funding is not available or if no proposals meet NWE's requirements.

## ***G. EVALUATION PROCEDURE***

Successful proposals must include all of the required information outlined above. Proposals will be evaluated based on an assessment of the bidder's ability to provide quality deliverables in a timely and cost effective manner.

Proposals will be evaluated according to the following set of criteria:

- The bidder's demonstrated ability to perform work outlined in this document (20%).
- Demonstrated understanding of DSM technologies and NWE Customers (15%).
- The ability to deliver work in a timely manner (15%).
- A clear explanation of the logic behind the proposed approach (15%).
- Demonstrated experience completing similar successful projects (15%).
- The cost of the work to be performed as specified in the proposal (10%).

- The bidder’s demonstrated ability (through examples) to provide clear written reports. (5%)
- References (5%).

A short list of bidders will be developed. From those bidders, additional information will be required to demonstrate proof of deliverables such as examples of past reports addressing DSM process, impact, and economic evaluations.

## **H. GENERAL INFORMATION**

NWE requests proposals for the purchase of related services as set forth in this document.

Contractor shall affirm it is an independent third party with no conflict of interest. No one, or bidding organization, which has been a DSM Program Implementation Contractor for NWE, an implementation or evaluation employee of NWE, or has other commercial conflicts of interest with this scope of work shall be considered, without written permission from NWE.

NWE reserves the right to approve or reject any personnel both in the proposal selection process and in the on-going performance of the scope of work.

Contractor will agree to participate in regulatory proceedings, and interactions with NWE’s Electric Technical Advisory Committee, for an agreed-to pricing. This pricing is not to be included as part of this bid. NWE will pay, as needed, time plus reasonable travel for appropriate individuals on the evaluation team to perform this work.

All proposals shall become the property of NWE. NWE reserves the right to reject any and all bids, or accept other than the lowest bid and to waive irregularities and informalities in any proposal submitted.

NWE is not responsible for costs incurred by bidders in preparation of this proposal.

The work described in this RFP will be performed in accordance with NWE general contract standards. A **sample** copy of the basic agreement that the winning bidder will be required to sign is in Appendix 2.

Any party submitting a response to this RFP understands and agrees that NWE, as a public utility, is subject to regulation by the PSC and that NorthWestern may be required to submit any and all response related information to the PSC, and other parties, in future proceedings before the PSC.

Any response related information (including information that may be provided as part of subsequent contract negotiations, for example) that the Contractor considers sensitive must be clearly stamped “CONFIDENTIAL” prior to submitting it to NWE. To the extent response information marked “CONFIDENTIAL” is requested in a PSC proceeding, NWE will provide the Contractor reasonable notice before the information must be filed. If the Contractor wishes to seek a protective order for this response information, the Contractor shall be solely responsible for the preparation and filing of an appropriate motion for protective order with the PSC, and providing NWE a copy of the motion, no later than the day before the date the response information must be filed with the PSC. If NWE does not receive a copy of the Contractor’s motion for protective order by the day before the date the response information is due for filing, NWE will file it on the due date. NWE will not consult with the Contractor regarding provision to the PSC of any response related information not marked “CONFIDENTIAL”.

## **I. INQUIRIES**

Any questions or concerns about the proposal should be directed to (---name here---) at (--email address here--) For commercial inquiries or questions about the proposal process, please contact (---name here---) at (--phone number) and (---email address here---). All questions should be sent electronically, and each question will be shared with other bidders electronically.

## Appendices

DSM Program Tables	Appendix 1
Sample NWE Services Agreement	Appendix 2
Lost Revenue Adjustment Mechanism	Appendix 3A and 3B
NWE Service Territory Maps	Appendix 4
USB Information	Appendix 5

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**PREFILED DIRECT TESTIMONY OF**  
**FRANK V. BENNETT**  
**ON BEHALF OF NORTHWESTERN ENERGY**  
**COLSTRIP UNIT 4 (CU4) GENERATION ASSET**

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**Witness Information**

**Q. Are you the same Frank V. Bennett who filed Prefiled Direct Testimony in the Electricity Supply Cost Tracker portion of this Docket?**

**A.** Yes.

**Purpose of Testimony**

**Q. Please describe your testimony.**

**A.** In my testimony I will present the following information:

- The updated CU4 costs for the 12-month ended June 2011 tracking period with ten months of actual numbers and two months of estimated numbers, and
- The forecast CU4 costs for the 12-month ended June 2012 tracking period.

**Update to CU4 values in the 2010/2011 Tracker Period**

**Q. How has NorthWestern updated the CU4 generation that is reflected in the 2010/2011 tracker?**

**A.** NorthWestern has included approximately 111 MW of unit contingent energy from June 1, 2010 through December 31, 2010 and approximately 222 MW of unit contingent energy from January1, 2011 through June 30, 2011.

**Q. What causes this increase?**

1 **A.** On December 29, 2010 the Puget Sound Energy contract and the corresponding  
2 revenue credits expired. The 2010/2011 tracker reflects expiration of the  
3 contract and these revenue credits which are a component of the CU4 variable  
4 costs. Refer to Exhibit\_\_(FVB-4)\_10-11.

5  
6 **Q. How are the CU4 variable costs and price stability contracts treated in the**  
7 **2010/2011 tracking period?**

8 **A.** Considering the adjustments described above, these CU4 costs are treated the  
9 same as they were in NorthWestern's 2010 annual electric tracker filing with  
10 adjustments as noted. The variable CU4 cost of service includes fuel costs,  
11 Puget Sound Energy revenue credits through December 2010 with a slight true-  
12 up adjustment in January 2011, and incremental property taxes. These variable  
13 costs are tracked in a manner similar to the market-based supply costs. The  
14 price stability contract benefits, which terminated in December 2010, were  
15 returned to ratepayers over a two-year period and are shown in equal monthly  
16 values over the tracker period as directed in Docket No. D2008.6.69 Order No.  
17 6925f. In addition, CU4 property taxes were updated to reflect changes in the  
18 2011 Annual Property Tax Tracker Filing.

19  
20 **Q. Have any adjustments been made to the CU4 fixed cost of service in the**  
21 **2010/2011 or 2011/2012 tracking periods?**

22

1 **A.** No. The CU4 fixed cost of service presented in this filing includes the costs which  
2 were approved in Docket No. D2008.6.69. They will remain unchanged until such  
3 time that an order is issued in a subsequent revenue requirement filing.

4  
5 **Q. Please summarize the 12-month ended June 2011 CU4 deferred value.**

6 **A.** NorthWestern discussed in its testimony filed in Docket No. D2010.5.50 the  
7 possibility that the CU4 variable rate might be adjusted to reflect the impact of  
8 the expiring Puget revenue credits going to zero in the middle of the tracker  
9 period. As a result, NorthWestern implemented a variable rate change in  
10 October 2010 and again in January 2011 to reflect the revenue credit transition.  
11 The June 2010 deferred balance of \$7,944,355 over collection shown on page 2  
12 of Exhibit\_\_(FVB-4)\_10-11 is the July 2010 beginning deferred balance. With ten  
13 months actual values and two months estimated values, the June 2011  
14 estimated ending deferred account balance is a \$24,472,321 over collection.  
15 Please refer to the Prefiled Direct Testimony of Cheryl A. Hansen - CU4  
16 Generation Asset for further discussion of the Deferred Account.

17  
18 **Q. Please summarize the 12-month ended June 2011 CU4 tracker period  
19 variable costs.**

20 **A.** The CU4 tracker period is summarized in the following table:

<b>Beginning Deferred CU4</b>		<b>Balance</b>
Over Collection		(\$ 7,944,355)

<b>Variable Costs CU4</b>		<b>Cost</b>
Fuel Cost		\$ 18,381,527
Revenue Credits (Puget) & Adjustments		(21,771,863)

DSM Lost Revenue Adjustment		716,410
Property Tax Adjustments		(179,925)
Subtotal Variable CU4 Cost of Service:		(\$2,853,850)

Carrying Costs		(1,605,480)
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<b>Price Stability Contract CU4</b>		<b>Cost</b>
Contract Credit		(\$ 946,355)

<b>Variable Revenues CU4</b>		<b>Revenue</b>
Revenues		\$ 11,122,281

<b>Ending Deferred CU4</b>		<b>Balance</b>
Over Collection		(\$ 24,472,321)

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**Forecast of CU4 in the 2011/2012 Tracker Period**

**Q. Please summarize the 12-month CU4 tracker period ending June 2012.**

**A.** The June 2011 Deferred Account over collection ending balance of \$24,472,321 as described above is the July 2011 beginning balance. July 2011 through June 2012 information is based on forecast numbers. Please see Exhibit\_\_(FVB-5)\_11-12 for supply volume and cost details of the 12-month forecast tracker period.

**Q. Describe the changes within the CU4 variable Revenue and Expense categories for the 12-month ended June 2012 forecast tracker period.**

**A.** The CU4 Generation Asset tracker variable cost revenue and expense details are reflected on page 2 of Exhibit\_\_(FVB-5)\_11-12 under two main sections, Total Revenue and Total Variable Expenses. Total Net Revenue is estimated to

1 be –(\$1,883,605), This includes the current year revenue of \$22,588,715 offset  
 2 by the deferred balance carry forward of (\$24,472,321) over collection from the  
 3 prior tracker period as shown on Exhibit\_\_(FVB-4)\_10-11. The 12-month  
 4 forecast tracker estimates Total Variable CU4 Expenses of \$22,588,716.

5

6 **Q. Please summarize the 12-month ended June 2012 CU4 tracker period.**

7 **A.** The CU4 tracker period is summarized in the following table:

8

<b>Beginning Deferred CU4</b>		<b>Balance</b>
Over Collection		(\$ 24,472,321)

<b>Variable Costs CU4</b>		<b>Cost</b>
Fuel Expense		\$ 23,454,875
Property Tax Adjustments		19,476
Subtotal Variable CU4 Cost of Service:		\$ 23,474,351

Carrying Costs		(885,635)
Total Variable CU4 Expenses:		\$ 22,588,716

<b>Variable Revenues CU4</b>		<b>Revenue</b>
Revenues		\$ 22,588,715
Prior Year Deferred		(\$ 24,472,319)
Total Revenues:		(\$ 1,883,605)

<b>Ending Deferred CU4</b>		<b>Balance</b>
Over Collection		\$ 0

9

10 **Q. Does this conclude your pre-filed testimony?**

11 **A.** Yes.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	<b>Colstrip Unit 4 Generation Asset Component</b>															
2																
3				Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Total
4				Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate	Estimate	
5	<b>Colstrip Unit 4 Fixed Cost of Service – Per Final Order 6925f</b>															
5	<u>Colstrip 4 Plant In Service</u>															
6				\$33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 407,000,000
7				\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (11,970,588)
8				\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (1,152,169)
9				\$32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$393,877,243
10																
11				\$33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$400,438,621
12																
13				Fixed Return (Avg Rate Base * Cost of Capital)	8.25%	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 33,036,186
14																
15				<u>Fixed Cost of Service</u>												
16				\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 8,874,144
17				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18				\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 2,968,654
19				\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 11,970,588
20				\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 2,431,458
21				\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 529,037
22				\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 234,907
23				\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 1,152,169
24				\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 11,620,288
25				\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (71,887)
26				\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 39,709,358
27																
28				\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 72,745,544
29																
30																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
31	<b>Colstrip Unit 4 Generation Asset Component</b>																
32				Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Total	
33				Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Estimate	Estimate		
34	<b>Colstrip Unit 4 Variable Cost -- Per Final Order 6925f</b>																
35	<u>Total Forecast Sales</u>																
36				458,066	499,778	469,466	429,194	444,548	529,846	563,815	539,118	537,414	485,810	456,788	500,237	5,914,080	
37				\$ (0.9500)	\$ (0.9500)	\$ (0.9500)	\$ 1.4300	\$ 1.4300	\$ 1.4300	\$ 3.6051	\$ 3.6051	\$ 3.6051	\$ 3.6051	\$ 3.6051	\$ 3.6051		
38				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -		
39																	
40	<u>Colstrip Unit 4 Variable Cost Revenues</u>																
41				\$ (433,960)	\$ (473,511)	\$ (444,693)	\$ 611,493	\$ 633,403	\$ 755,411	\$ 1,388,620	\$ 1,944,695	\$ 1,938,949	\$ 1,751,686	\$ 1,646,774	\$ 1,803,415	\$ 11,122,281	
42																	
43				\$ (433,960)	\$ (473,511)	\$ (444,693)	\$ 611,493	\$ 633,403	\$ 755,411	\$ 1,388,620	\$ 1,944,695	\$ 1,938,949	\$ 1,751,686	\$ 1,646,774	\$ 1,803,415	\$ 11,122,281	
44				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
45				\$ (433,960)	\$ (473,511)	\$ (444,693)	\$ 611,493	\$ 633,403	\$ 755,411	\$ 1,388,620	\$ 1,944,695	\$ 1,938,949	\$ 1,751,686	\$ 1,646,774	\$ 1,803,415	\$ 11,122,281	
46																	
47				\$ 1,779,122	\$ 1,527,187	\$ 1,657,843	\$ 1,202,033	\$ 1,453,644	\$ 1,378,967	\$ 1,687,413	\$ 1,444,654	\$ 1,820,488	\$ 1,157,849	\$ 1,396,782	\$ 1,875,546	\$ 18,381,527	
48																	
49				\$ (3,774,998)	\$ (3,749,994)	\$ (3,718,843)	\$ (3,482,719)	\$ (3,659,591)	\$ (3,458,794)	\$ 73,076	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (21,771,863)	
50																	
51				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 716,410	\$ -	\$ -	\$ 716,410	
52																	
53				\$ (31,611)	\$ (31,611)	\$ (31,611)	\$ (31,611)	\$ (31,611)	\$ (31,611)	\$ (31,611)	\$ 1,623	\$ 1,623	\$ 1,623	\$ 1,623	\$ 1,623	\$ (179,925)	
54																	
55				\$ (2,027,487)	\$ (2,254,419)	\$ (2,092,611)	\$ (2,312,297)	\$ (2,237,557)	\$ (2,111,438)	\$ 1,762,112	\$ 1,446,277	\$ 1,822,111	\$ 1,875,883	\$ 1,398,405	\$ 1,877,169	\$ (2,853,850)	
56																	
57																	
58	<b>Colstrip Unit 4 Price Stability Contract -- Per Final Order 6925f</b>																
59				\$ (157,726)	\$ (157,726)	\$ (157,726)	\$ (157,726)	\$ (157,726)	\$ (157,726)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (946,355)	
60																	
61	<b>Carrying Cost Expense</b>																
62				8.46/7.8%	\$ (68,839)	\$ (83,093)	\$ (96,503)	\$ (119,067)	\$ (141,416)	\$ (163,895)	\$ (149,654)	\$ (153,894)	\$ (155,665)	\$ (155,871)	\$ (158,516)	\$ (159,070)	\$ (1,605,480)
63																	
64				\$ (2,254,052)	\$ (2,495,237)	\$ (2,346,839)	\$ (2,589,089)	\$ (2,536,699)	\$ (2,433,058)	\$ 1,612,458	\$ 1,292,384	\$ 1,666,446	\$ 1,720,012	\$ 1,239,890	\$ 1,718,099	\$ (5,405,685)	
65																	
66				\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
67				\$ 1,820,092	\$ 2,021,726	\$ 1,902,146	\$ 3,200,582	\$ 3,170,102	\$ 3,188,469	\$ (223,838)	\$ 652,311	\$ 272,502	\$ 31,674	\$ 406,884	\$ 85,316	\$ 16,527,966	
68				\$ 1,820,092	\$ 3,841,818	\$ 5,743,964	\$ 8,944,546	\$ 12,114,648	\$ 15,303,117	\$ 15,079,279	\$ 15,731,590	\$ 16,004,092	\$ 16,035,766	\$ 16,442,650	\$ 16,527,966		
69																	
70	<u>Variable Rate Base Deferred</u>																
71				\$ (7,944,355)	\$ (9,764,446)	\$ (11,786,172)	\$ (13,688,319)	\$ (16,888,901)	\$ (20,059,003)	\$ (23,247,472)	\$ (23,023,634)	\$ (23,675,945)	\$ (23,948,447)	\$ (23,980,121)	\$ (24,387,005)		
72				\$ (1,820,092)	\$ (2,021,726)	\$ (1,902,146)	\$ (3,200,582)	\$ (3,170,102)	\$ (3,188,469)	\$ 223,838	\$ (652,311)	\$ (272,502)	\$ (31,674)	\$ (406,884)	\$ (85,316)		
73				\$ (9,764,446)	\$ (11,786,172)	\$ (13,688,319)	\$ (16,888,901)	\$ (20,059,003)	\$ (23,247,472)	\$ (23,023,634)	\$ (23,675,945)	\$ (23,948,447)	\$ (23,980,121)	\$ (24,387,005)	\$ (24,472,321)		
74																	

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	<b>Colstrip Unit 4 Generation Asset Component</b>															
2																
3																
4	<b>Colstrip Unit 4 Fixed Cost Revenue Requirement -- Per Final Order 6925f</b>															
5	<b>Colstrip 4 Plant In Service</b>															
6	Electric Generation Plant		\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 33,916,667	\$ 407,000,000
7	Accumulated Depreciation (Book Life 34 Yrs)		\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (997,549)	\$ (11,970,588)
8	Deferred Income Taxes		\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (96,014)	\$ (1,152,169)
9	Total Year End Rate Base		\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 32,823,104	\$ 393,877,243
10																
11	Average Annual Rate Base		\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 33,369,885	\$ 400,438,621
12																
13	Fixed Return (Avg Rate Base * Cost of Capital)	8.25%	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 2,753,016	\$ 33,036,186
14																
15	<b>Fixed Cost of Service</b>															
16	Steam Power Generation Operation		\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 739,512	\$ 8,874,144
17	Purchase Power		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	Administrative and General Expenses		\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 247,388	\$ 2,968,654
19	Depreciation		\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 997,549	\$ 11,970,588
20	Property Taxes		\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 202,622	\$ 2,431,458
21	Taxes Other than Income		\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 44,086	\$ 529,037
22	MCC/MPSC Taxes	0.45%	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 19,576	\$ 234,907
23	Deferred Income Taxes		\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 96,014	\$ 1,152,169
24	Current Income Taxes		\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 968,357	\$ 11,620,288
25	Miscellaneous Revenues (Rent)		\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (5,991)	\$ (71,887)
26	Fixed Cost of Service		\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 3,309,113	\$ 39,709,358
27																
28	Total CU4 Fixed Cost Revenue Requirement		\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 6,062,129	\$ 72,745,544
29																
30																

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
31	<b>Colstrip Unit 4 Generation Asset Component</b>															
32																
33																
34	<b>Colstrip Unit 4 Variable Cost -- Per Final Order 6925f</b>															
35	<b>Total Forecast Sales</b>															
36																
37																
38																
39																
40	<b>Colstrip Unit 4 Variable Cost Revenues</b>															
41																
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54	<b>Carrying Cost Expense</b>															
55																
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58																
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62																
63	<b>Variable Rate Base Deferred</b>															
64																
65																
66																
67																

6  
7 **PREFILED DIRECT TESTIMONY OF**  
8 **CHERYL A. HANSEN**  
9 **ON BEHALF OF NORTHWESTERN ENERGY**  
10 **COLSTRIP UNIT 4 (CU4) GENERATION ASSET**  
11

12  
13 **TABLE OF CONTENTS**  
14

15	<b><u>Description</u></b>	<b><u>Starting Page No.</u></b>
16	Witness Information	2
17	Purpose of Testimony	2
18	Derivation of Proposed Deferred CU4 Variable Rates	2
19	Derivation of Proposed CU4 Fixed and Variable Rates	4
20	Proposed Total Supply Rates	5
21		
22	<b><u>Exhibit</u></b>	
23	CU4 Account Balances & Derivation of Rates	Exhibit __ (CAH-3)_11-12
24		

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**Witness Information**

**Q. Are you the same Cheryl A. Hansen who filed Prefiled Direct Testimony in the Electricity Supply Tracker portion of this Docket?**

**A.** Yes.

**Purpose of Testimony**

**Q. What is the purpose of your testimony?**

**A.** My testimony:

1. Presents the derivation of proposed deferred CU4 variable rates resulting from the over/under collection reflected in the 2010-2011 tracking period;
2. Presents the derivation of proposed CU4 variable rates for the forecasted 2011-2012 tracking period, and;
3. Discusses the overall total supply rates incorporating all individual rate components.

**Derivation of Proposed Deferred CU4 Variable Rates**

**Q. What is the CU4 variable cost account balance for the twelve-month period ending June 2011?**

**A.** The CU4 variable cost account balance for the twelve-month period ending June 2011 is an over collection of \$(24,472,321) as presented on page 1 of Exhibit\_(CAH-3)\_11-12. This includes the prior period balance for the 2009-

1 2010 tracking period and the current period balance for the 2010-2011  
2 tracking period as discussed below.

3  
4 **Q. Describe the status of the deferred CU4 variable cost account balance**  
5 **associated with the 2009-2010 tracking period.**

6 **A.** In the annual filing submitted on June 4, 2010, the net deferred account  
7 balance for the 2009-2010 tracking period was shown as an over collection  
8 of \$(6,573,172). This amount becomes the starting balance in this filing.  
9 Added to this balance is the prior period true-up for the 2 months of  
10 estimated data included in the May 2010 filing. Page 1 of Exhibit\_(CAH-  
11 3)\_11-12 shows the true-up of May and June 2010 with actual data. The  
12 resulting actual ending balance of \$(7,944,355) is the deferred account  
13 beginning balance for the 2010-2011 tracking period. This balance is then  
14 combined with the current year monthly activity shown on Exhibit\_(CAH-  
15 3)\_11-12, page 1, resulting in a net over collected balance of \$(7,944,355)  
16 for the 2011-2012 tracking period. Effective July 1, 2010, the deferred CU4  
17 rate components were set to zero, as proposed in the May 2010 filing,  
18 therefore, there is no monthly activity for the July 2010 to June 2011  
19 tracking period.

20  
21 **Q. Describe the deferred CU4 variable cost account balance associated**  
22 **with the 2010-2011 tracking period.**

23 **A.** Page 2 of Exhibit\_(CAH-3)\_11-12 shows the monthly detail of the difference  
24 between the CU4 variable cost revenues and expenses for the 2010-2011

1 tracker period, resulting in an over collected amount of \$(16,527,966). The  
2 months of May and June of 2011 are estimated and will be trued-up in the  
3 next annual filing.

4

5 **Q. What is the total deferred CU4 variable cost account adjustment**  
6 **proposed for amortization in this filing?**

7 **A.** The total deferred CU4 variable cost account adjustment proposed in this  
8 filing is an over collection of \$(24,472,321) shown below and on page 1, line  
9 55 of Exhibit\_\_(CAH-3)\_11-12.

10

11 **Total Deferred CU4 Variable Cost Account Balance**

12	2009-2010 Prior Period CU4 Variable Account Balance	\$ (7,944,355)
13	2010-2011 Current Period CU4 Variable Account Balance	<u>\$ (16,527,966)</u>
14		\$ (24,472,321)

15

16 The derivation of the deferred CU4 variable rates is shown on  
17 Exhibit\_\_(CAH-3)\_11-12, page 3 with the resulting rates and revenues  
18 shown in summarized format on page 4.

19

20 **Derivation of Proposed CU4 Fixed and Variable Rates**

21 **Q. Please describe the proposed 2011-2012 CU4 fixed rates in this filing.**



1     **A.** With the introduction of Dave Gates Generating Station at Mill Creek  
2         ("DGGS") rates in 2011, the total electricity supply rate currently includes  
3         several separate rate components. These rate components include – a  
4         supply tracker rate, a CU4 fixed cost of service rate, a CU4 variable cost of  
5         service rate, a DGGS fixed cost of service rate and a DGGS variable cost of  
6         service rate. These separate rate components are bundled together into a  
7         single rate for customer billing as shown on Exhibit\_(CAH-5)\_11-12, page 3.

8  
9         The total deferred supply rate also includes several separate rate  
10        components – a deferred supply rate, a deferred CU4 variable rate and a  
11        deferred DGGS variable rate. These separate rate components are bundled  
12        together into a single rate for customer billing as shown on Exhibit\_(CAH-  
13        5)\_11-12, page 1.

14  
15     **Q.** Does this conclude your testimony?

16     **A.** Yes.

**NorthWestern Energy  
Electric Utility  
Deferred CU4 Variable Cost Account Balance  
July 2010 - June 2011**

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						
7						
8						
9						
10			<b>Monthly</b>	<b>Collection</b>	<b>to-date</b>	<b>Balance</b>
11		<b>Month</b>				<b>Remaining</b>
12						
13		<b>Jul09-Jun10 over collected balance as filed in D2010.5.50</b>			<b>\$</b>	<b>(6,573,172)</b>
14						
15		<b><u>Prior Period Tracker Year True-up - Deferred:</u></b>				
16		May10: Estimated as filed in D2010.5.50		\$	257,119	
17		May10: Actual		\$	129,406	\$ (127,713)
18						
19		Jun10: Estimated as filed in D2010.5.50		\$	283,571	
20		Jun10: Actual		\$	126,146	\$ (157,425)
21						
22		<b><u>Prior Period Tracker Year True-up - Variable:</u></b>				
23		May10: Est as filed in D2010.5.50 - Revenue	\$	(1,195,178)		
24		May10: Est as filed in D2010.5.50 - Expense	\$	(2,025,084)	\$	(829,907)
25						
26		May10: Actual - Revenue	\$	(1,163,651)		
27		May10: Actual - Expense	\$	(2,150,555)	\$	(986,903) \$ (156,996)
28						
29		Jun10: Est as filed in D2010.5.50 - Revenue	\$	(1,318,134)		
30		Jun10: Est as filed in D2010.5.50 - Expense	\$	(4,776,471)	\$	(3,458,337)
31						
32		Jun10: Actual - Revenue	\$	(1,134,483)		
33		Jun10: Actual - Expense	\$	(5,521,870)	\$	(4,387,386) \$ (929,049)
34						
35		<b>Actual Jul09-Jun10 over collected balance [1]</b>			<b>\$</b>	<b>(7,944,355)</b>
36						
37		<b><u>Jul10-Jun11 Monthly Activity [2]:</u></b>				
38		July 2010	\$	-	\$	(7,944,355)
39		August 2010	\$	-	\$	(7,944,355)
40		September 2010	\$	-	\$	(7,944,355)
41		October 2010	\$	-	\$	(7,944,355)
42		November 2010	\$	-	\$	(7,944,355)
43		December 2010	\$	-	\$	(7,944,355)
44		January 2011	\$	-	\$	(7,944,355)
45		February 2011	\$	-	\$	(7,944,355)
46		March 2011	\$	-	\$	(7,944,355)
47		April 2011	\$	-	\$	(7,944,355)
48		May 2011	\$	-	\$	(7,944,355)
49		June 2011	\$	-	\$	(7,944,355)
50						
51		Deferred CU4 Variable Ending Balance			\$	(7,944,355)
52						
53		CU4 Variable Cost Balance (see page 2)			\$	(16,527,966)
54						
55		<b>Total CU4 Variable Cost Balance Jul10-Jun11 [3]</b>			<b>\$</b>	<b>(24,472,321)</b>
56						
57		[1] Source: Exhibit_(FVB-2_Rev)_09-10, page 6, line 60. (Response to Docket No. D2010.5.50 PSC-001a).				
58		[2] Source: Exhibit_(FVB-4)_10-11, page 2, line 65.				
59		[3] Source: Exhibit_(FVB-4)_10-11, page 2, line 71.				
60						

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**NorthWestern Energy  
Electric Utility  
CU4 Variable Cost Account Balance  
July 2010 - June 2011**

Month	CU4 Variable Cost Revenues	CU4 Variable Cost Expense	CU4 Variable Cost Balance
July 2010	\$ (433,960)	\$ (2,254,052)	\$ (1,820,092)
August 2010	\$ (473,511)	\$ (2,495,237)	\$ (2,021,726)
September 2010	\$ (444,693)	\$ (2,346,839)	\$ (1,902,146)
October 2010	\$ 611,493	\$ (2,589,089)	\$ (3,200,582)
November 2010	\$ 633,403	\$ (2,536,699)	\$ (3,170,102)
December 2010	\$ 755,411	\$ (2,433,058)	\$ (3,188,469)
January 2011	\$ 1,388,620	\$ 1,612,458	\$ 223,838
February 2011	\$ 1,944,695	\$ 1,292,384	\$ (652,311)
March 2011	\$ 1,938,949	\$ 1,666,446	\$ (272,502)
April 2011	\$ 1,751,686	\$ 1,720,012	\$ (31,674)
May 2011 (Estimated)	\$ 1,646,774	\$ 1,239,890	\$ (406,884)
June 2011 (Estimated)	\$ 1,803,415	\$ 1,718,099	\$ (85,316)
<b>CU4 Variable Balance Jul10-Jun11</b>	<b>\$ 11,122,281</b>	<b>\$ (5,405,685)</b>	<b>\$ (16,527,966)</b>

Source:  
Revenues: Exhibit\_(FVB-4)\_10-11, page 2, line 39.  
Expense: Exhibit\_(FVB-4)\_10-11, page 2, line 62.





**Northwestern Energy  
Electric Utility Derivation of Rates  
CU4 Variable  
Tracker Period July 2011 to June 2012**

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
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35															

**Customer Rate Class**

	Loss Factor	Jul11 to Jun12 Supply Retail kWh Sales	Sales Adjusted for Employee Discount	Sales Weighted by Losses	CU4 Variable After Losses kWh Charges	CU4 Variable Revenue/Cost Check
Residential	8.5100%	2,285,393,465	2,285,393,465	2,479,880,449	\$ 0.003851	\$ 8,801,050
Residential Employee	8.5100%	4,301,547	2,580,928	2,800,565	\$ 0.002311	\$ 9,941
GS 1 Secondary NonDemand	8.5100%	268,550,850	268,550,850	291,404,528	\$ 0.003851	\$ 1,034,189
GS 1 Secondary Demand	8.5100%	2,443,171,344	2,443,171,344	2,651,085,225	\$ 0.003851	\$ 9,408,653
GS 1 Primary NonDemand	5.5400%	1,120,382	1,120,382	1,182,451	\$ 0.003746	\$ 4,197
GS 1 Primary Demand	5.5400%	337,241,187	337,241,187	355,924,349	\$ 0.003746	\$ 1,263,305
General Service Substation	4.6300%	262,787,832	262,787,832	274,954,909	\$ 0.003713	\$ 975,731
General Service Transmission	4.0000%	145,980,838	145,980,838	151,820,071	\$ 0.003691	\$ 538,815
Irrigation	8.5100%	84,711,017	84,711,017	91,919,925	\$ 0.003851	\$ 326,222
Lighting	8.5100%	58,036,154	58,036,154	62,975,031	\$ 0.003851	\$ 223,497
MPSC System Average	7.4541%	5,891,294,616	5,889,573,997	6,363,947,502	\$ 0.003835	\$ 22,585,602
YNP Contract		19,846,127			Rounding Adjustment	\$ 3,114
Total Supply Load		5,911,140,743				\$ 22,588,716

Colstrip Unit 4 Variable Cost of Service \$ 22,588,716

**Total CU4 Variable COS Rate Before Losses \$ 0.003549**  
**Total CU4 Variable COS Rate After Losses \$ 0.003834**

NorthWestern Energy  
Electric Utility  
Total Colstrip Unit 4 Revenue (\$000) Summary  
Tracker Period July 2011 to June 2012

		CU4 Fixed		CU4 Variable				
	Jul11-Jun12 Load Statistics	Current Rates [1] 6/1/2011	Current Rate Revenue	Current Rates 6/1/2011	Current Rate Revenue	Proposed Rates 7/1/2011	Proposed Rate Revenue	Revenue Diff Proposed vs Current
<b>Residential</b>								
Residential	2,285,393	0.012734	\$ 29,102	0.003621	\$ 8,275	0.003851	\$ 8,801	\$ 526
Residential Employee	4,302	0.007640	\$ 33	0.002173	\$ 9	0.002311	\$ 10	\$ 1
Total Residential			\$ 29,135		\$ 8,285		\$ 8,811	\$ 526
<b>General Service 1</b>								
GS-1 Sec Non Demand	268,551	0.012734	\$ 3,420	0.003621	\$ 972	0.003851	\$ 1,034	\$ 62
GS-1 Sec Demand	2,443,171	0.012734	\$ 31,111	0.003621	\$ 8,847	0.003851	\$ 9,409	\$ 562
GS-1 Pri Non Demand	1,120	0.012385	\$ 14	0.003522	\$ 4	0.003746	\$ 4	\$ 0
GS-1 Pri Demand	337,241	0.012385	\$ 4,177	0.003522	\$ 1,188	0.003746	\$ 1,263	\$ 76
Total GS-1			\$ 38,722		\$ 11,011		\$ 11,710	\$ 699
<b>General Service 2</b>								
GS-2 Substation	262,788	0.012278	\$ 3,227	0.003492	\$ 918	0.003713	\$ 976	\$ 58
GS-2 Transmission	145,981	0.012204	\$ 1,782	0.003470	\$ 507	0.003691	\$ 539	\$ 32
Total GS-2			\$ 5,008		\$ 1,424		\$ 1,515	\$ 90
<b>Irrigation</b>								
Irrigation	84,711	0.012734	\$ 1,079	0.003621	\$ 307	0.003851	\$ 326	\$ 19
Total Irrigation			\$ 1,079		\$ 307		\$ 326	\$ 19
<b>Lighting</b>								
Lighting	58,036	0.012734	\$ 739	0.003621	\$ 210	0.003851	\$ 223	\$ 13
Total Lighting			\$ 739		\$ 210		\$ 223	\$ 13
<b>Total Rate Schedule</b>	<b>5,891,295</b>		<b>\$ 74,683</b>		<b>\$ 21,237</b>		<b>\$ 22,586</b>	<b>\$ 1,348.893</b>

[1] Colstrip Unit 4 Fixed Rates approved in Docket No. D2010.5.50 Order No. 7093c effective 4/1/2010.

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**PREFILED DIRECT TESTIMONY OF**  
**FRANK V. BENNETT**  
**ON BEHALF OF NORTHWESTERN ENERGY**  
**DAVE GATES GENERATING STATION (DGGS) GENERATION ASSET**

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Tracker for the 2011/2012 Period.....	Exhibit__(FVB-7)11-12

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**Witness Information**

**Q. Are you the same Frank V. Bennett who filed Prefiled Direct Testimony in the Electricity Supply Cost Tracker portion of this Docket?**

**A.** Yes.

**Purpose of Testimony**

**Q. Please describe your testimony.**

**A.** In my testimony I will present the following information:

- The updated DGGS costs for the 12-month ended June 2011 tracking period with four months of actual numbers and two months of estimated numbers, and
- The forecast DGGS costs for the 12-month ended June 2012 tracking period.

**Update to DGGS Values in the 2010/2011 Tracker Period**

**Q. How has NorthWestern updated the DGGS generation values reflected in the 2010/2011 tracker?**

**A.** The DGGS is a Generation Asset approved by Interim Order in Docket No. D2008.8.95 and was added to the 2010/2011 tracking period in January of 2011. NorthWestern includes the contribution of 7 MW of base load energy from the DGGS asset beginning on January 1, 2011 in the Electric Supply Tracker.

1 **Q. How is the DGGS variable cost of service treated in the 2010/2011 tracking**  
2 **period?**

3 **A.** The DGGS is first included in January 2011 when it began providing service.  
4 Exhibit\_\_(FVB-6)\_10-11 includes 6 months of service with four months of actual  
5 values and two months of estimated information. The variable cost of service on  
6 page 2 includes fuel cost offset by costs allocated to Choice customers and net  
7 revenue credits to derive the variable DGGS costs. These variable costs are  
8 tracked in a manner similar to the market-based supply costs.

9

10 **Q. Have any adjustments been made to the DGGS fixed cost of service in the**  
11 **2010/2011 or 2011/2012 tracking periods?**

12 **A.** No. The DGGS fixed cost of service presented in this filing includes the costs  
13 which were approved in Docket No. D2008.8.95 Order No. 6943c. They will  
14 remain unchanged until such time that a subsequent order is issued in Docket  
15 No. D2008.8.95.

16

17 **Q. Please summarize the 12-month ended June 2011 DGGS deferred value.**

18 **A.** The beginning deferred value for this new generation asset is zero. With four  
19 months of actual values and two months of estimated values, the June 2011  
20 ending deferred account balance is a \$942,215 under collection. Please refer to  
21 the Prefiled Direct Testimony of Cheryl A. Hansen – DGGS Generation Asset for  
22 further discussion of the Deferred Account.

1 **Q. Please summarize the 12-month ended June 2011 DGGS tracker period**  
 2 **variable costs.**

3 **A.** The DGGS tracker period is summarized in the following table:

<b>Beginning Deferred DGGS</b>		<b>Balance</b>
Starting Balance		\$ 0

<b>Variable Costs DGGS</b>		<b>Cost</b>
Fuel Expense		\$ 9,118,877
Less Energy Supply 7 MW		(796,638)
Less Transmission Service @ 20%		(1,664,448)
Energy Supply 7 MW		796,638
Subtotal MPSC – Related Fuel Cost:		7,454,429

Revenue Credits 27 MW		(2,227,130)
Less Transmission Service @ 20%		445,426
Subtotal MPSC – Related Revenue Credits:		(1,781,704)

Carrying Cost		28,193
DGGS Variable Cost Allocation		\$ 5,700,918

<b>Variable Revenues DGGS</b>		<b>Revenue</b>
Revenues		\$ 4,758,703

<b>Ending Deferred DGGS</b>		<b>Balance</b>
Under Collection		\$ 942,215

4

5

**Forecast of DGGS in the 2011/2012 Tracker Period**

6

7 **Q. Please summarize the 12-month DGGS tracker period ending June 2012.**

8 **A.** The June 2011 Deferred Account under collection ending balance of \$942,215 as  
 9 described above is the July 2011 beginning balance. July 2011 through June  
 10 2012 information is based on forecast numbers. Please see Exhibit\_\_(FVB-

1 7)\_11-12 for supply volume and cost details of the 12-month forecast tracking  
2 period.

3  
4 **Q. Describe the changes within the DGGs variable Revenue and Cost**  
5 **categories for the 12-month ended June 2012 forecast tracker period.**

6 A. The DGGs Generation Asset variable cost revenue and expense details are  
7 reflected on page 2 of Exhibit\_\_(FVB-7)\_11-12 under two main sections, Total  
8 Revenue and Total Variable Cost Allocation. Total Revenue is estimated to be  
9 \$10,808,048, reflecting an increase as a result of the partial period of operation  
10 from the prior tracker period in Exhibit\_\_(FVB-6)\_10-11. The 12-month forecast  
11 tracker estimates Total DGGs Variable Cost Allocation of \$10,927,087, reflecting  
12 an increase from the prior period.

13  
14 **Q. Please summarize the 12-month ended June 2012 DGGs tracker period.**

15 **A.** The DGGs tracker period is summarized in the following table.

<b>Beginning Deferred DGGs</b>		<b>Balance</b>
Starting Balance		\$ 942,215

<b>Variable Costs DGGs</b>		<b>Cost</b>
Fuel Expense		\$ 19,302,792
Less Energy Supply 7 MW		(1,589,726)
Less Transmission Service @ 20%		(3,542,613)
Energy Supply 7 MW		1,589,726
Subtotal MPSC – Related Fuel Cost:		15,760,179

Revenue Credits 27 MW		(6,131,800)
Less Transmission Service @ 20%		1,226,360
Subtotal MPSC – Related Revenue Credits:		(4,905,440)

---

Carrying Cost		72,348
DGGS Variable Cost Allocation		\$ 10,927,087

<b>Variable Revenues DGGS</b>		<b>Revenue</b>
Revenues		\$ 10,808,048

<b>Ending Deferred DGGS</b>		<b>Balance</b>
Under Collection		\$ 1,061,255

1

2

3 **Q. Does this conclude your pre-filed testimony?**

4 **A.** Yes.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P						
1	Dave Gates Generating Station at Mill Creek Generation Asset Component																					
2			Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10	Jan-11	Feb-11	Mar-11	Apr-11	May-11	Jun-11	Total							
3			Actual	Actual	Estimate	Estimate																
4	Dave Gates Generating Station Fixed Cost of Service -- Per Interim Order 6943b																					
5	Dave Gates Generating Station Plant In Service																					
6	Electric Generation Plant	\$	-	\$	-	\$	-	\$	-	\$	16,734,538	\$	16,734,538	\$	16,734,538	\$	15,391,857	\$	15,391,857	\$	97,721,868	
7	Accumulated Depreciation (Book Life 30 Yrs)	\$	-	\$	-	\$	-	\$	-	\$	(557,818)	\$	(557,818)	\$	(557,818)	\$	(252,996)	\$	(252,996)	\$	(2,737,264)	
8	Deferred Income Taxes	\$	-	\$	-	\$	-	\$	-	\$	(24,405)	\$	(24,405)	\$	(24,405)	\$	-	\$	-	\$	(97,618)	
9	DGGS Project Costs	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	19,310	\$	19,310	\$	38,619	
10	Customer Contributed Capital	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	447	\$	447	\$	893	
11	Working Capital	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	-	\$	165,045	\$	165,045	\$	330,090	
12	Total Year End Rate Base	\$	-	\$	-	\$	-	\$	-	\$	16,152,316	\$	16,152,316	\$	16,152,316	\$	16,152,316	\$	15,323,662	\$	95,256,588	
13																						
14	Average Annual Rate Base	\$	-	\$	-	\$	-	\$	-	\$	16,443,427	\$	16,443,427	\$	16,443,427	\$	16,443,427	\$	15,357,760	\$	96,489,228	
15																						
16	Fixed Return (Avg RB * Cost of Capital)	8.16%	\$	-	\$	-	\$	-	\$	-	\$	1,341,784	\$	1,341,784	\$	1,341,784	\$	1,341,784	\$	1,250,411	\$	7,867,956
17																						
18	Fixed Cost of Service																					
19	Operation & Maintenance Expenses	\$	-	\$	-	\$	-	\$	-	\$	563,583	\$	563,583	\$	563,583	\$	563,583	\$	563,583	\$	3,381,500	
20	Depreciation	\$	-	\$	-	\$	-	\$	-	\$	557,818	\$	557,818	\$	557,818	\$	505,992	\$	505,992	\$	3,243,256	
21	Amortization of DGGS Project Cost																12,873	\$	12,873	\$	25,746	
22	Property Taxes	\$	-	\$	-	\$	-	\$	-	\$	669,114	\$	669,114	\$	669,114	\$	481,036	\$	481,036	\$	3,638,528	
23	MPSC & MCC Revenue Tax																16,706	\$	16,706	\$	33,412	
24	Deferred Income Taxes	\$	-	\$	-	\$	-	\$	-	\$	24,405	\$	24,405	\$	24,405	\$	24,405	\$	(21,175)	\$	55,269	
25	Current Income Taxes	\$	-	\$	-	\$	-	\$	-	\$	518,706	\$	518,706	\$	518,706	\$	518,706	\$	-	\$	2,074,826	
26	Fixed Cost of Service	\$	-	\$	-	\$	-	\$	-	\$	2,333,626	\$	2,333,626	\$	2,333,626	\$	2,333,626	\$	1,559,016	\$	12,452,536	
27																						
28	Subtotal Fixed Cost Revenue Requirement	\$	-	\$	-	\$	-	\$	-	\$	3,675,410	\$	3,675,410	\$	3,675,410	\$	3,675,410	\$	2,809,427	\$	20,320,492	
29																						
30	Less: Transmission Service @ 20%	\$	-	\$	-	\$	-	\$	-	\$	(735,082)	\$	(735,082)	\$	(735,082)	\$	(735,082)	\$	(561,885)	\$	(4,064,098)	
31																						
32	DGGS Fixed Cost Allocation	\$	-	\$	-	\$	-	\$	-	\$	2,940,328	\$	2,940,328	\$	2,940,328	\$	2,940,328	\$	2,247,542	\$	16,256,394	
33																						
34	MCC/MPSC Taxes	0.53%	\$	-	\$	-	\$	-	\$	-	\$	1,299	\$	1,299	\$	1,299	\$	1,299	\$	-	\$	5,195
35	Total Fixed Cost Including MCC/MPSC Tax	\$	-	\$	-	\$	-	\$	-	\$	2,941,626	\$	2,941,626	\$	2,941,626	\$	2,941,626	\$	2,247,542	\$	16,261,588	
36																						

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
37	<b>Dave Gates Generating Station at Mill Creek Generation Asset Component</b>															
38																
39																
40	<b>Dave Gates Generating Station Variable Cost -- Per Interim Order 6943b</b>															
41	<b>Total Forecast Sales</b>															
42																
43																
44																
45																
46	<b>DGGS Variable Cost Revenues</b>															
47																
48																
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50	<b>Dave Gates Generating Station Fuel Cost</b>															
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59	<b>DGGS Revenue Credits</b>															
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64	<b>DGGS Variable Cost Allocation</b>															
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69	<b>Carrying Cost Expense</b>															
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78	<b>Variable Rate Base Deferred</b>															
79																
80																
81																
82																

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	<b>Dave Gates Generating Station at Mill Creek Asset Component</b>														
2															
3		Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Total	
4		Estimate													
5	<b>Dave Gates Generating Station Fixed Cost Revenue Requirement -- Per Interim Order 6943b</b>														
6	<b>DGGS Plant In Service</b>														
7	Electric Generation Plant	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 15,391,857	\$ 184,702,288
8	Accumulated Depreciation (Book Life 30 Yrs)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (252,996)	\$ (3,035,952)
9	DGGS Project Costs	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 19,310	\$ 231,716
10	Customer Contributed Capital	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 447	\$ 5,358
11	Working Capital	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 165,045	\$ 1,980,537
12	Total Year End Rate Base	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 15,323,662	\$ 183,883,947
13	Fixed Return (Avg RB * Cost of Capital)	8.16%	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 1,250,411	\$ 15,004,930
14	<b>Fixed Cost of Service</b>														
15	Operation & Maintenance Expenses	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 563,583	\$ 6,763,000
16	Depreciation	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 505,992	\$ 6,071,904
17	Amortization of DGGS Project Cost	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 12,873	\$ 154,477
18	Property Taxes	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 481,036	\$ 5,772,435
19	MPSC & MCC Revenue Tax	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 16,706	\$ 200,475
20	Deferred Income Taxes	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (21,175)	\$ (254,096)
21	Current Income Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
22	Fixed Cost of Service	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 1,559,016	\$ 18,708,195
23	<b>Subtotal Fixed Cost Revenue Requirement</b>														
24		\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,427	\$ 2,809,428	\$ 33,713,125
25	<b>Less: Transmission Service @ 20%</b>														
26		\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,885)	\$ (561,886)	\$ (6,742,625)
27	<b>DGGS Fixed Cost Allocation</b>														
28		\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 26,970,500
29	<b>Total DGGS Fixed Cost Revenue Requirement</b>														
30		\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 2,247,542	\$ 26,970,500
31															
32															
33															

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
34	<b>Dave Gates Generating Station at Mill Creek Asset Component</b>															
35				Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Total
36				Estimate												
37	<b>Dave Gates Generating Station at Mill Creek Variable Cost – Per Interim Order 6943b</b>															
38	<b>Total Forecast Sales</b>															
39				498,772	528,070	480,850	458,338	477,652	522,117	553,182	516,141	487,755	467,727	447,710	452,983	5,891,295
40			\$	1,8346	1,8346	1,8346	1,8346	1,8346	1,8346	1,8346	1,8346	1,8346	1,8346	1,8346	1,8346	
41			\$	-	-	-	-	-	-	-	-	-	-	-	-	
42																
43	<b>DGGS Variable Cost Revenues</b>															
44			\$	915,036	968,786	882,158	840,857	876,290	957,864	1,014,857	946,901	894,825	858,082	821,359	831,032	10,808,048
45			\$	-	-	-	-	-	-	-	-	-	-	-	-	
46			\$	915,036	968,786	882,158	840,857	876,290	957,864	1,014,857	946,901	894,825	858,082	821,359	831,032	10,808,048
47																
48	<b>DGGS Fuel Cost</b>															
49			\$	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	1,608,566	19,302,792
50			\$	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(132,477)	(1,589,726)
51			\$	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	1,476,089	17,713,066
52			\$	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(295,218)	(3,542,613)
53			\$	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	1,180,871	14,170,453
54			\$	132,477	132,477	132,477	132,477	132,477	132,477	132,477	132,477	132,477	132,477	132,477	132,477	1,589,726
55			\$	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	1,313,348	15,760,179
56																
57	<b>DGGS Revenue Credits</b>															
58			\$	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(510,983)	(6,131,800)
59			\$	102,197	102,197	102,197	102,197	102,197	102,197	102,197	102,197	102,197	102,197	102,197	102,197	1,226,360
60			\$	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(408,787)	(4,905,440)
61																
62			\$	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	10,854,739
63																
64																
65			\$	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	904,562	10,854,739
66																
67	<b>Carrying Cost Expense</b>															
68			7.80%	\$ 6,092	\$ 5,712	\$ 5,896	\$ 6,351	\$ 6,577	\$ 6,272	\$ 5,592	\$ 5,351	\$ 5,450	\$ 5,790	\$ 6,371	\$ 6,894	\$ 72,348
69																
70			\$	910,654	910,274	910,457	910,913	911,139	910,833	910,153	909,913	910,012	910,351	910,933	911,455	10,927,087
71																
72			\$	-	-	-	-	-	-	-	-	-	-	-	-	-
73			\$	4,382	58,512	(28,300)	(70,055)	(34,849)	47,031	104,704	36,988	(15,187)	(52,269)	(89,574)	(80,423)	(119,040)
74			\$	4,382	62,895	34,595	(35,460)	(70,309)	(23,279)	81,425	118,413	103,226	50,957	(38,617)	(119,040)	
75																
76	<b>Variable Rate Base Deferred</b>															
77			\$	942,215	937,833	879,320	907,620	977,675	1,012,524	965,494	860,790	823,802	838,989	891,258	980,832	
78			\$	(4,382)	(58,512)	28,300	70,055	34,849	(47,031)	(104,704)	(36,988)	15,187	52,269	89,574	80,423	
79			\$	937,833	879,320	907,620	977,675	1,012,524	965,494	860,790	823,802	838,989	891,258	980,832	1,061,255	

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Department of Public Service Regulation  
Montana Public Service Commission  
Docket No. D2011.5.38  
NorthWestern Energy

PREFILED DIRECT TESTIMONY OF  
CHERYL A. HANSEN  
ON BEHALF OF NORTHWESTERN ENERGY  
DAVE GATES GENERATING STATION (DGGS) GENERATION ASSET

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Purpose of Testimony	2
DGGS Variable Account Balance	2
Proposed DGGS Fixed and Variable Rates	3
Proposed Total Supply Rates	4
<u>Exhibit</u>	
DGGS Account Balance & Revenue Summary	Exhibit __ (CAH-4)_11-12

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**Witness Information**

**Q. Are you the same Cheryl A. Hansen who filed Prefiled Direct Testimony in the Electricity Supply Tracker portion of this Docket?**

**A.** Yes.

**Purpose of Testimony**

**Q. What is the purpose of your testimony?**

**A.** My testimony:

1. Presents the over/under collection related to DGGS reflected in the 2010-2011 tracking period, and;
2. Discusses the overall total supply rates incorporating all individual rate components.

**DGGS Variable Account Balance**

**Q. What is the DGGS variable cost account balance for the twelve-month period ending June 2011?**

**A.** The DGGS variable cost account balance for the twelve-month period ending June 2011 is an under collection of \$942,215 as presented on page 1 of Exhibit\_(CAH-4)\_11-12. Shown is the monthly detail of the difference between the DGGS variable cost revenues and expenses for the 2010-2011 tracking period. The months of May and June of 2011 are estimated and will be trued-up in the next annual filing.

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**Proposed DGGGS Fixed and Variable Rates**

**Q. Please describe the proposed 2011-2012 DGGGS fixed rates in this filing.**

**A.** The DGGGS fixed cost of service rate components presented in this filing are the current rates which went into effect May 1, 2011 in compliance with Docket No. D2008.8.95, Order No. 6943c. They will remain unchanged in this filing until such time that a subsequent order is issued in Docket No. D2008.8.95.

**Q. Please describe the proposed 2011-2012 DGGGS variable rates in this filing.**

**A.** The DGGGS variable cost of service rate components presented in this filing are the current rates which went into effect May 1, 2011 in compliance with Docket No. D2008.8.95, Order No. 6943c. Similar to the DGGGS fixed rates, they will remain unchanged in this filing until such time that a subsequent order is issued in Docket No. D2008.8.95. The estimated 12 months ended June 2011 DGGGS deferred account balance will carry forward into the 2011-2012 tracking period.

The DGSS fixed and variable rates and revenues are shown in summarized format on Exhibit\_(CAH-4)\_11-12, page 2.

1 Proposed Total Supply Rates

2 **Q. Please describe the process used by NorthWestern to derive the total**  
3 **proposed 2011-2012 electricity supply rates in this filing.**

4 **A.** With the introduction of DGGs rates in 2011, the total electricity supply rate  
5 currently includes several separate rate components. These rate  
6 components include – a supply tracker rate, a CU4 fixed cost of service  
7 rate, a CU4 variable cost of service rate, a DGGs fixed cost of service rate  
8 and a DGGs variable cost of service rate. These separate rate components  
9 are bundled together into a single rate for customer billing as shown on  
10 Exhibit\_(CAH-5)\_11-12, page 3.

11  
12 The total deferred supply rate also includes several separate rate  
13 components – a deferred supply rate, a deferred CU4 variable rate and a  
14 deferred DGGs variable rate. These separate rate components are bundled  
15 together into a single rate for customer billing as shown on Exhibit\_(CAH-  
16 5)\_11-12, page 1.

17  
18 **Q. Does this conclude your testimony?**

19 **A.** Yes.

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**NorthWestern Energy  
Electric Utility  
DGGG Variable Cost Account Balance  
July 2010 - June 2011**

Month	MCGS Variable Cost Revenues	MCGS Variable Cost Expense	MCGS Variable Cost Balance
July 2010	\$ -	\$ -	\$ -
August 2010	\$ -	\$ -	\$ -
September 2010	\$ -	\$ -	\$ -
October 2010	\$ -	\$ -	\$ -
November 2010	\$ -	\$ -	\$ -
December 2010	\$ -	\$ -	\$ -
January 2011	\$ 439,743	\$ 875,068	\$ 435,325
February 2011	\$ 884,542	\$ 886,184	\$ 1,642
March 2011	\$ 881,928	\$ 1,144,653	\$ 262,726
April 2011	\$ 796,751	\$ 973,603	\$ 176,852
May 2011 (Estimated)	\$ 838,013	\$ 910,728	\$ 72,714
June 2011 (Estimated)	\$ 917,725	\$ 910,682	\$ (7,043)
<b>DGGG Variable Balance Jul10-Jun11</b>	<b>\$ 4,758,703</b>	<b>\$ 5,700,918</b>	<b>\$ 942,215</b>

Source:  
Revenues: Exhibit\_(FVB-6)\_10-11, page 2, line 39.  
Expense: Exhibit\_(FVB-6)\_10-11, page 2, line 65.

**NorthWestern Energy  
Electric Utility  
Total Dave Gates Generating Station Revenue (\$000) Summary  
Tracker Period July 2011 to June 2012**

		DGGS Fixed		DGGS Variable	
	Jun11-Jun12 Load Statistics	Current Rates [1] 6/1/2011	Current Rate Revenue	Current Rates [1] 6/1/2011	Current Rate Revenue
<b>Residential</b>					
Residential	2,285,393	0.004600	\$ 10,513	0.001842	\$ 4,210
Residential Employee	4,302	0.002760	\$ 12	0.001105	\$ 5
Total Residential			\$ 10,525		\$ 4,214
<b>General Service 1</b>					
GS-1 Sec Non Demand	268,551	0.004600	\$ 1,235	0.001842	\$ 495
GS-1 Sec Demand	2,443,171	0.004600	\$ 11,239	0.001842	\$ 4,500
GS-1 Pri Non Demand	1,120	0.004474	\$ 5	0.001792	\$ 2
GS-1 Pri Demand	337,241	0.004474	\$ 1,509	0.001792	\$ 604
Total GS-1			\$ 13,988		\$ 5,601
<b>General Service 2</b>					
GS-2 Substation	262,788	0.004435	\$ 1,165	0.001777	\$ 467
GS-2 Transmission	145,981	0.004409	\$ 644	0.001766	\$ 258
Total GS-2			\$ 1,809		\$ 725
<b>Irrigation</b>					
Irrigation	84,711	0.004600	\$ 390	0.001842	\$ 156
Total Irrigation			\$ 390		\$ 156
<b>Lighting</b>					
Lighting	58,036	0.004600	\$ 267	0.001842	\$ 107
Total Lighting			\$ 267		\$ 107
<b>Total Rate Schedule</b>	<b>5,891,295</b>		<b>\$ 26,978</b>		<b>\$ 10,804</b>

[1] Dave Gates Generating Station Rates approved in Docket No. D2008.8.95 Order No.6943c, effective 5/1/2011.