

June 4, 2010

**VIA HAND DELIVERY & ELECTRONIC MAIL**

Luly E. Massaro, Commission Clerk  
Rhode Island Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02889

**RE: Docket 4149**  
**2011 Standard Offer Service Procurement Plan**  
**2011 Renewable Energy Standard Procurement Plan**  
**Responses to Division Data Requests – Set 3**

Dear Ms. Massaro:

Enclosed please find ten (10) copies of National Grid's <sup>1</sup> responses to the Division's Third Set of Data Requests issued on May 14, 2010 in the above-referenced proceeding.

Thank you for your attention to this transmittal. If you have any questions, please feel free to contact me at (401) 784-7667.

Sincerely,



Thomas R. Teehan

Enclosure

cc: Docket 4149 Service List  
Leo Wold, Esq.  
Steve Scialabba, Division

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<sup>1</sup> The Narragansett Electric Company d/b/a National Grid ("National Grid" or "Company")

Certificate of Service

I hereby certify that a copy of the cover letter and/or any materials accompanying this certificate were electronically and/or sent via U.S. Mail to the individuals listed below. Ten (10) copies of this filing were hand delivered to the RI Public Utilities Commission.



June 4, 2010

Joanne M. Scanlon  
National Grid

Date

**Docket No. 4149 National Grid – 2011 SOS and RES Procurement Plans  
Service List updated 6/3/10**

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<b>File an original &amp; nine (9) copies w/:</b> Luly E. Massaro, Commission Clerk Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	<a href="mailto:Lmassaro@puc.state.ri.us">Lmassaro@puc.state.ri.us</a>	401-780-2017 401-941-1691
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Division Data Request 3-1

Request:

The following question pertains to Grid Exhibit 1, a January 2010 document entitled “Analysis of Standard Offer Service Approaches for Mass Market Customers” by Northbridge. On Page 35 entitled “Supply Cost Surprise Calculation” provides a calculation of the increase in the actual SOS rate paid when market prices and loads increase. For which of the three procurement methods (i.e., FRS, Managed Portfolio, or 100% spot purchases) analyzed by Northbridge does this calculation apply to? Please provide a similar calculation for the other two procurement models. Does this calculation accurately describe the actual calculation contained in Northbridge’s model? If not, please provide similar calculations for all three procurement methods using the exact calculations in the model.

Response:

Page 35 of the document entitled “Analysis of Standard Offer Service Approaches for Mass Market Customers” does not provide “a calculation of the increase in the actual SOS rate paid when market prices and loads increase,” as is stated in the interrogatory. Rather, the illustrative calculation on page 35 exemplifies the calculation of “Supply Cost Surprise,” which as indicated on page 35 represents the difference between the ex ante forecasted SOS supply cost and the actual SOS supply cost. Furthermore, the example illustrates how changes in the load-weighting gross-ups can create uncertainty in actual supply costs.

The example provided on page 35 is a simplified example of the Supply Cost Surprise calculation for a 100% spot procurement approach. Because the example is illustrative and is intended to communicate a concept, the calculations contain one simplification: prices, loads, and load-weighting gross-ups are shown on an aggregate monthly basis on page 35, while the calculations for both on-peak and off-peak periods for each month are performed separately in NorthBridge’s analysis. Additionally, the order in which some of the calculations are performed differs in the simplified example from the order in which they are performed in the analysis. However, the methodologies are algebraically equivalent and produce an identical result.

Please refer to the attached file for detailed calculations, as they are performed in the NorthBridge analysis, for each of the three procurement approaches (i.e., full requirements product approach, managed portfolio approach, 100% spot approach).

**Illustrative Calculation of "Supply Cost Surprise" -- Full Requirements Product Approach**

**NOTES:**

FIGURES IN **ORANGE** ARE ILLUSTRATIVE SCENARIO VALUES  
FIGURES IN **BLUE** ARE FIXED VALUES THAT DO NOT VARY ACROSS SCENARIOS

	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
<b>Forecasted</b>												
On-Peak Load (Non-FRS) (MWh)	0	0	0	0	0	0	115,022	113,327	83,187	80,217	84,237	100,227
On-Peak Price (\$ / MWh)	\$92.22	\$92.22	\$76.36	\$76.36	\$71.27	\$76.20	\$84.45	\$84.45	\$75.24	\$80.55	\$80.55	\$80.55
On-Peak Gross Up (%)	3.18%	1.98%	1.88%	0.24%	-0.48%	2.53%	3.21%	7.48%	1.22%	0.99%	1.70%	2.78%
Forecasted On-Peak Energy Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$10,026,147	\$10,286,616	\$6,335,471	\$6,525,324	\$6,901,017	\$8,297,684
Off-Peak Load (Non-FRS) (MWh)	0	0	0	0	0	0	100,260	101,040	79,431	73,876	81,448	95,728
Off-Peak Price (\$ / MWh)	\$75.25	\$75.25	\$61.31	\$61.31	\$55.90	\$56.52	\$61.62	\$61.62	\$57.62	\$64.79	\$64.79	\$64.79
Off-Peak Gross Up (%)	6.28%	3.93%	4.28%	5.76%	5.34%	7.72%	6.61%	7.66%	6.98%	6.68%	5.75%	6.73%
Forecasted Off-Peak Energy Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$6,586,233	\$6,702,877	\$4,896,457	\$5,106,163	\$5,580,415	\$6,619,573
Forecasted Non-FRS Energy Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$16,612,380	\$16,989,493	\$11,231,927	\$11,631,487	\$12,481,432	\$14,917,257
Forecasted Non-FRS Load Served (MWh)	0	0	0	0	0	0	215,283	214,367	162,618	154,093	165,685	195,955
Capacity (\$ / MWh)	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Ancillary (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
RECs (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
Forecasted Non-Energy Cost (Non-FRS) (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$3,444,523	\$3,429,874	\$2,601,881	\$2,465,485	\$2,650,968	\$3,135,282
FRS Load (MWh)	384,270	336,581	339,345	294,388	298,242	352,517	215,283	214,367	162,618	154,093	165,685	195,955
FRS Price (\$ / MWh)	\$89.93	\$89.93	\$89.93	\$89.93	\$89.93	\$89.93	\$91.66	\$91.66	\$91.66	\$91.66	\$91.66	\$91.66
FRS Cost (\$)	\$34,558,314	\$30,269,564	\$30,518,143	\$26,475,020	\$26,821,655	\$31,702,716	\$19,733,889	\$19,649,963	\$14,906,340	\$14,124,920	\$15,187,560	\$17,962,228
Forecasted Supply Cost (\$)	\$383,502,303											
Forecasted Load (MWh)	4,221,345											
Forecasted Supply Cost (\$ / MWh)	\$90.85											
<b>Actual</b>												
On-Peak Load (Non-FRS) (MWh)	0	0	0	0	0	0	0	0	0	0	0	0
On-Peak Price (\$ / MWh)	\$109.87	\$109.87	\$90.98	\$90.98	\$84.92	\$90.79	\$100.62	\$100.62	\$89.65	\$95.97	\$95.97	\$95.97
On-Peak Gross Up (%)	5.54%	4.30%	4.20%	2.53%	1.79%	4.87%	5.57%	9.93%	3.53%	3.29%	4.03%	5.12%
Actual On-Peak Energy Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Off-Peak Load (Non-FRS) (MWh)	0	0	0	0	0	0	0	0	0	0	0	0
Off-Peak Price (\$ / MWh)	\$104.07	\$104.07	\$84.79	\$84.79	\$77.31	\$78.17	\$85.22	\$85.22	\$79.69	\$89.60	\$89.60	\$89.60
Off-Peak Gross Up (%)	4.50%	2.19%	2.53%	3.98%	3.57%	5.92%	4.82%	5.85%	5.19%	4.89%	3.98%	4.94%
Actual Off-Peak Energy Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Actual Non-FRS Energy Cost (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Actual Non-FRS Load Served (MWh)	0	0	0	0	0	0	0	0	0	0	0	0
Capacity (\$ / MWh)	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Ancillary (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
RECs (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
Actual Non-Energy Cost (Non-FRS) (\$)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
FRS Load (MWh)	371,584	325,465	328,103	284,767	288,501	341,204	416,989	415,088	314,587	298,244	320,467	379,078
FRS Price (\$ / MWh)	\$89.93	\$89.93	\$89.93	\$89.93	\$89.93	\$89.93	\$94.55	\$94.55	\$94.55	\$94.55	\$94.55	\$94.55
FRS Cost (\$)	\$33,417,494	\$29,269,859	\$29,507,127	\$25,609,750	\$25,945,585	\$30,685,347	\$39,426,445	\$39,246,650	\$29,744,296	\$28,199,020	\$30,300,233	\$35,841,918
Actual Supply Cost (\$)	\$377,193,725											
Actual Load (MWh)	4,084,077											
Actual Supply Cost (\$ / MWh)	\$92.36											
<b>Supply Cost Surprise</b>												
Supply Cost Surprise (\$)	\$6,161,963											
Supply Cost Surprise (\$ / MWh)	\$1.51											
Supply Cost Surprise (%)	1.66%											

A small adjustment is then made to these figures such that the average value across all 2,000 scenarios is equal to zero.

**Illustrative Calculation of "Supply Cost Surprise" -- Managed Portfolio Approach**

**NOTES:**  
FIGURES IN **ORANGE** ARE ILLUSTRATIVE SCENARIO VALUES  
FIGURES IN **BLUE** ARE FIXED VALUES THAT DO NOT VARY ACROSS SCENARIOS

	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
<b>Forecasted</b>												
On-Peak Load (MWh)	194,605	170,357	171,107	150,908	152,995	184,630	230,045	226,655	166,373	160,433	168,475	200,454
On-Peak Price (\$ / MWh)	\$92.22	\$92.22	\$76.36	\$76.36	\$71.27	\$76.20	\$84.45	\$84.45	\$75.24	\$80.55	\$80.55	\$80.55
On-Peak Gross Up (%)	3.18%	1.98%	1.88%	0.24%	-0.48%	2.53%	3.21%	7.48%	1.22%	0.99%	1.70%	2.78%
Forecasted On-Peak Energy Cost (\$)	\$18,517,071	\$16,020,327	\$13,311,154	\$11,551,548	\$10,852,061	\$14,425,425	\$20,052,294	\$20,573,232	\$12,670,941	\$13,050,649	\$13,802,035	\$16,595,368
Off-Peak Load (MWh)	189,665	166,224	168,238	143,480	145,248	167,887	200,521	202,079	158,862	147,752	162,896	191,457
Off-Peak Price (\$ / MWh)	\$75.25	\$75.25	\$61.31	\$61.31	\$55.90	\$56.52	\$61.62	\$61.62	\$57.62	\$64.79	\$64.79	\$64.79
Off-Peak Gross Up (%)	6.28%	3.93%	4.28%	5.76%	5.34%	7.72%	6.61%	7.66%	6.98%	6.68%	5.75%	6.73%
Forecasted Off-Peak Energy Cost (\$)	\$15,167,827	\$12,999,559	\$10,756,075	\$9,303,561	\$8,552,857	\$10,222,639	\$13,172,466	\$13,405,755	\$9,792,913	\$10,212,325	\$11,160,830	\$13,239,146
Forecasted Spot Energy Cost (\$)	\$33,684,899	\$29,019,887	\$24,067,229	\$20,855,109	\$19,404,917	\$24,648,064	\$33,224,760	\$33,978,987	\$22,463,855	\$23,262,974	\$24,962,865	\$29,834,514
Forecasted Load Served (MWh)	384,270	336,581	339,345	294,388	298,242	352,517	430,565	428,734	325,235	308,186	331,371	391,910
Capacity (\$ / MWh)	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Ancillary (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
RECs (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
Forecasted Non-Energy Cost (\$)	\$6,148,315	\$5,385,298	\$5,429,523	\$4,710,206	\$4,771,876	\$5,640,272	\$6,889,047	\$6,859,748	\$5,203,762	\$4,930,971	\$5,301,936	\$6,270,565
Hedged On-Peak Volume (MWh)	145,953	127,768	128,331	113,181	114,746	138,473	115,022	113,327	83,187	80,217	84,237	100,227
Average Price of On-Peak Hedges (\$ / MWh)	\$79.72	\$79.72	\$79.72	\$79.72	\$79.72	\$79.72	\$79.72	\$79.72	\$78.97	\$78.97	\$78.97	\$78.97
Expected Payoff of On-Peak Hedges (\$)	-\$1,823,947	-\$1,596,685	\$431,070	\$380,182	\$969,330	\$486,931	-\$630,677	-\$621,383	\$310,294	-\$126,856	-\$133,214	-\$158,500
Hedged Off-Peak Volume (MWh)	142,249	124,668	126,178	107,610	108,936	125,915	100,260	101,040	79,431	73,876	81,448	95,728
Average Price of Off-Peak Hedges (\$ / MWh)	\$62.77	\$62.77	\$62.77	\$62.77	\$62.77	\$62.77	\$61.78	\$61.78	\$61.78	\$61.78	\$61.78	\$61.78
Expected Payoff of Off-Peak Hedges (\$)	-\$1,774,747	-\$1,555,403	\$183,987	\$156,911	\$748,172	\$786,348	\$16,150	\$16,276	\$330,521	-\$222,082	-\$244,845	-\$287,773
Forecasted Supply Cost (\$)	\$382,589,637											
Forecasted Load (MWh)	4,221,345											
Forecasted Supply Cost (\$ / MWh)	\$90.63											
<b>Actual</b>												
On-Peak Load (MWh)	193,285	169,202	169,947	149,885	151,957	183,379	228,485	225,118	165,246	159,346	167,333	199,095
On-Peak Price (\$ / MWh)	\$109.87	\$109.87	\$90.98	\$90.98	\$84.92	\$90.79	\$100.62	\$100.62	\$89.65	\$95.97	\$95.97	\$95.97
On-Peak Gross Up (%)	5.54%	4.30%	4.20%	2.53%	1.79%	4.87%	5.57%	9.93%	3.53%	3.29%	4.03%	5.12%
Actual On-Peak Energy Cost (\$)	\$22,413,146	\$19,391,075	\$16,111,880	\$13,982,045	\$13,135,382	\$17,460,599	\$24,271,386	\$24,901,932	\$15,336,964	\$15,796,564	\$16,706,044	\$20,087,108
Off-Peak Load (MWh)	178,299	156,263	158,156	134,881	136,543	157,826	188,504	189,969	149,342	138,898	153,134	179,983
Off-Peak Price (\$ / MWh)	\$104.07	\$104.07	\$84.79	\$84.79	\$77.31	\$78.17	\$85.22	\$85.22	\$79.69	\$89.60	\$89.60	\$89.60
Off-Peak Gross Up (%)	4.50%	2.19%	2.53%	3.98%	3.57%	5.92%	4.82%	5.85%	5.19%	4.89%	3.98%	4.94%
Actual Off-Peak Energy Cost (\$)	\$19,389,269	\$16,617,538	\$13,749,658	\$11,892,886	\$10,933,249	\$13,067,758	\$16,838,568	\$17,136,784	\$12,518,433	\$13,054,574	\$14,267,062	\$16,923,806
Actual Spot Energy Cost (\$)	\$41,802,415	\$36,008,614	\$29,861,538	\$25,874,931	\$24,068,632	\$30,528,357	\$41,109,954	\$42,038,716	\$27,855,397	\$28,851,137	\$30,973,107	\$37,010,914
Actual Load Served (MWh)	371,584	325,465	328,103	284,767	288,501	341,204	416,989	415,088	314,587	298,244	320,467	379,078
Capacity (\$ / MWh)	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Ancillary (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
RECs (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
Actual Non-Energy Cost (\$)	\$5,945,351	\$5,207,439	\$5,249,652	\$4,556,265	\$4,616,013	\$5,459,271	\$6,671,829	\$6,641,404	\$5,033,395	\$4,771,900	\$5,127,472	\$6,065,248
Hedged On-Peak Volume (MWh)	145,953	127,768	128,331	113,181	114,746	138,473	171,949	169,415	124,357	119,917	125,928	149,831
Average Price of On-Peak Hedges (\$ / MWh)	\$79.72	\$79.72	\$79.72	\$79.72	\$79.72	\$79.72	\$79.20	\$79.20	\$79.20	\$79.20	\$79.20	\$79.20
Actual Payoff of On-Peak Hedges (\$)	-\$4,400,894	-\$3,852,548	-\$1,445,145	-\$1,274,546	-\$596,484	-\$1,533,392	-\$3,683,311	-\$3,629,035	-\$1,298,766	-\$2,011,288	-\$2,112,099	-\$2,513,006
Hedged Off-Peak Volume (MWh)	142,249	124,668	126,178	107,610	108,936	125,915	145,884	147,018	115,576	107,494	118,511	139,290
Average Price of Off-Peak Hedges (\$ / MWh)	\$62.77	\$62.77	\$62.77	\$62.77	\$62.77	\$62.77	\$65.30	\$65.30	\$65.30	\$65.30	\$65.30	\$65.30
Actual Payoff of Off-Peak Hedges (\$)	-\$5,874,304	-\$5,148,288	-\$2,779,016	-\$2,370,051	-\$1,584,212	-\$1,939,619	-\$2,906,422	-\$2,929,015	-\$1,663,229	-\$2,612,430	-\$2,880,193	-\$3,385,174
Actual Supply Cost (\$)	\$396,906,479											
Actual Load (MWh)	4,084,077											
Actual Supply Cost (\$ / MWh)	\$97.18											
<b>Supply Cost Surprise</b>												
Supply Cost Surprise (\$)	\$26,757,706											
Supply Cost Surprise (\$ / MWh)	\$6.55											
Supply Cost Surprise (%)	7.23%											

A small adjustment is then made to these figures such that the average value across all 2,000 scenarios is equal to zero.

**Illustrative Calculation of "Supply Cost Surprise" -- 100% Spot Approach**

**NOTES:**

FIGURES IN **ORANGE** ARE ILLUSTRATIVE SCENARIO VALUES

FIGURES IN **BLUE** ARE FIXED VALUES THAT DO NOT VARY ACROSS SCENARIOS

	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14
<b>Forecasted</b>												
On-Peak Load (MWh)	194,605	170,357	171,107	150,908	152,995	184,630	230,045	226,655	166,373	160,433	168,475	200,454
On-Peak Price (\$ / MWh)	\$92.22	\$92.22	\$76.36	\$76.36	\$71.27	\$76.20	\$84.45	\$84.45	\$75.24	\$80.55	\$80.55	\$80.55
On-Peak Gross Up (%)	3.18%	1.98%	1.88%	0.24%	-0.48%	2.53%	3.21%	7.48%	1.22%	0.99%	1.70%	2.78%
Forecasted On-Peak Energy Cost (\$)	\$18,517,071	\$16,020,327	\$13,311,154	\$11,551,548	\$10,852,061	\$14,425,425	\$20,052,294	\$20,573,232	\$12,670,941	\$13,050,649	\$13,802,035	\$16,595,368
Off-Peak Load (MWh)	189,665	166,224	168,238	143,480	145,248	167,887	200,521	202,079	158,862	147,752	162,896	191,457
Off-Peak Price (\$ / MWh)	\$75.25	\$75.25	\$61.31	\$61.31	\$55.90	\$56.52	\$61.62	\$61.62	\$57.62	\$64.79	\$64.79	\$64.79
Off-Peak Gross Up (%)	6.28%	3.93%	4.28%	5.76%	5.34%	7.72%	6.61%	7.66%	6.98%	6.68%	5.75%	6.73%
Forecasted Off-Peak Energy Cost (\$)	\$15,167,827	\$12,999,559	\$10,756,075	\$9,303,561	\$8,552,857	\$10,222,639	\$13,172,466	\$13,405,755	\$9,792,913	\$10,212,325	\$11,160,830	\$13,239,146
Forecasted Energy Cost (\$)	\$33,684,899	\$29,019,887	\$24,067,229	\$20,855,109	\$19,404,917	\$24,648,064	\$33,224,760	\$33,978,987	\$22,463,855	\$23,262,974	\$24,962,865	\$29,834,514
Forecasted Load Served (MWh)	384,270	336,581	339,345	294,388	298,242	352,517	430,565	428,734	325,235	308,186	331,371	391,910
Capacity (\$ / MWh)	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Ancillary (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
RECs (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
Forecasted Non-Energy Cost (\$)	\$6,148,315	\$5,385,298	\$5,429,523	\$4,710,206	\$4,771,876	\$5,640,272	\$6,889,047	\$6,859,748	\$5,203,762	\$4,930,971	\$5,301,936	\$6,270,565
Forecasted Supply Cost (\$)	\$386,949,578											
Forecasted Load (MWh)	4,221,345											
Forecasted Supply Cost (\$ / MWh)	\$91.66											

<b>Actual</b>												
On-Peak Load (MWh)	193,285	169,202	169,947	149,885	151,957	183,379	228,485	225,118	165,246	159,346	167,333	199,095
On-Peak Price (\$ / MWh)	\$109.87	\$109.87	\$90.98	\$90.98	\$84.92	\$90.79	\$100.62	\$100.62	\$89.65	\$95.97	\$95.97	\$95.97
On-Peak Gross Up (%)	5.54%	4.30%	4.20%	2.53%	1.79%	4.87%	5.57%	9.93%	3.53%	3.29%	4.03%	5.12%
Actual On-Peak Energy Cost (\$)	\$22,413,146	\$19,391,075	\$16,111,880	\$13,982,045	\$13,135,382	\$17,460,599	\$24,271,386	\$24,901,932	\$15,336,964	\$15,796,564	\$16,706,044	\$20,087,108
Off-Peak Load (MWh)	178,299	156,263	158,156	134,881	136,543	157,826	188,504	189,969	149,342	138,898	153,134	179,983
Off-Peak Price (\$ / MWh)	\$104.07	\$104.07	\$84.79	\$84.79	\$77.31	\$78.17	\$85.22	\$85.22	\$79.69	\$89.60	\$89.60	\$89.60
Off-Peak Gross Up (%)	4.50%	2.19%	2.53%	3.98%	3.57%	5.92%	4.82%	5.85%	5.19%	4.89%	3.98%	4.94%
Actual Off-Peak Energy Cost (\$)	\$19,389,269	\$16,617,538	\$13,749,658	\$11,892,886	\$10,933,249	\$13,067,758	\$16,838,568	\$17,136,784	\$12,518,433	\$13,054,574	\$14,267,062	\$16,923,806
Actual Energy Cost (\$)	\$41,802,415	\$36,008,614	\$29,861,538	\$25,874,931	\$24,068,632	\$30,528,357	\$41,109,954	\$42,038,716	\$27,855,397	\$28,851,137	\$30,973,107	\$37,010,914
Actual Load Served (MWh)	371,584	325,465	328,103	284,767	288,501	341,204	416,989	415,088	314,587	298,244	320,467	379,078
Capacity (\$ / MWh)	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Ancillary (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
RECs (\$ / MWh)	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
Actual Non-Energy Cost (\$)	\$5,945,351	\$5,207,439	\$5,249,652	\$4,556,265	\$4,616,013	\$5,459,271	\$6,671,829	\$6,641,404	\$5,033,395	\$4,771,900	\$5,127,472	\$6,065,248
Actual Supply Cost (\$)	\$461,328,948											
Actual Load (MWh)	4,084,077											
Actual Supply Cost (\$ / MWh)	\$112.96											

**Supply Cost Surprise**

Supply Cost Surprise (\$)	\$86,962,008
Supply Cost Surprise (\$ / MWh)	\$21.29
Supply Cost Surprise (%)	23.23%

A small adjustment is then made to these figures such that the average value across all 2,000 scenarios is equal to zero.

Division Data Request 3-2

Request:

The following question pertains to Grid Exhibit 1, a January 2010 document entitled "Analysis of Standard Offer Service Approaches for Mass Market Customers" by Northbridge. Please provide a sample calculation of the Load Shaping component of the FRS costs as shown on page 14.

Response:

Please refer to the attachment. Due to the voluminous nature of the attachment, the Company is providing the file electronically in Excel format. The Excel file has been transmitted via e-mail.

Prepared by or under the supervision of: The NorthBridge Group