



May 31, 2013

Ms. Kate Whitney  
Utility Division  
Montana Public Service Commission  
1701 Prospect Avenue  
PO Box 2022601  
Helena, Montana 59620-2601

**Re: Docket No. D2012.5.49 Electric Tracker  
PSC Set 8 Data Requests (PSC-100-PSC-117)**

Dear Ms. Whitney:

Enclosed for filing is a copy of NorthWestern Energy's response to PSC Set 8 Data Requests. These Data Responses have been mailed to the service list in this docket. They will be hand delivered to the PSC and MCC today. They will also be e-filed with the PSC.

Should you have questions please contact Joe Schwartzenberger at (406) 497-3362.

Sincerely,

A handwritten signature in cursive script that reads "Nedra Chase".

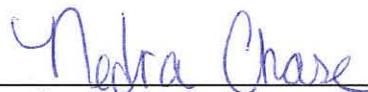
Nedra Chase  
Administrative Assistant

Enclosures

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of NorthWestern Energy's response to PSC Set 8 Data Requests (PSC-100-PSC-117) in Docket D2012.5.49 Electric Tracker has been served by mailing a copy thereof by first class mail, postage prepaid to the service list in this Docket. They will be hand delivered to the PSC and MCC this date. They will also be e-filed with the PSC.

Date: May 31, 2013



---

Nedra Chase  
Administrative Assistant  
Regulatory Affairs

**A. Docket D2012.5.49  
Service List**

**John Alke  
Hughes Kellner Sullivan Alke  
40 W Lawrence Suite A  
P O Box 1166  
Helena MT 59624-1166**

**Al Brogan  
NorthWestern Energy  
208 N. Montana Suite 205  
Helena MT 59601**

**Nedra Chase  
NorthWestern Energy  
40 E. Broadway  
Butte MT 59701**

**Heather Grahame  
NorthWestern Energy  
208 N. Montana Suite 205  
Havre MT 59601**

**Alan Joscelyn  
Gough Shanahan Johnson  
33 S Last Chance Gulch  
Helena MT 59624-1715**

**Charles Magraw  
501 8th Ave.  
Helena MT 59601**

**Robert A. Nelson  
Montana Consumer Counsel  
111 N. Last Chance Gulch  
Suite 1B  
Helena MT 59620-1703**

**Sarah Norcott  
NorthWestern Energy  
208 N. Montana Suite 205  
Helena MT 59601**

**Thomas M. Power  
920 Evans Ave.  
Missoula MT 59801**

**Joe Schwartzberger  
40 E. Broadway  
Butte MT 59701-9394**

**Monica J. Tranel  
Tranel Law Firm  
30 W. 14th St. Suite 204  
Helena MT 59601**

**Kate Whitney  
Public Service Commission  
1701 Prospect Ave  
P O Box 202601  
Helena MT 59620-2601**

**John W. Wilson  
JW Wilson & Associates  
1601 North Kent St.  
Suite 1104  
Arlington VA 22209**

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-100

Regarding: Contract Modification No. 4 (Exhibit\_WTR-3)

Witness: Rhoads

Paragraph #8 of Modification No. 4 provides that NorthWestern “hereby forever irrevocably releases” Pratt & Whitney Power Systems from claims of any kind relating to or arising from the DGGGS outage. Please explain fully the ramifications of this contract provision and, if it changes NorthWestern’s response to DR MCC-038 (in which NorthWestern stated it is pursuing all possible avenues of compensation from PWPS), provide an updated response.

**RESPONSE:**

The response to Data Request MCC-038 was filed on September 6, 2012. Subsequent to September 6, 2012, NWE and PWPS reached agreement on Modification No. 4.

Modification No. 4 provides NWE very favorable concessions for power turbine upgrades to the PWPS for the benefit of NWE’s customers. We were able to get an extended warranty for two years after the last modified turbine is installed. This has effectively provided NWE customers with five years of warranty coverage for the power turbines since the beginning of commercial operation. In addition, PWPS will provide any additional modifications for the term of the warranty to the power turbines that PWPS determines are needed as a result of the outage. If, after the warranty expires, PWPS determines further modifications related to the outage are incorporated into the FT8-3 power turbine builds, replacement hardware and shop assembly labor to incorporate hardware will be provided by PWPS at no charge to NWE, regardless of whether the Power Turbine Warranty Extension has expired.

As in any negotiation, both sides need to yield on some points if an agreement is to be reached. To get the benefits described above, NWE agreed to Paragraph #8. By releasing Pratt & Whitney Power Systems from claims of any kind relating to or arising from the DGGGS outage, NWE receives the following benefits: a repair of the turbines, an attractive warranty extension including a commitment by PWPS to make additional modifications at PWPS’s cost after the warranty ends, continued operation of DGGGS for the purpose for which it was intended, discontinuation of the use of third-party providers of regulation service (which has its own level of risks associated with it including costs and transmission service reliability), avoidance of potentially lengthy and expensive legal processes (with the possible risk of an adverse decision), and maintenance of an important positive working relationship between NWE and PWPS.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-101

Regarding: Post-Outage Testing And Results  
Witness: Rhoads

On pages 17-18 of your testimony, you state, "PWPS is committed to resolving the problem with the power turbines" and refer to "a modification to the power turbines that will provide a long term remedy to the problem."

- a. Please identify and describe in detail "the problem with the power turbines."
- b. Explain what testing PWPS has or is conducting on DGGS to determine the cause of the outage.
- c. Please provide all results and conclusions from any tests related to the cause of the outage, including any testing results that tended to show "the problem with the power turbines."
- d. Does NWE expect to receive a written report or other document describing the cause of the outage and, if so, when does it expect to receive it?
- e. Please submit any written report or other document addressing the cause of the outage that NWE has received or receives in the future.

RESPONSE:

- a. The problem with the power turbine Unit #2B included gas path damage due to contact of certain parts to the power turbine, impact damage to blades and vanes due to bolt liberation, loose bolts, and cracking which led to excessive vibration. Again, only one power turbine had failed. The other units were beginning to show varying degrees of similar distress, and ultimately the units were voluntarily taken out of service to prevent further damage to the units, which could have led to additional failures and to unplanned outages.
- b. NorthWestern is aware of the following site tests PWPS has conducted (or has planned) since the outage:
  - a) Site operational tests for mission/cycle and ramp rate analysis (Date: June 5, 2012);
  - b) Site thermal operational test for model validation (Date: August 15-17, 2012 );

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

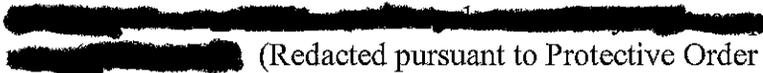
**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-101 cont'd

- c) Site tests with highly instrumented power turbine (Date: November 28 – Dec 7, 2012); and
- d) Validation test at DGGGS (3<sup>rd</sup> quarter, 2013).

In addition, PWPS may have conducted testing of various components/systems at its engineering laboratories.

- c. For the tests identified in part b, above:
  - a) See Attachment, an email from Patrizzi to Rhoads including attachments dated July 19, 2012 2:55 p.m. Note that this Attachment is protected in its entirety and will be provided on yellow paper to the Commission and to parties who have signed the appropriate non-disclosure agreement in conformance with Protective Order No. 7219f;
  - b) No specific test result provided to NWE;
  - c) No specific test result provided to NWE – results used by PWPS for model validation; and
  - d) N/A – Tests pending.
- d. The following major engineering findings were reported to NWE on June 18, 2012:
  - Over-temperature of #7 bearing support Outer Diameter (OD);
  - Excessive displacement and contact of the inlet static structure;
  - Operational mission; and
  -  (Redacted pursuant to Protective Order No. 7219f.)
- e. See the PWPS “Power Turbine Inlet Distress Investigation & Instrumentation Test Update Montana NorthWestern Energy June 18, 2012” included in the protected version of Attachment 1 provided response to Data Request PSC-006d. See also the attached PWPS Engineering report dated May 24, 2013. Page 4 of this Attachment is protected and will be provided on yellow paper to the Commission and to parties who have signed the appropriate non-disclosure agreement in conformance with Protective Order No. 7219f.

# *NorthWestern Energy Power Turbine Investigation & Instrumentation Test Update*

PWPS Engineering Report, May 24, 2013

PWPS CONFIDENTIAL

Docket No. D2012.5.49  
Data Request PSC-101e  
Attachment - Public  
Page 1 of 4

**WARNING** -- This document contains technical data the export of which is or may be restricted by the Export Administration Act and the Export Administration Regulations (EAR), 15 C.F.R. parts 730-774. Diversion contrary to U.S. law is prohibited. The export, re-export, transfer or re-transfer of this technical data to any other company, entity, person, or destination, or for any use or purpose other than that for which the technical data was originally provided by PWPS, is prohibited without prior written approval from PWPS and authorization under applicable export control laws. EAR Export Classification: ECCN EAR99.

**PW Power Systems**

a group company of  MITSUBISHI HEAVY INDUSTRIES, LTD.

# Summary of Root Cause Investigation Findings

- Engineering Findings from Baseline Testing and Model Analysis
  - Over-temperature of #7 bearing support Outer Diameter (OD)
    - Baseline testing confirmed gas path ingestion
    - Thermal analysis model validated the over-temperature
      - Over temperature resulted in reduction of material properties
  - Excessive displacement and contact of inlet static structure
    - Baseline testing confirmed excessive displacement
    - Model observed deflections with thermal responses matched to test data
      - Higher motion resulted in higher stress on the affected parts
  - Operational mission
    - Baseline testing evaluated ramp rates above 4MW/min have similar thermal effects
    - Investigation indicated hardware failures are cycle related
    - Model suggested the sub-cycles are only minor contributor
      - Reduction of operational cycle can increase part life

Docket No. D2012.5.49  
Data Request PSC-101e  
Attachment - Public  
Page 2 of 4

# Status of Root Cause Investigation

## Milestones

- |  |          |
|--|----------|
| Investigation Initiated                        | Jan 2012 |
| Contributing conditions identified             | Apr 2012 |
| Solutions reviewed                             | Aug 2012 |
| Baseline Instrumented Test Performed           | Dec 2012 |
| Test Hardware inspected & Data Reviewed        | Jan 2013 |
| Root Cause Evaluated                           | Jan 2013 |
| Corrective Action Identified                   | Feb 2013 |
| Limited Production Hardware Released (10 sets) | Feb 2013 |
| Power Turbine Instrumented for Validation Test | Apr 2013 |
| Validation Test at Customer Site               | 07-14-13 |
| Post Test Hardware Inspection & Data Review    | 08-23-13 |
| Post-Test Technical Review                     | 09-30-13 |
| Production Engineering Change Released         | 10-31-13 |

Docket No. D2012.5.49  
Data Request PSC-101e  
Attachment - Public  
Page 3 of 4

**WARNING** -- This document contains technical data the export of which is or may be restricted by the Export Administration Act and the Export Administration Regulations (EAR), 15 C.F.R. parts 730-774. Diversion contrary to U.S. law is prohibited.

PWPS CONFIDENTIAL

**PW Power Systems**

a group company of  MITSUBISHI HEAVY INDUSTRIES, LTD.

**This page is protected  
per MPSC Protective Order No. 7219f.**

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-102

Regarding: Control Software And Ramp Rates  
Witness: Rhoads

- a. Did NWE conduct any testing to ensure that the station's control software allowed DGGs to run within the specifications contained within the purchase order?
- b. Explain how NWE employees and/or contract personnel monitored the ramp rates of the units and their engines or power turbines.

RESPONSE:

- a. NorthWestern did not conduct the testing; rather, McHale & Associates, Inc., an independent contractor hired by PWPS, conducted extensive tests to ensure that DGGs met the appropriate criteria prior to commercial operation. Thereafter, NWE and NWE's Owner's Engineer verified the test results. NWE's purchase order with PWPS contained a minimum, but not a maximum, operating specification for ramp rate. Attachment 1A of the Purchase Order states "Minimum Performance Guarantee for Ramp Rate" means that each FT-8 engine will be able to increase or decrease load at a rate of *no less* [emphasis added] than 15,000 kW per minute. During startup and commissioning, the unit ramp rates were monitored and tested to ensure the ramp rate met the minimum contracted rate of 15 MW/min. This specification was part of the acceptance criteria for the PWPS FT-8 units. As submitted by the MPSC's consultant, Vantage Energy Consulting ("Vantage"), NWE, and NWE's Owner's Engineer worked to develop In-Service Test Criteria. NWE reported the In-Service Test Criteria results to the MPSC in the MCGS 7<sup>th</sup> Quarterly Construction Report. Vantage reviewed the In-Service test results and concluded the plant "should meet the functional requirements of the facility as a transmission regulation asset." See Vantage Quarterly Report, February 28, 2011, p.9.

During commercial operation, PWPS has periodically monitored the ramp rate to ensure the facility output has kept pace with the incoming automatic generation control setpoint to meet the reliability criteria.

- b. NWE personnel validated tests of the facility ramp rates conducted by McHale and PWPS during initial commissioning to ensure that they met the minimum rate of 15 MW/min. NWE does not monitor ramp rates nor is the Company required to monitor ramp rates to operate the facilities within the specifications outlined in the original equipment purchase order with PWPS. There is no meter or reported

**NorthWestern Energy  
Docket D2012.5.49  
Electric Tracker**

**Montana Public Service Commission (PSC)  
Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-102 cont'd

data that conveniently gives the ramp rate on a continuous basis, but PWPS – through a full-time PWPS representative on site during the first three months of operation and through periodic data submittals – has been involved in monitoring the performance of plant during start-up and commissioning activities. Information must be extracted from PWPS software and calculated for any specific point in time. Overall, the facility's ability to meet the required CPS2 reliability criteria is in part dependent on ramp rate. CPS2 is monitored on a frequent basis as a way to monitor the facility's performance.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-103

Regarding: Operational Safeguards At DGGS  
Witness: Rhoads

- a. What steps did NWE employees or contract personnel take in 2011 when operating DGGS to ensure that the units did not operate abnormally or outside of the specifications of the purchase order?
- b. On page 9 of your testimony, you state that DGGS experienced a vibration problem in Unit 2B in "early January 2012." Please specify the date and precise time that NWE first encountered the vibration problem in Unit 2B.
- c. Please provide the most detailed data available showing the output and ramp rates at DGGS between the time that NWE first encountered the vibration problem and the time that "the vibration forced the unit offline on January 11, 2012." (9:9-12)
- d. Please explain why facility availability for Unit 2, which was not higher than 51.60% between May and November 2012, was so much lower than the availability of the other units during that same time period (*see* 2012 "U2 EAF" in Exhibit\_(WTR-1)).

RESPONSE:

- a. NorthWestern's third party operator, NAES, operated DGGS in accordance with the guidance and operating procedures provided by PWPS. In general, PWPS, as well as other providers of large equipment, protects against operation outside of its recommended operating parameters with a system of sensors, alarms, drive backs, and trips to prevent operation outside its recommended operating guidelines and criteria.
- b. The first vibration alarm relating to this event occurred on 4:59 a.m. on January 11, 2012.
- c. An initial vibration alarm was received as noted in part b, above. The alarm was cleared and remained in a cleared condition until 5:50 a.m. After the unit vibration alarm was received, the unit was shut down, and the vibration monitor was replaced in case the monitor had failed. The unit was restarted and the alarm remained in a cleared condition until the vibration monitor activated an alarm again. During the day, several diagnostic evaluations were made that required the unit to be started and stopped. The unit was shut down at 10:27 p.m. so a

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-103 cont'd

boroscope evaluation could be performed the following day. The vibration was above alarm level (3 mils) and below trip level (4 mils). Ramp rate information is not a recorded value. See Attachment for the output data covering this time period.

- d. After NorthWestern voluntarily took the plant off line on January 31, 2012, a loaner power turbine was placed in Unit 2A and a reconditioned PT was placed in Unit 2B. Unit #2 returned to service on March 1, 2012. The loaner power turbine in Unit 2A failed on April 22. Unit 3 was placed in service on April 24, 2012. A blanking plate was installed on Unit 2A on May 3, 2012, which allowed 50% availability. Had NWE not purchased PWPS units but instead had selected some other manufacturer whose product featured only one turbine per generator, the unit availability would have been 0% if faced with a similar problem and NWE may have been forced to once again purchase third-party regulation.

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 04:59:00	-0.099178731	21.85286522	43.35363007	65.04964447
11-Jan-12 05:00:00	-0.099192947	22.34364128	44.31681442	66.77928162
11-Jan-12 05:01:00	-0.099207163	24.87329102	49.98755646	74.96451569
11-Jan-12 05:02:00	-0.099221386	29.081707	34.57696533	64.07977295
11-Jan-12 05:03:00	-0.099235602	36.50298309	36.96671295	73.70336914
11-Jan-12 05:04:00	-0.099249817	41.29870987	41.38381195	82.89165497
11-Jan-12 05:05:00	-0.099264041	41.55115509	41.44548416	83.14044952
11-Jan-12 05:06:00	-0.099278256	42.89761353	42.60392761	84.92263794
11-Jan-12 05:07:00	-0.099292479	47.79294968	48.03614044	95.32462311
11-Jan-12 05:08:00	-0.099306695	49.98479462	49.87119675	99.73834991
11-Jan-12 05:09:00	-0.099320911	49.95131302	49.85237122	99.61064148
11-Jan-12 05:10:00	-0.099335134	49.66310883	49.6606102	99.31047821
11-Jan-12 05:11:00	-0.09934935	49.88378143	49.86977386	99.74432373
11-Jan-12 05:12:00	-0.099363573	49.85654068	49.81715393	99.63799286
11-Jan-12 05:13:00	-0.099377789	49.82930374	49.764534	99.53165436
11-Jan-12 05:14:00	-0.099392004	49.8020668	49.71191406	99.42532349
11-Jan-12 05:15:00	-0.099406227	49.50417709	49.34938049	98.71182251
11-Jan-12 05:16:00	-0.099420443	49.18407059	49.02826309	98.01966858
11-Jan-12 05:17:00	-0.099434659	48.86396408	48.72330475	97.35733795
11-Jan-12 05:18:00	-0.099448882	48.72774887	49.06498337	98.41809082
11-Jan-12 05:19:00	-0.099463098	48.62371063	48.58905411	97.3056488
11-Jan-12 05:20:00	-0.099477321	48.29937363	48.38158417	96.73931885
11-Jan-12 05:21:00	-0.099491537	48.32837296	48.29667282	96.86493683
11-Jan-12 05:22:00	-0.099505752	47.82037354	47.87728119	95.91055298
11-Jan-12 05:23:00	-0.099519975	47.41711807	47.45788574	95.00243378
11-Jan-12 05:24:00	-0.099534191	47.51634216	47.38695526	95.05537415
11-Jan-12 05:25:00	-0.099548414	47.52307892	47.48097992	94.93222809
11-Jan-12 05:26:00	-0.09956263	47.42730713	47.49387741	95.32223511
11-Jan-12 05:27:00	-0.099576846	48.09347153	47.97887039	96.36987305
11-Jan-12 05:28:00	-0.099591069	48.75963974	48.46385956	97.30625153
11-Jan-12 05:29:00	-0.099605285	49.2467804	48.94884872	97.81798553
11-Jan-12 05:30:00	-0.099619508	48.98065567	49.14649582	97.66181946
11-Jan-12 05:31:00	-0.099633723	48.82500458	49.20000076	97.93133545

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 05:32:00	-0.099647939	50.18411255	50.18418121	99.60757446
11-Jan-12 05:33:00	-0.099662162	50.12584305	50.12615967	99.63082123
11-Jan-12 05:34:00	-0.099676378	50.06757355	50.06814194	99.65406799
11-Jan-12 05:35:00	-0.099690594	50.00930405	50.01012039	99.67731476
11-Jan-12 05:36:00	-0.099704817	49.95103455	49.95210266	99.70056152
11-Jan-12 05:37:00	-0.099719033	49.89276505	49.89408112	99.72380829
11-Jan-12 05:38:00	-0.099733256	49.83449554	49.83606339	99.74705505
11-Jan-12 05:39:00	-0.099747472	49.77622604	49.77804184	99.77030182
11-Jan-12 05:40:00	-0.099761687	49.71795273	49.72002411	99.79354858
11-Jan-12 05:41:00	-0.09977591	49.89861298	49.89797974	99.30947113
11-Jan-12 05:42:00	-0.099790126	49.87946701	49.8788414	99.35784149
11-Jan-12 05:43:00	-0.099804349	49.86032486	49.85969925	99.40620422
11-Jan-12 05:44:00	-0.099818565	49.84117889	49.84056091	99.45457458
11-Jan-12 05:45:00	-0.099832781	49.82203674	49.82142258	99.50294495
11-Jan-12 05:46:00	-0.099847004	49.80289078	49.80228424	99.55130768
11-Jan-12 05:47:00	-0.09986122	49.78374863	49.78314209	99.59967804
11-Jan-12 05:48:00	-0.099875435	49.76460266	49.76400375	99.64804077
11-Jan-12 05:49:00	-0.099889658	49.74546051	49.74486542	99.69641113
11-Jan-12 05:50:00	-0.099903874	49.72631454	49.72572708	99.74478149
11-Jan-12 05:51:00	-0.099918097	49.70717239	49.70658875	99.79314423
11-Jan-12 05:52:00	-0.099932313	49.23506546	49.20084763	98.50347137
11-Jan-12 05:53:00	-0.099946529	48.49164963	48.439785	96.99273682
11-Jan-12 05:54:00	-0.099960752	47.28856659	47.30713654	94.55944824
11-Jan-12 05:55:00	-0.099974968	46.87063599	46.96016312	93.822052
11-Jan-12 05:56:00	-0.099989191	46.34783936	46.24349213	92.48236084
11-Jan-12 05:57:00	4.928458214	40.33438873	40.5018692	86.81892395
11-Jan-12 05:58:00	15.19874191	28.19337273	30.78675079	73.97534943
11-Jan-12 05:59:00	13.43307304	24.83320427	26.18284988	64.34642029
11-Jan-12 06:00:00	12.68902969	24.57866478	25.89266777	63.74172592
11-Jan-12 06:01:00	13.07330799	18.03588295	25.41296577	56.13428879
11-Jan-12 06:02:00	16.46713829	0.578923643	32.12165833	49.17230606
11-Jan-12 06:03:00	16.95609093	0.000309145	34.73160553	51.2842865
11-Jan-12 06:04:00	16.14695549	0.000632858	32.22415924	48.59473038

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 06:05:00	15.50143814	0.00095657	30.65081215	45.54690933
11-Jan-12 06:06:00	14.48691082	0.001280283	29.13123131	43.59132385
11-Jan-12 06:07:00	13.70769501	0.001603995	27.75765228	41.276577
11-Jan-12 06:08:00	12.92847919	0.001927708	26.6373291	39.87840652
11-Jan-12 06:09:00	12.73932743	0.00225142	24.55294609	37.55985641
11-Jan-12 06:10:00	10.87903118	0.002575133	21.17831039	32.2360611
11-Jan-12 06:11:00	10.27934265	0.002898845	21.08281708	31.45684433
11-Jan-12 06:12:00	10.42225266	0.003222558	21.99025345	32.42821503
11-Jan-12 06:13:00	10.26137829	0.00354627	20.31714058	30.02272034
11-Jan-12 06:14:00	10.27014351	0.003869983	19.96656227	29.93173599
11-Jan-12 06:15:00	0.022179695	0.004193695	30.4725399	30.57499695
11-Jan-12 06:16:00	0.07276053	0.004517408	30.13675117	30.30239487
11-Jan-12 06:17:00	0.123341367	0.00484112	30.79989052	30.81799889
11-Jan-12 06:18:00	0.173922211	0.005164832	31.07150269	31.86116409
11-Jan-12 06:19:00	0.22450304	0.005488545	32.42066956	32.64064407
11-Jan-12 06:20:00	0.27508387	0.005812258	34.10195541	34.38527298
11-Jan-12 06:21:00	0.325664729	0.00613597	35.07718277	34.93002319
11-Jan-12 06:22:00	0.376245558	0.006459682	37.19301605	37.23471451
11-Jan-12 06:23:00	0.426826388	0.006783395	39.28334427	39.64149094
11-Jan-12 06:24:00	0.477407247	0.007107107	42.86624146	43.14414978
11-Jan-12 06:25:00	0.527988076	0.00743082	45.45437241	45.4221077
11-Jan-12 06:26:00	0.578568935	0.007754532	49.83578491	49.66786575
11-Jan-12 06:27:00	0.629149735	0.008078245	50.08736801	50.01930237
11-Jan-12 06:28:00	0.679730594	0.008401957	49.94449997	50.37073898
11-Jan-12 06:29:00	0.730311394	0.008725669	49.80163574	50.7221756
11-Jan-12 06:30:00	0.780892253	0.009049382	49.65877151	51.07361221
11-Jan-12 06:31:00	18.0722599	0.009373095	36.64170837	53.83240891
11-Jan-12 06:32:00	19.84456825	0.009696807	39.70946884	59.55283356
11-Jan-12 06:33:00	23.67242813	0.01002052	47.86454391	71.36680603
11-Jan-12 06:34:00	23.43008041	0.010344232	49.58924866	73.25959015
11-Jan-12 06:35:00	23.72782707	0.010667944	50.02512741	73.98599243
11-Jan-12 06:36:00	26.35679817	0.010991657	35.35894394	61.45240784
11-Jan-12 06:37:00	36.22376251	0.011315369	36.17284775	71.92699432

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 06:38:00	41.95031738	0.011639082	41.93836975	82.90343475
11-Jan-12 06:39:00	45.7962265	0.011962795	45.97697449	91.40000153
11-Jan-12 06:40:00	49.16995621	0.012286507	49.89020538	98.39478302
11-Jan-12 06:41:00	49.61631012	0.012610219	49.98289108	99.89259338
11-Jan-12 06:42:00	49.6475563	0.012933932	49.896698	99.85974121
11-Jan-12 06:43:00	49.67880249	0.013257644	49.89250565	99.82688904
11-Jan-12 06:44:00	49.71004868	0.013581357	49.88831711	99.79404449
11-Jan-12 06:45:00	49.74129486	0.013905069	49.88412857	99.76119232
11-Jan-12 06:46:00	49.77254486	0.014228782	49.87994003	99.72834015
11-Jan-12 06:47:00	49.80379105	0.014552495	49.87574768	99.69548798
11-Jan-12 06:48:00	49.83503723	0.014876206	49.87155914	99.66264343
11-Jan-12 06:49:00	49.86628342	0.015199919	49.86737061	99.62979126
11-Jan-12 06:50:00	49.8975296	0.015523632	49.86318207	99.59693909
11-Jan-12 06:51:00	49.92877579	0.015847344	49.85899353	99.56408691
11-Jan-12 06:52:00	49.96002197	0.016171057	49.85480118	99.53124237
11-Jan-12 06:53:00	49.99126816	0.01649477	49.85061264	99.4983902
11-Jan-12 06:54:00	50.02251816	0.016818482	49.8464241	99.46553802
11-Jan-12 06:55:00	50.05376434	0.017142193	49.84223557	99.43268585
11-Jan-12 06:56:00	50.08501053	0.017465906	49.83804321	99.39984131
11-Jan-12 06:57:00	50.11625671	0.017789619	49.83385468	99.36698914
11-Jan-12 06:58:00	50.1475029	0.018113332	49.82966614	99.33413696
11-Jan-12 06:59:00	50.17874908	0.018437045	49.8254776	99.30128479
11-Jan-12 07:00:00	50.17047501	0.018760756	49.82128525	99.26844025
11-Jan-12 07:01:00	50.07818222	0.019084468	49.81709671	99.23558807
11-Jan-12 07:02:00	49.98588943	0.019408181	49.81290817	99.2027359
11-Jan-12 07:03:00	49.89359283	0.019731894	49.80871964	99.16988373
11-Jan-12 07:04:00	49.80130005	0.020055607	49.80452728	99.13703918
11-Jan-12 07:05:00	49.70900726	0.020379318	49.80033875	99.10418701
11-Jan-12 07:06:00	49.6820755	0.020703031	49.97852707	99.29381561
11-Jan-12 07:07:00	49.66221619	0.021026744	49.91112518	99.51589203
11-Jan-12 07:08:00	49.64235306	0.021350456	49.84371948	99.73796844
11-Jan-12 07:09:00	49.62248993	0.021674169	49.7763176	99.64238739
11-Jan-12 07:10:00	49.60263062	0.02199788	49.70891571	98.68954468

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 07:11:00	47.8010025	0.022321593	48.17681503	95.94530487
11-Jan-12 07:12:00	47.3500061	0.022645306	47.0647049	94.26634216
11-Jan-12 07:13:00	46.76363373	0.022969019	47.17814636	94.27394867
11-Jan-12 07:14:00	49.80017853	0.023292731	49.28890991	98.78083801
11-Jan-12 07:15:00	49.91363525	0.023616444	49.66667938	99.60334778
11-Jan-12 07:16:00	49.99814224	0.023940155	49.74488068	99.61100769
11-Jan-12 07:17:00	49.99036789	0.024263868	49.82308578	99.6186676
11-Jan-12 07:18:00	49.98258972	0.024587581	49.90128708	99.62632751
11-Jan-12 07:19:00	49.97481537	0.024911294	49.97948837	99.6339798
11-Jan-12 07:20:00	49.96704102	0.025235007	49.99335861	99.64163971
11-Jan-12 07:21:00	49.95926285	0.025558718	49.98435974	99.64929962
11-Jan-12 07:22:00	49.95148849	0.02588243	49.97535706	99.6569519
11-Jan-12 07:23:00	49.94371414	0.026206143	49.96635818	99.66461182
11-Jan-12 07:24:00	49.93593597	0.026529856	49.9573555	99.67227173
11-Jan-12 07:25:00	49.92816162	0.026853569	49.94835663	99.67993164
11-Jan-12 07:26:00	49.92038727	0.02717728	49.93935394	99.68758392
11-Jan-12 07:27:00	49.9126091	0.027500993	49.93035126	99.69524384
11-Jan-12 07:28:00	49.90483475	0.027824705	49.92135239	99.70290375
11-Jan-12 07:29:00	49.89705658	0.028148418	49.9123497	99.71056366
11-Jan-12 07:30:00	49.88928223	0.028472131	49.90335083	99.71821594
11-Jan-12 07:31:00	49.88150787	0.028795844	49.89434814	99.72587585
11-Jan-12 07:32:00	49.87372971	0.029119555	49.88534927	99.73353577
11-Jan-12 07:33:00	49.86595535	0.029443268	49.87634659	99.74118805
11-Jan-12 07:34:00	49.858181	0.029766981	49.86734772	99.74884796
11-Jan-12 07:35:00	49.85040283	0.030090693	49.85834503	99.75650787
11-Jan-12 07:36:00	49.84262848	0.030414406	49.84934616	99.76416779
11-Jan-12 07:37:00	49.83485031	0.030738117	49.84034348	99.77182007
11-Jan-12 07:38:00	49.82707596	0.03106183	49.83134079	99.77947998
11-Jan-12 07:39:00	49.81930161	0.031385545	49.82234192	99.78713989
11-Jan-12 07:40:00	49.81152344	0.031709254	49.81333923	99.7947998
11-Jan-12 07:41:00	49.80374908	0.032032967	49.80434036	99.28717041
11-Jan-12 07:42:00	48.8490181	0.032356679	48.8490181	97.68516541
11-Jan-12 07:43:00	48.59273529	0.032680392	48.59957504	97.02435303

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 07:44:00	48.20679092	0.033004105	48.26695633	96.19248962
11-Jan-12 07:45:00	47.81586075	0.033327818	47.82435608	95.70641327
11-Jan-12 07:46:00	47.71627808	0.033651531	47.75979996	95.34130096
11-Jan-12 07:47:00	47.75369263	0.033975244	47.63638306	95.15008545
11-Jan-12 07:48:00	46.8614769	0.034298956	46.76152802	93.82113647
11-Jan-12 07:49:00	46.02471542	0.034622669	46.24055481	92.32782745
11-Jan-12 07:50:00	45.5667305	0.034946378	45.53310013	91.31308746
11-Jan-12 07:51:00	45.16107559	0.035270091	45.40029526	90.77303314
11-Jan-12 07:52:00	45.11170578	0.035593804	45.20000076	90.00799561
11-Jan-12 07:53:00	44.99348068	0.035917517	45.20000076	89.85597229
11-Jan-12 07:54:00	44.6168251	0.03624123	44.46985626	90.16760254
11-Jan-12 07:55:00	41.57344055	0.036564942	41.36766052	82.9720993
11-Jan-12 07:56:00	33.7421875	0.036888655	33.40039825	67.57707977
11-Jan-12 07:57:00	30.89820099	0.037212368	30.9980793	61.01928711
11-Jan-12 07:58:00	27.30000114	0.037536081	27.26261711	54.3936615
11-Jan-12 07:59:00	18.37402725	0.037859794	21.13385201	39.49623489
11-Jan-12 08:00:00	17.18875694	0.038183507	17.14748955	33.80200195
11-Jan-12 08:01:00	17.49102211	0.038507216	17.61528397	34.88558578
11-Jan-12 08:02:00	17.9462471	0.038830929	18.37035561	36.64406967
11-Jan-12 08:03:00	16.87596321	0.039154641	17.1195488	33.58547974
11-Jan-12 08:04:00	11.29646301	0.039478354	22.05702591	33.30683136
11-Jan-12 08:05:00	10.63786316	0.039802067	21.42478752	31.56337929
11-Jan-12 08:06:00	0.000841864	0.04012578	29.68863106	28.77289391
11-Jan-12 08:07:00	0.002526941	0.040449493	26.16041756	26.56016922
11-Jan-12 08:08:00	0.004212018	0.040773205	25.93686676	25.4238224
11-Jan-12 08:09:00	0.005897094	0.041096918	21.1714592	21.3266468
11-Jan-12 08:10:00	0.007582171	0.041420631	20.70951271	20.77089691
11-Jan-12 08:11:00	0.009267247	0.04174434	19.46327019	19.79687119
11-Jan-12 08:12:00	0.010952324	0.042068053	17.86832809	17.42108727
11-Jan-12 08:13:00	0.012637401	0.042391766	13.54361248	14.32930946
11-Jan-12 08:14:00	0.014322477	0.042715479	13.33282852	13.4878273
11-Jan-12 08:15:00	0.016007554	0.043039192	13.31855011	12.77970791
11-Jan-12 08:16:00	0.017692631	0.043362904	13.54232025	12.66857624

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 08:17:00	0.019377707	0.043686617	13.58692741	12.55744362
11-Jan-12 08:18:00	0.021062784	0.04401033	13.63153362	12.44631195
11-Jan-12 08:19:00	0.022747859	0.044334043	13.67614079	12.33518028
11-Jan-12 08:20:00	0.024432937	0.044657756	13.43670177	12.22404861
11-Jan-12 08:21:00	0.026118014	0.044981468	7.2979002	7.59164381
11-Jan-12 08:22:00	0.027803089	0.045305178	7.292451382	7.578439236
11-Jan-12 08:23:00	0.029488167	0.04562889	7.287002563	7.565235138
11-Jan-12 08:24:00	0.031173244	0.045952603	7.281553745	7.552030563
11-Jan-12 08:25:00	0.03285832	0.046276316	7.276104927	7.538825989
11-Jan-12 08:26:00	0.034543395	0.046600029	7.270656109	7.525621414
11-Jan-12 08:27:00	0.036228474	0.046923742	7.265207291	7.51241684
11-Jan-12 08:28:00	0.03791355	0.047247455	7.259758472	7.499212742
11-Jan-12 08:29:00	0.039598625	0.047571167	7.254309654	7.486008167
11-Jan-12 08:30:00	0.041283704	0.04789488	7.248861313	7.472803593
11-Jan-12 08:31:00	0.04296878	0.048218593	7.243412495	7.459599018
11-Jan-12 08:32:00	0.044653855	0.048542306	7.237963676	7.446394444
11-Jan-12 08:33:00	0.046338934	0.048866015	7.232514858	7.433190346
11-Jan-12 08:34:00	0.04802401	0.049189728	7.22706604	7.419985771
11-Jan-12 08:35:00	0.049709085	0.049513441	7.221617222	7.406781197
11-Jan-12 08:36:00	0.051394165	0.049837153	7.216168404	7.393576622
11-Jan-12 08:37:00	0.05307924	0.050160866	7.210719585	7.380372047
11-Jan-12 08:38:00	0.054764315	0.050484579	7.205270767	7.36716795
11-Jan-12 08:39:00	0.056449391	0.050808292	7.199821949	7.353963375
11-Jan-12 08:40:00	0.05813447	0.051132005	7.194373131	7.340758801
11-Jan-12 08:41:00	0.059819546	0.051455718	7.188924313	7.327554226
11-Jan-12 08:42:00	0.061504621	0.05177943	7.183475494	7.314349651
11-Jan-12 08:43:00	0.0631897	0.052103139	7.178027153	7.301145077
11-Jan-12 08:44:00	0.064874776	0.052426852	7.172578335	7.287940979
11-Jan-12 08:45:00	0.066559851	0.052750565	7.167129517	7.274736404
11-Jan-12 08:46:00	0.068244927	0.053074278	7.161680698	7.26153183
11-Jan-12 08:47:00	0.069930002	0.053397991	7.15623188	7.248327255
11-Jan-12 08:48:00	0.071615085	0.053721704	7.150783062	7.235122681
11-Jan-12 08:49:00	0.07330016	0.054045416	7.145334244	7.221918583

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 08:50:00	0.074985236	0.054369129	7.139885426	7.208714008
11-Jan-12 08:51:00	0.076670311	0.054692842	7.134436607	7.195509434
11-Jan-12 08:52:00	0.078355387	0.055016555	7.128987789	7.182304859
11-Jan-12 08:53:00	0.080040462	0.055340268	7.123538971	7.169100285
11-Jan-12 08:54:00	0.081725545	0.055663977	7.118090153	7.155896187
11-Jan-12 08:55:00	0.083410621	0.05598769	7.112641335	7.142691612
11-Jan-12 08:56:00	0.085095696	0.056311402	7.107192516	7.129487038
11-Jan-12 08:57:00	0.086780772	0.056635115	7.101744175	7.116282463
11-Jan-12 08:58:00	0.088465847	0.056958828	7.802206516	7.103077888
11-Jan-12 08:59:00	0.090150923	0.057282541	6.85106039	7.121291161
11-Jan-12 09:00:00	0.091835998	0.057606254	6.92098999	7.149055004
11-Jan-12 09:01:00	0.093521081	0.057929967	6.99091959	7.176818371
11-Jan-12 09:02:00	0.095206156	0.058253679	7.06084919	7.204581738
11-Jan-12 09:03:00	0.096891232	0.058577392	7.13077879	7.232345581
11-Jan-12 09:04:00	0.098576307	0.058901101	7.200708389	7.260108948
11-Jan-12 09:05:00	0.100261383	0.059224814	7.270637989	7.287872791
11-Jan-12 09:06:00	0.101946458	0.059548527	6.65311718	7.400794029
11-Jan-12 09:07:00	0.103631541	0.05987224	6.792095661	7.579765797
11-Jan-12 09:08:00	0.105316617	0.060195953	6.931074142	7.758737087
11-Jan-12 09:09:00	0.107001692	0.060519665	7.070052624	7.937708855
11-Jan-12 09:10:00	0.108686768	0.060843378	6.656059742	6.827908516
11-Jan-12 09:11:00	0.110371843	0.061167091	7.233999252	7.920674801
11-Jan-12 09:12:00	0.112056918	0.061490804	9.054366112	8.513876915
11-Jan-12 09:13:00	0.113742001	0.061814517	7.318411827	7.86498642
11-Jan-12 09:14:00	0.115427077	0.06213823	10.13514423	10.10031033
11-Jan-12 09:15:00	0.117112152	0.062461939	9.702615738	9.478737831
11-Jan-12 09:16:00	0.118797228	0.062785655	8.296823502	7.750476837
11-Jan-12 09:17:00	0.120482303	0.063109368	8.40164566	8.701455116
11-Jan-12 09:18:00	0.122167379	0.063433081	7.003997326	7.859993458
11-Jan-12 09:19:00	0.123852454	0.063756794	7.703062057	8.538649559
11-Jan-12 09:20:00	0.12553753	0.064080499	10.09358406	10.12771225
11-Jan-12 09:21:00	0.127222613	0.064404212	10.54111195	10.54686451
11-Jan-12 09:22:00	0.128907681	0.064727925	10.28430748	10.30428982

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 09:23:00	0.130592763	0.065051638	8.12825489	8.141253471
11-Jan-12 09:24:00	0.132277846	0.06537535	8.221630096	8.359656334
11-Jan-12 09:25:00	0.133962914	0.065699063	6.92623806	6.524257183
11-Jan-12 09:26:00	0.135647997	0.066022776	6.777478695	7.124043465
11-Jan-12 09:27:00	0.137333065	0.066346489	7.693163872	7.90066433
11-Jan-12 09:28:00	0.139018148	0.066670202	11.89756107	11.89296818
11-Jan-12 09:29:00	0.140703216	0.066993915	12.92863083	12.58103561
11-Jan-12 09:30:00	0.142388299	0.067317627	9.087400436	9.20426178
11-Jan-12 09:31:00	0.144073382	0.06764134	14.92540169	15.18426228
11-Jan-12 09:32:00	0.14575845	0.067965053	21.54295158	21.43948555
11-Jan-12 09:33:00	0.147443533	0.068288766	19.89658928	19.12360001
11-Jan-12 09:34:00	0.149128601	0.068612479	14.01791954	13.69765854
11-Jan-12 09:35:00	0.150813684	0.068936191	13.19259834	13.07477665
11-Jan-12 09:36:00	0.152498767	0.069259904	13.2578764	12.91447735
11-Jan-12 09:37:00	0.154183835	0.069583617	12.4948082	12.75417805
11-Jan-12 09:38:00	0.155868918	0.06990733	12.62305069	12.5938797
11-Jan-12 09:39:00	0.157553986	0.070231043	12.74633789	12.4335804
11-Jan-12 09:40:00	0.159239069	0.070554756	12.86962414	12.2732811
11-Jan-12 09:41:00	0.160924137	0.070878461	12.99291134	12.1129818
11-Jan-12 09:42:00	0.16260922	0.071202174	12.98713303	11.9526825
11-Jan-12 09:43:00	0.164294302	0.071525887	11.40927219	11.52863693
11-Jan-12 09:44:00	0.16597937	0.071849599	9.616155624	9.699999809
11-Jan-12 09:45:00	0.167664453	0.072173312	9.463728905	9.699999809
11-Jan-12 09:46:00	0.169349521	0.072497025	9.764068604	9.699999809
11-Jan-12 09:47:00	0.171034604	0.072820738	11.81814384	11.99442673
11-Jan-12 09:48:00	0.172719672	0.073144451	10.52987194	10.12816811
11-Jan-12 09:49:00	0.174404755	0.073468164	9.065965652	8.420258522
11-Jan-12 09:50:00	0.176089838	0.073791876	7.552958965	7.678997993
11-Jan-12 09:51:00	0.177774906	0.074115589	6.907911777	7.361184597
11-Jan-12 09:52:00	0.179459989	0.074439302	8.682238579	8.161569595
11-Jan-12 09:53:00	0.181145057	0.074763015	13.75349331	14.11931133
11-Jan-12 09:54:00	0.18283014	0.075086728	19.15485382	18.51221085
11-Jan-12 09:55:00	0.184515223	0.075410441	24.13788795	24.03346252

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 09:56:00	0.186200291	0.075734153	33.09556198	32.89788055
11-Jan-12 09:57:00	0.187885374	0.076057866	37.0724411	36.64528656
11-Jan-12 09:58:00	0.189570442	0.076381579	45.76666641	45.83386612
11-Jan-12 09:59:00	0.191255525	0.076705292	50.16371918	50.27749252
11-Jan-12 10:00:00	0.192940593	0.077029005	50.07548904	50.47391129
11-Jan-12 10:01:00	0.194625676	0.077352718	49.98725891	50.67033005
11-Jan-12 10:02:00	0.196310759	0.07767643	49.89902878	50.86674881
11-Jan-12 10:03:00	0.197995827	0.078000136	49.81079865	51.06316376
11-Jan-12 10:04:00	0.19968091	0.078323849	49.72256851	51.25958252
11-Jan-12 10:05:00	18.55117798	0.078647561	37.3971405	55.68631363
11-Jan-12 10:06:00	19.5881176	0.078971274	39.0879364	59.26971054
11-Jan-12 10:07:00	21.79712868	0.079294987	42.95757294	65.09970093
11-Jan-12 10:08:00	23.40620804	0.0796187	47.39356232	70.36873627
11-Jan-12 10:09:00	23.78400803	0.079942413	49.19487762	72.19606018
11-Jan-12 10:10:00	24.92601585	0.080266126	37.17965317	61.76210022
11-Jan-12 10:11:00	35.63066483	0.080589838	35.72590637	70.86375427
11-Jan-12 10:12:00	39.38829803	0.080913551	39.72286606	78.67090607
11-Jan-12 10:13:00	43.79532242	0.081237264	44.01582336	87.25917053
11-Jan-12 10:14:00	44.16586685	0.081560977	43.95575333	87.4935379
11-Jan-12 10:15:00	45.02553177	0.08188469	45.03935623	89.7076416
11-Jan-12 10:16:00	45.88420868	0.082208402	46.15653992	92.20931244
11-Jan-12 10:17:00	46.9288559	0.082532115	46.65893173	93.02492523
11-Jan-12 10:18:00	46.37864304	0.082855828	46.44036865	92.28767395
11-Jan-12 10:19:00	46.03187943	0.083179541	46.22180176	92.07176971
11-Jan-12 10:20:00	45.89386368	0.083503254	46.00323868	91.92622375
11-Jan-12 10:21:00	45.75584412	0.083826967	45.7846756	91.7806778
11-Jan-12 10:22:00	47.81925583	0.084150679	47.75940323	95.79479218
11-Jan-12 10:23:00	48.57771301	0.084474392	48.84164047	97.7339859
11-Jan-12 10:24:00	49.74706268	0.084798098	49.74636841	99.41564941
11-Jan-12 10:25:00	50.29083252	0.08512181	50.09658813	100.1952667
11-Jan-12 10:26:00	50.27449417	0.085445523	50.09114075	100.187088
11-Jan-12 10:27:00	50.25815201	0.085769236	50.08569336	100.1789093
11-Jan-12 10:28:00	50.24181366	0.086092949	50.08024597	100.1707306

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 10:29:00	50.2254715	0.086416662	50.07479858	100.1625595
11-Jan-12 10:30:00	50.20913315	0.086740375	50.0693512	100.1543808
11-Jan-12 10:31:00	50.19279099	0.087064087	50.06390381	100.1462021
11-Jan-12 10:32:00	50.17645264	0.0873878	50.05845642	100.1380234
11-Jan-12 10:33:00	50.16011047	0.087711513	50.05300903	100.1298447
11-Jan-12 10:34:00	50.14377213	0.088035226	50.04755783	100.121666
11-Jan-12 10:35:00	50.12742996	0.088358939	50.04211044	100.1134949
11-Jan-12 10:36:00	50.11109161	0.088682652	50.03666306	100.1053162
11-Jan-12 10:37:00	50.09474945	0.089006364	50.03121567	100.0971375
11-Jan-12 10:38:00	50.0784111	0.089330077	50.02576828	100.0889587
11-Jan-12 10:39:00	50.06206894	0.08965379	50.02032089	100.08078
11-Jan-12 10:40:00	50.04573059	0.089977503	50.0148735	100.0726089
11-Jan-12 10:41:00	50.02939224	0.090301216	50.00942612	100.0644302
11-Jan-12 10:42:00	50.01305008	0.090624928	50.00397873	100.0562515
11-Jan-12 10:43:00	49.99671173	0.090948641	49.99853134	100.0480728
11-Jan-12 10:44:00	49.98036957	0.091272354	49.99308395	100.0398941
11-Jan-12 10:45:00	49.96403122	0.09159606	49.98763657	100.0317154
11-Jan-12 10:46:00	49.94768906	0.091919772	49.98218918	100.0235443
11-Jan-12 10:47:00	49.93135071	0.092243485	49.97674179	100.0153656
11-Jan-12 10:48:00	49.91500854	0.092567198	49.9712944	100.0071869
11-Jan-12 10:49:00	49.8986702	0.092890911	49.96584702	99.99900818
11-Jan-12 10:50:00	49.88232803	0.093214624	49.96039963	99.99082947
11-Jan-12 10:51:00	49.86598969	0.093538336	49.95495224	99.98265076
11-Jan-12 10:52:00	49.84964752	0.093862049	49.94950485	99.97447968
11-Jan-12 10:53:00	49.83330917	0.094185762	49.94405746	99.96630096
11-Jan-12 10:54:00	49.81696701	0.094509475	49.93861008	99.95812225
11-Jan-12 10:55:00	49.80062866	0.094833188	49.93316269	99.94994354
11-Jan-12 10:56:00	49.7842865	0.095156901	49.9277153	99.94176483
11-Jan-12 10:57:00	49.76794815	0.095480613	49.92226791	99.93359375
11-Jan-12 10:58:00	49.7516098	0.095804326	49.91682053	99.92541504
11-Jan-12 10:59:00	49.73526764	0.096128039	49.91137314	99.91723633
11-Jan-12 11:00:00	49.71892929	0.096451752	49.90592575	99.90905762
11-Jan-12 11:01:00	49.70258713	0.096775465	49.90047836	99.90087891

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 11:02:00	48.40907669	0.097099178	48.45566177	96.7226944
11-Jan-12 11:03:00	49.61956787	0.09742289	49.36275864	98.61173248
11-Jan-12 11:04:00	49.67238617	0.097746603	49.99455643	99.13700104
11-Jan-12 11:05:00	47.3548317	0.098070316	47.58967209	94.61599731
11-Jan-12 11:06:00	49.23435211	0.098394021	49.24620819	98.62243652
11-Jan-12 11:07:00	47.05857468	0.098717734	47.22963715	94.28942871
11-Jan-12 11:08:00	46.26295471	0.099041447	46.26760101	91.76422882
11-Jan-12 11:09:00	44.04938507	0.09936516	44.14166641	88.3805542
11-Jan-12 11:10:00	42.61336517	0.099688873	42.75680161	85.65644073
11-Jan-12 11:11:00	41.69723892	0.100012586	41.70981979	83.80577087
11-Jan-12 11:12:00	42.63318634	0.100336298	42.51222992	85.14984131
11-Jan-12 11:13:00	39.36855316	0.100660011	39.5	78.93556976
11-Jan-12 11:14:00	36.06408691	0.100983724	36.41310501	71.9980011
11-Jan-12 11:15:00	34.17502213	0.101307437	33.92467117	68.15568542
11-Jan-12 11:16:00	32.84275818	0.10163115	32.77736282	65.92092133
11-Jan-12 11:17:00	30.68309975	0.101954862	30.58480644	61.55527878
11-Jan-12 11:18:00	28.75053406	0.102278575	28.76767349	57.90480423
11-Jan-12 11:19:00	24.55299187	0.102602288	25.60774994	50.95896149
11-Jan-12 11:20:00	24.23773956	0.102926001	24.02062035	48.45251465
11-Jan-12 11:21:00	24.31705284	0.103249714	23.81495285	48.85425186
11-Jan-12 11:22:00	24.39722252	0.103573427	24.41768646	49.230793
11-Jan-12 11:23:00	24.13967896	0.103897139	24.66197968	48.87044907
11-Jan-12 11:24:00	17.30970001	0.104220852	31.49202728	48.48151016
11-Jan-12 11:25:00	16.27606964	0.104544565	32.37269211	48.84405136
11-Jan-12 11:26:00	16.66064072	0.104868278	33.58724594	50.7685051
11-Jan-12 11:27:00	17.24142647	0.105191983	33.84975815	51.45679092
11-Jan-12 11:28:00	17.85647583	0.105515696	35.03262711	53.4220314
11-Jan-12 11:29:00	18.41467476	0.105839409	37.78807831	56.66466522
11-Jan-12 11:30:00	18.90095139	0.106163122	37.72519302	56.2081871
11-Jan-12 11:31:00	18.85640526	0.106486835	37.48143768	55.75170898
11-Jan-12 11:32:00	18.44399643	0.106810547	36.39377975	55.2791481
11-Jan-12 11:33:00	18.70375633	0.10713426	38.07975388	56.91346741
11-Jan-12 11:34:00	18.89999962	0.107457973	37.81534958	57.09422302

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 11:35:00	18.89999962	0.107781686	38.3997345	57.27497864
11-Jan-12 11:36:00	18.95230103	0.108105399	38.01153183	57.69178009
11-Jan-12 11:37:00	19.3174572	0.108429112	39.48554611	58.63808823
11-Jan-12 11:38:00	19.07752228	0.108752824	37.49583435	55.94466019
11-Jan-12 11:39:00	18.66085815	0.109076537	36.97126389	54.8507576
11-Jan-12 11:40:00	18.39999962	0.10940025	36.55852509	54.64512634
11-Jan-12 11:41:00	18.39999962	0.109723963	36.167202	54.5
11-Jan-12 11:42:00	18.55079079	0.110047676	36.79999924	55.45706558
11-Jan-12 11:43:00	18.73692703	0.110371388	37.43981552	56.41957474
11-Jan-12 11:44:00	18.84811592	0.110695101	37.59775162	55.94658661
11-Jan-12 11:45:00	18.42257118	0.111018814	37.36326599	55.39039612
11-Jan-12 11:46:00	17.98714256	0.111342527	36.50068283	55.10000229
11-Jan-12 11:47:00	17.78888702	0.11166624	34.82152557	52.50543976
11-Jan-12 11:48:00	18.04989433	0.111989945	35.68055344	53.91788483
11-Jan-12 11:49:00	18.17446709	0.112313658	36.68901443	54.87857437
11-Jan-12 11:50:00	18.11437225	0.112637371	36.72164917	55.27872086
11-Jan-12 11:51:00	18.57723808	0.112961084	37.1552887	55.67887115
11-Jan-12 11:52:00	19.19755173	0.113284796	38.19719315	58.24362564
11-Jan-12 11:53:00	18.85591698	0.113608509	38.0806694	56.79813385
11-Jan-12 11:54:00	18.51428032	0.113932222	36.85548782	55.59237289
11-Jan-12 11:55:00	18.41147804	0.114255935	37.22459793	55.96715927
11-Jan-12 11:56:00	18.3190937	0.114579648	37.13703537	55.04309082
11-Jan-12 11:57:00	17.48686218	0.114903361	35.14070892	52.56816101
11-Jan-12 11:58:00	16.10062408	0.115227073	32.58996582	48.4988327
11-Jan-12 11:59:00	15.58026409	0.115550786	30.98410797	46.34547806
11-Jan-12 12:00:00	14.34760571	0.115874499	28.81621933	42.99298096
11-Jan-12 12:01:00	13.86432934	0.116198212	28.14917374	42.48727798
11-Jan-12 12:02:00	12.77297497	0.116521925	25.60652733	38.90750504
11-Jan-12 12:03:00	12.21437454	0.116845638	24.46207428	37.00535965
11-Jan-12 12:04:00	1.054415226	0.11716935	24.95887756	26.56515694
11-Jan-12 12:05:00	0.011074479	0.117493063	26.99647141	26.10436249
11-Jan-12 12:06:00	0.022645751	0.117816776	24.84650421	24.72060776
11-Jan-12 12:07:00	0.034217026	0.118140489	23.75540924	23.10739708

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 12:08:00	0.045788299	0.118464202	18.90575409	19.36656761
11-Jan-12 12:09:00	0.057359569	0.118787915	17.90862846	17.55021286
11-Jan-12 12:10:00	0.068930842	0.11911162	15.9662323	16.25089073
11-Jan-12 12:11:00	0.080502115	0.119435333	11.99496746	12.27177715
11-Jan-12 12:12:00	0.092073388	0.119759046	11.22078705	11.06477547
11-Jan-12 12:13:00	0.103644662	0.120082758	11.56740856	11.15820885
11-Jan-12 12:14:00	0.115215935	0.120406471	11.65633297	11.32539082
11-Jan-12 12:15:00	0.126787201	0.120730184	11.74525738	11.49257183
11-Jan-12 12:16:00	0.138358474	0.121053897	11.83418179	11.65975285
11-Jan-12 12:17:00	0.149929747	0.12137761	11.70092487	11.82693386
11-Jan-12 12:18:00	0.16150102	0.121701322	12.1255579	11.49300671
11-Jan-12 12:19:00	0.173072293	0.122025035	6.451668262	6.878281116
11-Jan-12 12:20:00	0.184643567	0.122348748	6.018247128	6.145843506
11-Jan-12 12:21:00	0.19621484	0.122672461	6.039134026	6.197185993
11-Jan-12 12:22:00	0.207786113	0.122996174	6.0600214	6.248528481
11-Jan-12 12:23:00	0.219357386	0.123319887	6.080908298	6.299870968
11-Jan-12 12:24:00	0.230928659	0.123643599	6.101795197	6.351213455
11-Jan-12 12:25:00	0.242499933	0.123967312	6.122682095	6.402555943
11-Jan-12 12:26:00	0.254071206	0.124291025	6.143569469	6.453897953
11-Jan-12 12:27:00	0.265642494	0.124614738	6.164456367	6.50524044
11-Jan-12 12:28:00	0.277213752	0.124938451	6.185343266	6.556582928
11-Jan-12 12:29:00	0.28878504	0.125262156	6.206230164	6.607925415
11-Jan-12 12:30:00	0.300356299	0.125585869	6.227117062	6.659267902
11-Jan-12 12:31:00	0.311927587	0.125909582	6.248004436	6.71061039
11-Jan-12 12:32:00	0.323498845	0.126233295	6.268891335	6.761952877
11-Jan-12 12:33:00	0.335070133	0.126557007	6.289778233	6.813295364
11-Jan-12 12:34:00	0.346641392	0.12688072	6.310665131	6.864637852
11-Jan-12 12:35:00	0.35821268	0.127204433	6.331552505	6.915979862
11-Jan-12 12:36:00	0.369783938	0.127528146	6.352439404	6.96732235
11-Jan-12 12:37:00	0.381355226	0.127851859	6.373326302	7.018664837
11-Jan-12 12:38:00	0.392926484	0.128175572	6.3942132	7.070007324
11-Jan-12 12:39:00	0.404497772	0.128499284	6.460525513	7.121349812
11-Jan-12 12:40:00	0.416069031	0.128822997	6.54424572	7.172692299

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 12:41:00	0.427640289	0.12914671	6.627965927	7.224034786
11-Jan-12 12:42:00	0.439211577	0.129470423	6.03617382	7.275377274
11-Jan-12 12:43:00	0.450782835	0.129794136	5.993766308	7.326719284
11-Jan-12 12:44:00	0.462354124	0.130117849	6.090296268	7.378061771
11-Jan-12 12:45:00	0.473925382	0.130441561	6.186826229	7.429404259
11-Jan-12 12:46:00	0.48549667	0.130765274	6.28335619	7.480746746
11-Jan-12 12:47:00	0.497067928	0.131088987	6.37988615	7.532089233
11-Jan-12 12:48:00	0.508639216	0.1314127	6.476416111	7.583431721
11-Jan-12 12:49:00	0.520210505	0.131736413	6.239164352	7.003192425
11-Jan-12 12:50:00	0.531781733	0.132060125	6.487010956	7.205385208
11-Jan-12 12:51:00	0.543353021	0.132383838	6.734857559	7.407577991
11-Jan-12 12:52:00	0.554924309	0.132707551	7.292868137	7.609770775
11-Jan-12 12:53:00	0.566495597	0.133031264	7.64508152	7.811963558
11-Jan-12 12:54:00	0.578066826	0.133354977	7.863535881	8.014156342
11-Jan-12 12:55:00	0.589638114	0.13367869	9.324673653	9.756674767
11-Jan-12 12:56:00	0.601209402	0.134002402	12.07004452	11.98986912
11-Jan-12 12:57:00	0.61278069	0.134326115	12.95893288	12.64398956
11-Jan-12 12:58:00	0.624351919	0.134649828	12.79659557	13.29811001
11-Jan-12 12:59:00	0.635923207	0.134973541	13.34534836	13.9522295
11-Jan-12 13:00:00	0.647494495	0.135297254	17.55881119	17.38580704
11-Jan-12 13:01:00	0.659065783	0.135620967	19.94379807	20.19439888
11-Jan-12 13:02:00	0.670637012	0.135944679	27.4439106	27.74755096
11-Jan-12 13:03:00	0.6822083	0.136268377	33.977314	33.29991913
11-Jan-12 13:04:00	0.693779588	0.13659209	36.06130981	36.54973221
11-Jan-12 13:05:00	0.705350876	0.136915803	38.64970016	38.11577606
11-Jan-12 13:06:00	0.716922104	0.137239516	39.94667053	40.2467308
11-Jan-12 13:07:00	0.728493392	0.137563229	43.30497742	43.68096161
11-Jan-12 13:08:00	0.740064681	0.137886941	46.15172577	46.81301117
11-Jan-12 13:09:00	0.751635969	0.138210654	48.6303978	49.24278259
11-Jan-12 13:10:00	0.763207197	0.138534367	50.1131897	49.96327591
11-Jan-12 13:11:00	0.774778485	0.13885808	49.98716354	50.18976974
11-Jan-12 13:12:00	0.786349773	0.139181793	49.86113739	50.41626358
11-Jan-12 13:13:00	0.797921062	0.139505506	49.73511505	50.64275742

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 13:14:00	18.25028992	0.139829218	36.81048965	54.88792801
11-Jan-12 13:15:00	18.47467041	0.140152931	36.75341415	55.20047379
11-Jan-12 13:16:00	18.36778831	0.140476644	36.25428009	54.1965065
11-Jan-12 13:17:00	18.26090622	0.140800357	36.0474968	54.0536232
11-Jan-12 13:18:00	18.15402412	0.14112407	36	53.9107399
11-Jan-12 13:19:00	18.04714203	0.141447783	35.20183182	53.57961655
11-Jan-12 13:20:00	17.94025993	0.141771495	34.85725021	52.81157303
11-Jan-12 13:21:00	17.83337784	0.142095208	35.33039474	52.52280045
11-Jan-12 13:22:00	17.01579285	0.142418921	34.12256241	50.89233398
11-Jan-12 13:23:00	17.08183479	0.142742634	34.43465424	51.86929321
11-Jan-12 13:24:00	17.16481972	0.143066347	34.02249527	51.4888382
11-Jan-12 13:25:00	17.24780464	0.143390059	34.01396942	51.39771652
11-Jan-12 13:26:00	18.2176342	0.143713772	36.59386444	54.4674263
11-Jan-12 13:27:00	17.09688187	0.144037485	34.5048027	52.14686584
11-Jan-12 13:28:00	17.01117516	0.144361198	34.47585297	51.10401917
11-Jan-12 13:29:00	16.92546844	0.144684911	33.84995651	50.51820755
11-Jan-12 13:30:00	16.83976173	0.145008624	32.92360306	50.17519379
11-Jan-12 13:31:00	17.33608437	0.145332336	34.15449142	51.29639053
11-Jan-12 13:32:00	19.24162865	0.145656049	39.00534821	58.73433304
11-Jan-12 13:33:00	18.69916153	0.145979762	37.33569717	56.31343079
11-Jan-12 13:34:00	19.14135551	0.146303475	37.79999924	57.19195557
11-Jan-12 13:35:00	19.19795418	0.146627188	38.25431824	56.94634247
11-Jan-12 13:36:00	17.86774635	0.146950901	35.16943359	53.21891403
11-Jan-12 13:37:00	16.35923004	0.147274613	32.59347916	49.15872192
11-Jan-12 13:38:00	15.44738483	0.147598326	31.5106411	47.10131454
11-Jan-12 13:39:00	14.73433208	0.147922039	29.60157585	44.15948486
11-Jan-12 13:40:00	14.56422234	0.148245752	28.64982605	43.63107681
11-Jan-12 13:41:00	14.33035851	0.148569465	29.06911278	43.5916748
11-Jan-12 13:42:00	14.057827	0.148893178	28.18757248	42.37112808
11-Jan-12 13:43:00	13.807374	0.14921689	27.29393578	40.47072601
11-Jan-12 13:44:00	13.61712742	0.149540603	27.0686264	40.23369217
11-Jan-12 13:45:00	13.72990227	0.149864301	26.3344593	40.06987
11-Jan-12 13:46:00	13.84267712	0.150188014	26.758461	40.0007515

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 13:47:00	13.96045876	0.150511727	28.05348206	42.25920486
11-Jan-12 13:48:00	14.08341599	0.15083544	28.37275505	42.40474319
11-Jan-12 13:49:00	14.18845463	0.151159152	28.73630142	42.11166763
11-Jan-12 13:50:00	14.1220789	0.151482865	28.39850426	42.26878738
11-Jan-12 13:51:00	14.15870285	0.151806578	27.82316208	41.7498703
11-Jan-12 13:52:00	14.19532585	0.152130291	28.08530807	42.71348953
11-Jan-12 13:53:00	15.57994652	0.152454004	30.30306435	45.98915863
11-Jan-12 13:54:00	16.30282593	0.152777717	32.7941246	49.48270798
11-Jan-12 13:55:00	17.12238121	0.153101429	34.24651337	51.0125885
11-Jan-12 13:56:00	17.94193649	0.153425142	35.49251938	52.97697449
11-Jan-12 13:57:00	17.76240349	0.153748855	35.01830673	52.83408356
11-Jan-12 13:58:00	18.41843796	0.154072568	36.44118881	54.93713379
11-Jan-12 13:59:00	17.92288971	0.154396281	36.68422318	54.25286484
11-Jan-12 14:00:00	17.82804871	0.154719993	35.98667908	53.91769791
11-Jan-12 14:01:00	18.90206528	0.155043706	37.5030899	56.16134644
11-Jan-12 14:02:00	19.38380432	0.155367419	38.15397644	57.13201904
11-Jan-12 14:03:00	19.40143967	0.155691132	38.55766678	57.32960129
11-Jan-12 14:04:00	19.81235504	0.156014845	38.90058517	59.16250992
11-Jan-12 14:05:00	19.5	0.156338558	39.00346375	58.61579132
11-Jan-12 14:06:00	20.01047897	0.15666227	40.03512573	60.01999664
11-Jan-12 14:07:00	19.59846497	0.156985983	39.48933029	58.65549088
11-Jan-12 14:08:00	19.52524567	0.157309696	38.9015274	58.35466766
11-Jan-12 14:09:00	19.45202637	0.157633409	39.43107605	59.28686142
11-Jan-12 14:10:00	19.44429016	0.157957122	39.17163086	58.74312973
11-Jan-12 14:11:00	19.59731865	0.158280835	39.55876923	59.39157104
11-Jan-12 14:12:00	19.75034523	0.158604547	40.0939064	60.09339523
11-Jan-12 14:13:00	19.90337372	0.15892826	40.33065033	59.97718811
11-Jan-12 14:14:00	20.67107773	0.159251973	40.65099716	61.38711929
11-Jan-12 14:15:00	20.31131935	0.159575686	41.17151642	61.41896057
11-Jan-12 14:16:00	19.16033936	0.159899399	38.10476303	57.42819977
11-Jan-12 14:17:00	18.71693993	0.160223112	36.60479736	55.20604324
11-Jan-12 14:18:00	18.97576141	0.160546824	38.54943848	57.54837036
11-Jan-12 14:19:00	18.60427094	0.160870537	37.22677231	55.00471115

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 14:20:00	18.36466408	0.16119425	37.25921631	55.32086182
11-Jan-12 14:21:00	17.56128883	0.161517963	35.22984314	52.76023102
11-Jan-12 14:22:00	17.98195267	0.161841676	35.84318542	53.590168
11-Jan-12 14:23:00	18.4026165	0.162165388	35.75163651	54.5195694
11-Jan-12 14:24:00	18.69640732	0.162489101	37.51508713	56.81848145
11-Jan-12 14:25:00	18.95198059	0.162812814	37.89968109	56.9984436
11-Jan-12 14:26:00	19.87598801	0.163136527	40.24082947	60.3968277
11-Jan-12 14:27:00	20.59270477	0.163460225	41.39637756	61.96306992
11-Jan-12 14:28:00	20.97281456	0.163783938	42.28538895	64.03900909
11-Jan-12 14:29:00	21.23789597	0.164107651	42.49730301	64.53232574
11-Jan-12 14:30:00	21.33209038	0.164431363	42.98388672	64.68743134
11-Jan-12 14:31:00	21.42628479	0.164755076	43.17411804	64.18029022
11-Jan-12 14:32:00	20.94869041	0.165078789	42.06798935	62.72154617
11-Jan-12 14:33:00	19.51499939	0.165402502	38.07085419	57.10464096
11-Jan-12 14:34:00	19.70176315	0.165726215	39.46784973	59.03456497
11-Jan-12 14:35:00	20.07507706	0.166049927	40.1663475	60.41584396
11-Jan-12 14:36:00	18.96557236	0.16637364	38.21569061	57.15530777
11-Jan-12 14:37:00	19.4728508	0.166697353	37.94316483	57.13978958
11-Jan-12 14:38:00	19.43161964	0.167021066	39.01028061	58.53554916
11-Jan-12 14:39:00	20.46647072	0.167344779	40.51173782	60.5675621
11-Jan-12 14:40:00	20.84387589	0.167668492	41.34898376	62.20668411
11-Jan-12 14:41:00	21.19926643	0.167992204	41.41913986	62.6453743
11-Jan-12 14:42:00	21.66812325	0.168315917	43.34337616	65.19391632
11-Jan-12 14:43:00	22.00850677	0.16863963	44.61022568	66.61937714
11-Jan-12 14:44:00	22.3488903	0.168963343	44.92644119	66.9306488
11-Jan-12 14:45:00	28.79027557	0.169287056	31.16173363	58.99725342
11-Jan-12 14:46:00	30.7466774	0.169610769	30.88343048	61.90533447
11-Jan-12 14:47:00	21.04426384	0.169934481	29.51055908	51.3348999
11-Jan-12 14:48:00	20.03372574	0.170258194	26.68569183	46.68980408
11-Jan-12 14:49:00	20.07052612	0.170581907	26.6205349	46.96559525
11-Jan-12 14:50:00	24.39850616	0.17090562	26.55537796	50.69709015
11-Jan-12 14:51:00	24.35234833	0.171229333	26.5	50.52043915
11-Jan-12 14:52:00	24.30618858	0.171553046	26.5	50.34378815

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 14:53:00	17.62533951	0.171876758	35.17245865	52.35531616
11-Jan-12 14:54:00	17.8849144	0.172200471	36.24863052	53.68902588
11-Jan-12 14:55:00	18.14448738	0.172524184	36.82282639	55.02273941
11-Jan-12 14:56:00	18.39999962	0.172847897	36.75884247	54.75826263
11-Jan-12 14:57:00	18.39999962	0.17317161	36.85236359	54.81661987
11-Jan-12 14:58:00	18.39999962	0.173495322	36.55461884	55.05545807
11-Jan-12 14:59:00	18.39999962	0.173819035	36.28905487	54.66051865
11-Jan-12 15:00:00	18.13576317	0.174142748	36.09390259	53.91829681
11-Jan-12 15:01:00	17.75785828	0.174466461	34.84959793	53.3002243
11-Jan-12 15:02:00	18.11401176	0.174790174	36.4441185	54.883564
11-Jan-12 15:03:00	18.99676323	0.175113887	37.67481995	56.16331482
11-Jan-12 15:04:00	18.96920395	0.175437599	38.12760925	57.37181473
11-Jan-12 15:05:00	18.82108688	0.175761312	38.25520325	56.84898758
11-Jan-12 15:06:00	18.67296791	0.176085025	37.72252274	56.24357605
11-Jan-12 15:07:00	18.52484894	0.176408738	37.09986496	55.47238159
11-Jan-12 15:08:00	18.41723633	0.176732451	36.89030838	55.05483627
11-Jan-12 15:09:00	18.31779099	0.177056164	36.84524155	54.82876968
11-Jan-12 15:10:00	18.21834373	0.177379861	36.65152359	54.36855316
11-Jan-12 15:11:00	18.11889648	0.177703574	36.58040619	53.94863129
11-Jan-12 15:12:00	18.01944923	0.178027287	35.6721611	54.11942673
11-Jan-12 15:13:00	17.92000389	0.178351	35.5	53.68031693
11-Jan-12 15:14:00	17.78017426	0.178674713	35.52921295	54.03739548
11-Jan-12 15:15:00	17.63017464	0.178998426	35.19454193	53.3519783
11-Jan-12 15:16:00	17.65365601	0.179322138	35.76234055	52.90005112
11-Jan-12 15:17:00	17.72082329	0.179645851	35.46876526	53.02410126
11-Jan-12 15:18:00	17.78799057	0.179969564	35.21249008	53.48696899
11-Jan-12 15:19:00	17.85515785	0.180293277	36.03678513	53.6483078
11-Jan-12 15:20:00	17.91662598	0.18061699	35.96472549	53.66588211
11-Jan-12 15:21:00	17.96664619	0.180940703	35.92774963	53.91429138
11-Jan-12 15:22:00	18.01666451	0.181264415	35.87278366	54.16270065
11-Jan-12 15:23:00	18.06668472	0.181588128	35.76372528	53.96994781
11-Jan-12 15:24:00	18.17147827	0.181911841	35.90444183	54.1363678
11-Jan-12 15:25:00	18.38552284	0.182235554	36.50138474	55.04005432

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 15:26:00	18.2963562	0.182559267	36.76232147	54.84074402
11-Jan-12 15:27:00	18.18519402	0.18288298	36.51709747	54.5630722
11-Jan-12 15:28:00	18.07403183	0.183206692	36.22948074	54.28539658
11-Jan-12 15:29:00	17.96287155	0.183530405	35.93022537	54.00772476
11-Jan-12 15:30:00	17.85170937	0.183854118	35.78992081	53.76539612
11-Jan-12 15:31:00	17.74054718	0.184177831	35.66747284	53.52407837
11-Jan-12 15:32:00	17.62938499	0.184501544	35.88347244	53.28276062
11-Jan-12 15:33:00	17.51822472	0.184825256	35.68577194	53.04144287
11-Jan-12 15:34:00	17.40706253	0.185148969	35.23099899	52.80012894
11-Jan-12 15:35:00	17.92381859	0.185472682	35.19846725	53.6325531
11-Jan-12 15:36:00	18.02601624	0.185796395	35.65689087	53.34976578
11-Jan-12 15:37:00	18.12821198	0.186120108	36.23360825	54.39912033
11-Jan-12 15:38:00	18.23040962	0.186443821	36.7178421	55.44847107
11-Jan-12 15:39:00	18.33260727	0.186767533	37.19004822	56.05991745
11-Jan-12 15:40:00	18.43480301	0.187091246	36.91775513	55.56634521
11-Jan-12 15:41:00	18.53700066	0.187414959	37.09580612	55.72517776
11-Jan-12 15:42:00	18.68177795	0.187738672	36.89660645	55.98532104
11-Jan-12 15:43:00	18.89499092	0.188062385	37.01864243	56.24546432
11-Jan-12 15:44:00	19.1082058	0.188386098	37.31961441	56.5056076
11-Jan-12 15:45:00	19.21769524	0.18870981	38.67027664	57.78715515
11-Jan-12 15:46:00	19.24876785	0.189033523	38.49663544	58.24617767
11-Jan-12 15:47:00	19.27984047	0.189357236	38.40000153	58.11151123
11-Jan-12 15:48:00	19.31091309	0.189680949	38.40000153	57.97684097
11-Jan-12 15:49:00	19.3419857	0.190004662	38.44904327	57.84217453
11-Jan-12 15:50:00	19.37305832	0.190328375	38.45114517	57.70750809
11-Jan-12 15:51:00	19.37002182	0.190652087	38.47679901	57.51400757
11-Jan-12 15:52:00	19.14453888	0.190975785	38.36175156	57.08765793
11-Jan-12 15:53:00	18.91905403	0.191299498	38.21636963	56.66130829
11-Jan-12 15:54:00	18.69357109	0.191623211	37.9422493	56.23495865
11-Jan-12 15:55:00	18.46808815	0.191946924	36.87903214	55.44897842
11-Jan-12 15:56:00	18.19277954	0.192270637	36.45359802	54.49719238
11-Jan-12 15:57:00	17.80992508	0.192594349	35.09440613	53.43575287
11-Jan-12 15:58:00	17.46080208	0.192918062	35.66136169	53.10615921

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 15:59:00	17.16076469	0.193241775	34.87081146	51.98022079
11-Jan-12 16:00:00	16.86072922	0.193565488	34.08657455	50.85427856
11-Jan-12 16:01:00	16.56069183	0.193889201	33.30407333	49.72834015
11-Jan-12 16:02:00	16.10467339	0.194212914	32.06329346	47.4171524
11-Jan-12 16:03:00	15.6091013	0.194536626	31.42764473	46.6815033
11-Jan-12 16:04:00	15.11352921	0.194860339	30.13803864	45.39543915
11-Jan-12 16:05:00	14.61795712	0.195184052	29.59039688	44.109375
11-Jan-12 16:06:00	14.12238407	0.195507765	28.74891472	42.82331085
11-Jan-12 16:07:00	13.48918152	0.195831478	26.76049042	40.02611542
11-Jan-12 16:08:00	12.2240448	0.19615519	24.47457314	36.32016373
11-Jan-12 16:09:00	10.52160549	0.196478903	21.24120712	31.33519363
11-Jan-12 16:10:00	0.000770813	0.196802616	19.38155174	18.81860542
11-Jan-12 16:11:00	0.001931997	0.197126329	18.4317112	18.9411602
11-Jan-12 16:12:00	0.003093181	0.197450042	18	17.91907883
11-Jan-12 16:13:00	0.004254365	0.197773755	18.09210968	18.48232079
11-Jan-12 16:14:00	0.005415549	0.198097467	19.10836411	19.59945297
11-Jan-12 16:15:00	0.006576733	0.19842118	21.48303413	21.60776138
11-Jan-12 16:16:00	0.007737916	0.198744893	21.64980888	22.039505
11-Jan-12 16:17:00	0.0088991	0.199068606	21.94891548	22.47124672
11-Jan-12 16:18:00	0.010060284	0.199392319	24.161026	24.31742668
11-Jan-12 16:19:00	0.011221468	0.199716032	27.80000114	27.81920624
11-Jan-12 16:20:00	0.012382652	0.200039744	28.65571022	28.58325195
11-Jan-12 16:21:00	0.013543836	0.200363457	29.10000038	28.91158104
11-Jan-12 16:22:00	0.01470502	0.20068717	29.84704971	29.23991203
11-Jan-12 16:23:00	0.015866203	0.201010883	28.68654633	29.42183304
11-Jan-12 16:24:00	0.017027387	0.201334596	29.20327187	29.46444321
11-Jan-12 16:25:00	0.018188572	0.201658309	30.00617981	29.77857018
11-Jan-12 16:26:00	0.019349756	0.201982021	31.86156082	31.46159935
11-Jan-12 16:27:00	0.02051094	0.202305734	33.34237671	33.17583847
11-Jan-12 16:28:00	0.021672124	0.202629447	34.33641815	33.76992798
11-Jan-12 16:29:00	0.022833306	0.20295316	33.56301498	33.93464661
11-Jan-12 16:30:00	0.023994491	0.203276873	33.08149338	33.56255341
11-Jan-12 16:31:00	0.025155675	0.203600585	37.05734253	37.9017868

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 16:32:00	0.026316859	0.203924298	38.18999481	38.00348282
11-Jan-12 16:33:00	0.027478043	0.204248011	40.21738434	40.44267654
11-Jan-12 16:34:00	0.028639227	0.204571709	40.48830032	40.76439285
11-Jan-12 16:35:00	0.029800411	0.204895422	39.97346878	40.55051422
11-Jan-12 16:36:00	0.030961594	0.205219135	40.71580887	41.57287216
11-Jan-12 16:37:00	0.03212278	0.205542848	42.31174469	42.59831619
11-Jan-12 16:38:00	0.033283964	0.20586656	43.28824234	43.19121933
11-Jan-12 16:39:00	0.034445148	0.206190273	42.5	43.09964752
11-Jan-12 16:40:00	0.035606328	0.206513986	42.72154999	43.00807953
11-Jan-12 16:41:00	0.036767513	0.206837699	43.67405701	43.48045731
11-Jan-12 16:42:00	0.037928697	0.207161412	44.70824814	43.58921432
11-Jan-12 16:43:00	0.039089881	0.207485124	43.22873306	43.61287308
11-Jan-12 16:44:00	0.040251065	0.207808837	43.19308472	43.82574081
11-Jan-12 16:45:00	0.041412249	0.20813255	42.94287109	44.03861237
11-Jan-12 16:46:00	0.042573433	0.208456263	43.68494797	44.25148392
11-Jan-12 16:47:00	0.043734618	0.208779976	44.40844345	44.46435547
11-Jan-12 16:48:00	0.044895802	0.209103689	46.46100235	46.99160004
11-Jan-12 16:49:00	0.046056986	0.209427401	49.61182785	49.85784912
11-Jan-12 16:50:00	0.04721817	0.209751114	49.64983368	49.34861755
11-Jan-12 16:51:00	0.048379354	0.210074827	49.68783569	48.83938217
11-Jan-12 16:52:00	0.049540538	0.21039854	47.00127792	46.36857605
11-Jan-12 16:53:00	0.050701723	0.210722253	45.13683701	45.37382126
11-Jan-12 16:54:00	0.051862903	0.211045966	42.88489914	43.26618576
11-Jan-12 16:55:00	0.053024087	0.211369678	42.66662598	42.99118423
11-Jan-12 16:56:00	0.054185271	0.211693391	44.40669632	44.22344971
11-Jan-12 16:57:00	0.055346455	0.212017104	43.20765305	43.27677917
11-Jan-12 16:58:00	0.05650764	0.212340817	40.52764511	41.13208389
11-Jan-12 16:59:00	0.057668824	0.21266453	39.0231514	39.11838913
11-Jan-12 17:00:00	0.058830008	0.212988243	38.17781448	38.29514313
11-Jan-12 17:01:00	0.059991192	0.213311955	37.17751312	37.47189713
11-Jan-12 17:02:00	0.061152376	0.213635668	33.96766281	33.68374252
11-Jan-12 17:03:00	0.06231356	0.213959381	32.91542435	32.24573898
11-Jan-12 17:04:00	0.063474745	0.214283094	28.16407013	28.15581131

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 17:05:00	0.064635925	0.214606807	16.94251633	17.91967201
11-Jan-12 17:06:00	0.065797113	0.214930519	14.18026352	13.548769
11-Jan-12 17:07:00	0.066958293	0.215254232	13.35922909	14.1025238
11-Jan-12 17:08:00	0.068119481	0.215577945	12.13620949	12.75476456
11-Jan-12 17:09:00	0.069280662	0.215901658	12.71362591	12.04428768
11-Jan-12 17:10:00	0.07044185	0.216225371	12.75743103	11.93593693
11-Jan-12 17:11:00	0.07160303	0.216549084	12.80123615	11.82758522
11-Jan-12 17:12:00	0.072764218	0.216872796	12.84504223	11.71923447
11-Jan-12 17:13:00	0.073925398	0.217196509	12.88884735	11.61088276
11-Jan-12 17:14:00	0.075086586	0.217520222	11.5853157	11.50253201
11-Jan-12 17:15:00	0.076247767	0.217843935	8.973860741	9.17637825
11-Jan-12 17:16:00	0.077408947	0.218167648	10.37497044	9.606585503
11-Jan-12 17:17:00	0.078570135	0.218491346	10.80470943	10.27158546
11-Jan-12 17:18:00	0.079731315	0.218815058	11.22300529	10.93658543
11-Jan-12 17:19:00	0.080892503	0.219138771	11.33978939	11.56568241
11-Jan-12 17:20:00	0.082053684	0.219462484	10.21179008	11.0487318
11-Jan-12 17:21:00	0.083214872	0.219786197	10.12084961	10.82806492
11-Jan-12 17:22:00	0.084376052	0.22010991	10.0760603	10.60739899
11-Jan-12 17:23:00	0.08553724	0.220433623	10.76876736	10.76386642
11-Jan-12 17:24:00	0.08669842	0.220757335	11.7582674	11.54400826
11-Jan-12 17:25:00	0.087859608	0.221081048	11.87640381	12.39139462
11-Jan-12 17:26:00	0.089020789	0.221404761	11.82563114	12.61393833
11-Jan-12 17:27:00	0.090181977	0.221728474	14.03196144	13.67101002
11-Jan-12 17:28:00	0.091343157	0.222052187	15.78237152	15.25430775
11-Jan-12 17:29:00	0.092504337	0.2223759	15.45206261	15.77844143
11-Jan-12 17:30:00	0.093665525	0.222699612	16.8248558	16.51988602
11-Jan-12 17:31:00	0.094826706	0.223023325	17.30000114	16.7745018
11-Jan-12 17:32:00	0.095987894	0.223347038	17.30000114	17.02911949
11-Jan-12 17:33:00	0.097149074	0.223670751	17.73648834	17.29870605
11-Jan-12 17:34:00	0.098310262	0.223994464	17.96969414	17.59884453
11-Jan-12 17:35:00	0.099471442	0.224318177	17.59568214	17.71816635
11-Jan-12 17:36:00	0.10063263	0.224641889	17.36862564	17.74556541
11-Jan-12 17:37:00	0.101793811	0.224965602	17.28513718	17.77296448

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 17:38:00	0.102954999	0.225289315	17.7999649	17.79697037
11-Jan-12 17:39:00	0.104116179	0.225613028	17.6564312	17.5676918
11-Jan-12 17:40:00	0.105277367	0.225936741	17.8871727	17.33841324
11-Jan-12 17:41:00	0.106438547	0.226260453	18.91561508	18.5949955
11-Jan-12 17:42:00	0.107599735	0.226584166	18.21454239	18.43698311
11-Jan-12 17:43:00	0.108760916	0.226907879	17.81548309	18.27344131
11-Jan-12 17:44:00	0.109922096	0.227231592	17.95615768	18.10989761
11-Jan-12 17:45:00	0.1111083284	0.227555305	18.09683228	18.47007751
11-Jan-12 17:46:00	0.112244464	0.227879018	20.27065277	19.90317154
11-Jan-12 17:47:00	0.113405652	0.22820273	17.17339134	17.53403664
11-Jan-12 17:48:00	0.114566833	0.228526443	17.88259506	17.69488716
11-Jan-12 17:49:00	0.115728021	0.228850156	17.76335335	17.85573959
11-Jan-12 17:50:00	0.116889201	0.229173869	17.64411163	18.01659012
11-Jan-12 17:51:00	0.118050389	0.229497582	18.1021347	18.17744064
11-Jan-12 17:52:00	0.119211569	0.229821295	18.46857262	18.61478996
11-Jan-12 17:53:00	0.120372757	0.230145007	18.6396389	19.09724426
11-Jan-12 17:54:00	0.121533938	0.23046872	19.58563995	19.57969856
11-Jan-12 17:55:00	0.122695126	0.230792433	19.55795097	20.06215286
11-Jan-12 17:56:00	0.123856306	0.231116146	19.83354378	20.54460716
11-Jan-12 17:57:00	0.125017494	0.231439859	21.5643425	21.27478218
11-Jan-12 17:58:00	0.126178667	0.231763572	22.29779625	22.69782639
11-Jan-12 17:59:00	0.127339855	0.232087269	22.63596153	23.01443863
11-Jan-12 18:00:00	0.128501043	0.232410982	22.32042313	23.24546432
11-Jan-12 18:01:00	0.129662231	0.232734695	23.29258156	23.47649002
11-Jan-12 18:02:00	0.130823404	0.233058408	23.63353729	22.84875298
11-Jan-12 18:03:00	0.131984591	0.233382121	26.61772156	26.58291435
11-Jan-12 18:04:00	0.133145779	0.233705834	25.31540108	25.77806473
11-Jan-12 18:05:00	0.134306967	0.234029546	26.93943024	26.53316116
11-Jan-12 18:06:00	0.13546814	0.234353259	26.88057709	27.29977036
11-Jan-12 18:07:00	0.136629328	0.234676972	27.5924015	28.06749535
11-Jan-12 18:08:00	0.137790516	0.235000685	30.22401237	30.52051735
11-Jan-12 18:09:00	0.138951704	0.235324398	31.35300255	31.30988503
11-Jan-12 18:10:00	0.140112877	0.235648111	31.12456894	30.67735863

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 18:11:00	0.141274065	0.235971823	30.15182877	30.04483032
11-Jan-12 18:12:00	0.142435253	0.236295536	29.78318596	29.41230202
11-Jan-12 18:13:00	0.143596426	0.236619249	28.95424652	29.03813934
11-Jan-12 18:14:00	0.144757614	0.236942962	28.79966545	29.14768028
11-Jan-12 18:15:00	0.145918801	0.237266675	28.67211533	29.25722122
11-Jan-12 18:16:00	0.147079989	0.237590387	29.21155167	29.36676216
11-Jan-12 18:17:00	0.148241162	0.2379141	30.28978348	29.79875755
11-Jan-12 18:18:00	0.14940235	0.238237813	29.88055038	30.37120628
11-Jan-12 18:19:00	0.150563538	0.238561526	29	29.63775826
11-Jan-12 18:20:00	0.151724726	0.238885239	29.64656448	30.22208214
11-Jan-12 18:21:00	0.152885899	0.239208952	30.9098835	31.70061874
11-Jan-12 18:22:00	0.154047087	0.239532664	30.97315788	31.07232857
11-Jan-12 18:23:00	0.155208275	0.239856377	29.65361595	29.69323158
11-Jan-12 18:24:00	0.156369463	0.24018009	26.31783676	26.95472336
11-Jan-12 18:25:00	0.157530636	0.240503803	26.54619598	26.68076897
11-Jan-12 18:26:00	0.158691823	0.240827516	26.57354355	26.81968307
11-Jan-12 18:27:00	0.159853011	0.241151229	27.14406395	26.95859718
11-Jan-12 18:28:00	0.161014184	0.241474941	27.21997452	27.09751129
11-Jan-12 18:29:00	0.162175372	0.241798654	27.27556992	27.2364254
11-Jan-12 18:30:00	0.16333656	0.242122367	27.64138412	27.45762825
11-Jan-12 18:31:00	0.164497748	0.24244608	27.92815208	27.74827576
11-Jan-12 18:32:00	0.165658921	0.242769793	27.55164719	27.97703934
11-Jan-12 18:33:00	0.166820109	0.243093506	27.44629669	28.13821411
11-Jan-12 18:34:00	0.167981297	0.243417218	28.31578064	28.29938889
11-Jan-12 18:35:00	0.169142485	0.243740931	27.46909142	26.99668503
11-Jan-12 18:36:00	0.170303658	0.244064644	26.12183762	25.68839645
11-Jan-12 18:37:00	0.171464846	0.244388357	24.79303741	24.38010788
11-Jan-12 18:38:00	0.172626033	0.24471207	26.11138535	25.65056419
11-Jan-12 18:39:00	0.173787221	0.245035782	24.89471245	24.47578812
11-Jan-12 18:40:00	0.174948394	0.245359495	22.04989433	22.16419983
11-Jan-12 18:41:00	0.176109582	0.245683193	20.65116692	20.30000114
11-Jan-12 18:42:00	0.17727077	0.246006906	15.25860596	15.08748531
11-Jan-12 18:43:00	0.178431943	0.246330619	14.17553806	14.14455795

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 18:44:00	0.179593131	0.246654332	14.40000057	13.80887794
11-Jan-12 18:45:00	0.180754319	0.246978045	13.59373379	13.47319889
11-Jan-12 18:46:00	0.181915507	0.247301757	13.51275635	13.13751888
11-Jan-12 18:47:00	0.18307668	0.24762547	13.26155758	12.80183887
11-Jan-12 18:48:00	0.184237868	0.247949183	13.06722832	12.60723972
11-Jan-12 18:49:00	0.185399055	0.248272896	13.30000019	12.62539768
11-Jan-12 18:50:00	0.186560243	0.248596609	13.30000019	12.64355469
11-Jan-12 18:51:00	0.187721416	0.248920321	13.30000019	12.66171265
11-Jan-12 18:52:00	0.188882604	0.249244034	13.30000019	12.67986965
11-Jan-12 18:53:00	0.190043792	0.249567747	12.90502071	12.69802761
11-Jan-12 18:54:00	0.191204965	0.24989146	11.55179405	11.54044724
11-Jan-12 18:55:00	0.192366153	0.250215173	10.30710793	10.50477219
11-Jan-12 18:56:00	0.193527341	0.250538886	11.11400318	10.1610508
11-Jan-12 18:57:00	0.194688529	0.250862598	10.22707748	9.817329407
11-Jan-12 18:58:00	0.195849702	0.251186311	9.944596291	9.473608971
11-Jan-12 18:59:00	0.19701089	0.251510024	10.00438404	9.129887581
11-Jan-12 19:00:00	0.198172078	0.251833737	8.256037712	8.503676414
11-Jan-12 19:01:00	0.199333265	0.25215745	7.174978256	7.306984901
11-Jan-12 19:02:00	0.200494438	0.252481163	7.110334873	7.238799572
11-Jan-12 19:03:00	0.201655626	0.252804875	7.478400707	7.28140831
11-Jan-12 19:04:00	0.202816814	0.253128588	6.863982201	7.324017048
11-Jan-12 19:05:00	0.203978002	0.253452301	6.960763931	7.366625786
11-Jan-12 19:06:00	0.205139175	0.253776014	7.057545185	7.409234524
11-Jan-12 19:07:00	0.206300363	0.254099727	7.110140324	7.451843262
11-Jan-12 19:08:00	0.207461551	0.25442344	7.128204823	7.494452
11-Jan-12 19:09:00	0.208622724	0.254747152	7.146269321	7.537060738
11-Jan-12 19:10:00	0.209783912	0.255070865	7.16433382	7.579669476
11-Jan-12 19:11:00	0.2109451	0.255394578	7.182398319	7.622278214
11-Jan-12 19:12:00	0.212106287	0.255718291	7.242331505	7.664886951
11-Jan-12 19:13:00	0.21326746	0.256042004	7.388064384	7.707495689
11-Jan-12 19:14:00	0.214428648	0.256365716	7.221819878	7.750104427
11-Jan-12 19:15:00	0.215589836	0.256689429	7.217956543	7.792713165
11-Jan-12 19:16:00	0.216751024	0.257013142	7.818129539	8.366710663

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 19:17:00	0.217912197	0.257336855	7.021792412	7.512119293
11-Jan-12 19:18:00	0.219073385	0.257660568	7.276161194	7.570417881
11-Jan-12 19:19:00	0.220234573	0.257984281	6.848201752	7.628715992
11-Jan-12 19:20:00	0.221395761	0.258307993	7.051624775	7.68701458
11-Jan-12 19:21:00	0.222556934	0.258631706	7.400000095	7.745313168
11-Jan-12 19:22:00	0.223718122	0.258955419	7.400000095	7.803611279
11-Jan-12 19:23:00	0.22487931	0.259279132	7.105256557	7.861909866
11-Jan-12 19:24:00	0.226040483	0.259602845	9.100000381	9.352939606
11-Jan-12 19:25:00	0.22720167	0.259926558	7.006877899	7.006153107
11-Jan-12 19:26:00	0.228362858	0.26025027	7.033421993	7.031422615
11-Jan-12 19:27:00	0.229524046	0.260573983	7.059966087	7.0566926
11-Jan-12 19:28:00	0.230685219	0.260897696	7.086509705	7.081962109
11-Jan-12 19:29:00	0.231846407	0.261221409	7.113053799	7.107231617
11-Jan-12 19:30:00	0.233007595	0.261545122	7.139597893	7.132501125
11-Jan-12 19:31:00	0.234168783	0.261868834	7.16614151	7.157771111
11-Jan-12 19:32:00	0.235329956	0.262192547	7.192685604	7.183040619
11-Jan-12 19:33:00	0.236491144	0.26251626	6.800000191	7.200000286
11-Jan-12 19:34:00	0.237652332	0.262839973	6.800000191	7.200000286
11-Jan-12 19:35:00	0.238813519	0.263163686	6.800000191	7.200000286
11-Jan-12 19:36:00	0.239974692	0.263487399	6.800000191	7.200000286
11-Jan-12 19:37:00	0.24113588	0.263811111	6.800000191	7.200000286
11-Jan-12 19:38:00	0.242297068	0.264134824	6.800000191	7.200000286
11-Jan-12 19:39:00	0.243458241	0.264458537	6.800000191	7.200000286
11-Jan-12 19:40:00	0.244619429	0.26478225	6.800000191	7.200000286
11-Jan-12 19:41:00	0.245780617	0.265105963	6.800000191	7.200000286
11-Jan-12 19:42:00	0.246941805	0.265429676	6.800000191	7.200000286
11-Jan-12 19:43:00	0.248102978	0.265753388	6.800000191	7.200000286
11-Jan-12 19:44:00	0.249264166	0.266077101	6.800000191	7.200000286
11-Jan-12 19:45:00	0.250425339	0.266400784	6.800000191	7.200000286
11-Jan-12 19:46:00	0.251586527	0.266724497	6.800000191	7.200000286
11-Jan-12 19:47:00	0.252747715	0.26704821	6.800000191	7.200000286
11-Jan-12 19:48:00	0.253908902	0.267371923	6.800000191	7.200000286
11-Jan-12 19:49:00	0.25507009	0.267695636	6.800000191	7.200000286

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 19:50:00	0.256231278	0.268019348	6.800000191	7.200000286
11-Jan-12 19:51:00	0.257392466	0.268343061	6.800000191	7.200000286
11-Jan-12 19:52:00	0.258553624	0.268666774	6.800000191	7.200000286
11-Jan-12 19:53:00	0.259714812	0.268990487	6.800000191	7.200000286
11-Jan-12 19:54:00	0.260876	0.2693142	6.800000191	7.200000286
11-Jan-12 19:55:00	0.262037188	0.269637913	6.800000191	7.200000286
11-Jan-12 19:56:00	0.263198376	0.269961625	6.800000191	7.200000286
11-Jan-12 19:57:00	0.264359564	0.270285338	6.800000191	7.200000286
11-Jan-12 19:58:00	0.265520751	0.270609051	6.800000191	7.200000286
11-Jan-12 19:59:00	0.266681939	0.270932764	6.800000191	7.200000286
11-Jan-12 20:00:00	0.267843097	0.271256477	6.800000191	7.200000286
11-Jan-12 20:01:00	0.269004285	0.271580189	6.800000191	7.200000286
11-Jan-12 20:02:00	0.270165473	0.271903902	6.800000191	7.200000286
11-Jan-12 20:03:00	0.271326661	0.272227615	6.80363512	7.200000286
11-Jan-12 20:04:00	0.272487849	0.272551328	7.303848267	7.200000286
11-Jan-12 20:05:00	0.273649037	0.272875041	7.5251441	7.200000286
11-Jan-12 20:06:00	0.274810225	0.273198754	9.491192818	9.739972115
11-Jan-12 20:07:00	0.275971383	0.273522466	10.37171555	10.50482845
11-Jan-12 20:08:00	0.277132571	0.273846179	11.66492367	11.22146797
11-Jan-12 20:09:00	0.278293759	0.274169892	10.69473171	11.30665493
11-Jan-12 20:10:00	0.279454947	0.274493605	10.95252895	10.99855232
11-Jan-12 20:11:00	0.280616134	0.274817318	11.04975033	11.70802784
11-Jan-12 20:12:00	0.281777322	0.275141031	11.25605106	11.72402763
11-Jan-12 20:13:00	0.28293851	0.275464743	13.77662563	13.73620892
11-Jan-12 20:14:00	0.284099698	0.275788456	14.08818817	13.81545353
11-Jan-12 20:15:00	0.285260856	0.276112169	13.88687897	13.89469719
11-Jan-12 20:16:00	0.286422044	0.276435882	14.0416975	13.9739418
11-Jan-12 20:17:00	0.287583232	0.276759595	15.04203129	14.05318546
11-Jan-12 20:18:00	0.28874442	0.277083308	13.51200104	13.65712929
11-Jan-12 20:19:00	0.289905608	0.27740702	12.65480995	12.5749321
11-Jan-12 20:20:00	0.291066796	0.277730733	11.38850117	11.67338181
11-Jan-12 20:21:00	0.292227983	0.278054446	11.97684288	11.8631916
11-Jan-12 20:22:00	0.293389142	0.278378159	12.4732275	12.3921175

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 20:23:00	0.294550329	0.278701872	12.03564262	12.13195705
11-Jan-12 20:24:00	0.295711517	0.279025584	11.7435894	11.87179565
11-Jan-12 20:25:00	0.296872705	0.279349297	13.08113861	12.40770817
11-Jan-12 20:26:00	0.298033893	0.27967301	12.68477535	12.65203762
11-Jan-12 20:27:00	0.299195081	0.279996723	11.41429996	11.46982956
11-Jan-12 20:28:00	0.300356269	0.280320436	11.38850594	11.01084709
11-Jan-12 20:29:00	0.301517457	0.280644149	10.67685699	10.59726524
11-Jan-12 20:30:00	0.302678615	0.280967861	10.01612473	10.1836834
11-Jan-12 20:31:00	0.303839803	0.281291574	10.32802105	9.975176811
11-Jan-12 20:32:00	0.305000991	0.281615287	11.01232433	10.23255348
11-Jan-12 20:33:00	0.306162179	0.281939	11.39477253	10.76886463
11-Jan-12 20:34:00	0.307323366	0.282262713	10.0615406	10.57075405
11-Jan-12 20:35:00	0.308484554	0.282586426	8.744685173	9.187342644
11-Jan-12 20:36:00	0.309645742	0.282910138	9.054255486	8.53120327
11-Jan-12 20:37:00	0.3108069	0.283233851	9.14091301	9.175971031
11-Jan-12 20:38:00	0.311968088	0.283557564	6.922511101	6.900000095
11-Jan-12 20:39:00	0.313129276	0.283881277	7.000112057	6.900000095
11-Jan-12 20:40:00	0.314290464	0.28420499	7.07771349	6.900000095
11-Jan-12 20:41:00	0.315451652	0.284528702	7.155314922	6.900000095
11-Jan-12 20:42:00	0.31661284	0.284852415	7.068328381	6.900000095
11-Jan-12 20:43:00	0.317774028	0.285176128	7.093427658	6.900000095
11-Jan-12 20:44:00	0.318935215	0.285499841	7.014252663	6.909219742
11-Jan-12 20:45:00	0.320096374	0.285823554	6.61487627	6.98166275
11-Jan-12 20:46:00	0.321257561	0.286147267	6.537073612	7.054106236
11-Jan-12 20:47:00	0.322418749	0.286470979	6.690365314	7.126549244
11-Jan-12 20:48:00	0.323579937	0.286794692	6.843657494	7.198992252
11-Jan-12 20:49:00	0.324741125	0.287118405	6.996949196	7.271435738
11-Jan-12 20:50:00	0.325902313	0.287442118	6.79910326	7.343878746
11-Jan-12 20:51:00	0.327063501	0.287765831	6.664248943	7.416322231
11-Jan-12 20:52:00	0.328224659	0.288089544	7.141667366	7.48876524
11-Jan-12 20:53:00	0.329385847	0.288413256	8.074115753	8.470589638
11-Jan-12 20:54:00	0.330547035	0.288736969	9.40080452	9.619330406
11-Jan-12 20:55:00	0.331708223	0.289060682	10.58269215	10.76807117

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 20:56:00	0.332869411	0.289384395	10.32307911	10.69644356
11-Jan-12 20:57:00	0.334030598	0.289708108	9.46509552	10.12889385
11-Jan-12 20:58:00	0.335191786	0.290031821	10.36539173	10.65466881
11-Jan-12 20:59:00	0.336352974	0.290355533	11.77539349	11.91940498
11-Jan-12 21:00:00	0.337514132	0.290679246	12.48621082	13.18414116
11-Jan-12 21:01:00	0.33867532	0.291002959	14.35948753	14.87724781
11-Jan-12 21:02:00	0.339836508	0.291326672	17.96248627	17.69489479
11-Jan-12 21:03:00	0.340997696	0.291650385	21.10923386	21.69952583
11-Jan-12 21:04:00	0.342158884	0.291974097	23.28688431	23.52562523
11-Jan-12 21:05:00	0.343320072	0.29229781	24.41831017	24.18180275
11-Jan-12 21:06:00	0.34448126	0.292621523	26.28763199	26.02309418
11-Jan-12 21:07:00	0.345642418	0.292945236	30.30861664	30.27463341
11-Jan-12 21:08:00	0.346803606	0.293268949	32.72328949	33.06032562
11-Jan-12 21:09:00	0.347964793	0.293592662	36.64835739	36.79325485
11-Jan-12 21:10:00	0.349125981	0.293916345	40.21730423	39.7564888
11-Jan-12 21:11:00	0.350287169	0.294240057	40.22249222	39.98730469
11-Jan-12 21:12:00	0.351448357	0.29456377	41.10446167	41.17815399
11-Jan-12 21:13:00	0.352609545	0.294887483	44.29370499	44.54280472
11-Jan-12 21:14:00	0.353770733	0.295211196	46.44047928	46.05895615
11-Jan-12 21:15:00	0.354931891	0.295534909	46.67794037	46.17913055
11-Jan-12 21:16:00	0.356093079	0.295858622	46.38288498	46.29930496
11-Jan-12 21:17:00	0.357254267	0.296182334	47.40899658	47.08358002
11-Jan-12 21:18:00	0.358415455	0.296506047	46.24033356	46.43579865
11-Jan-12 21:19:00	0.359576643	0.29682976	46.19278717	46.43492889
11-Jan-12 21:20:00	0.36073783	0.297153473	47.05512619	46.75071335
11-Jan-12 21:21:00	0.361899018	0.297477186	46.55373001	47.06650162
11-Jan-12 21:22:00	0.363060176	0.297800899	46.78411865	47.6188736
11-Jan-12 21:23:00	0.364221364	0.298124611	47.82092285	48.00610733
11-Jan-12 21:24:00	0.365382552	0.298448324	49.20000076	48.49538803
11-Jan-12 21:25:00	0.36654374	0.298772037	47.99903107	47.70521927
11-Jan-12 21:26:00	0.367704928	0.29909575	46.37403488	46.57368088
11-Jan-12 21:27:00	0.368866116	0.299419463	44.88339996	45.44213867
11-Jan-12 21:28:00	0.370027304	0.299743176	45.60000229	45.11148071

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 21:29:00	0.371188462	4.196009636	39.16225815	43.85807037
11-Jan-12 21:30:00	0.37234965	14.43371677	28.68378067	43.19563293
11-Jan-12 21:31:00	0.373510838	14.34851551	29.07610893	43.30000305
11-Jan-12 21:32:00	0.374672025	14.14843845	28.89999962	43.46282578
11-Jan-12 21:33:00	0.375833213	13.9483614	28.09124565	42.92637634
11-Jan-12 21:34:00	0.376994401	13.74828529	27.40509415	40.90923309
11-Jan-12 21:35:00	0.378155589	12.86811829	25.67616272	38.84805679
11-Jan-12 21:36:00	0.379316777	11.85584068	23.39868736	35.03778458
11-Jan-12 21:37:00	0.380477935	4.909234524	24.70653534	30.04310417
11-Jan-12 21:38:00	0.381639123	0.002166706	29.78799438	30.46350288
11-Jan-12 21:39:00	0.382800311	0.004732931	29	29.17923164
11-Jan-12 21:40:00	0.383961499	0.007299155	28.52157593	28.62194061
11-Jan-12 21:41:00	0.385122687	0.00986538	27.34220505	28.49854279
11-Jan-12 21:42:00	0.386283875	0.012431605	26.5850029	27.0037899
11-Jan-12 21:43:00	0.387445062	0.01499783	25.05791283	24.88503838
11-Jan-12 21:44:00	0.38860622	0.017564055	25.20000076	24.56938171
11-Jan-12 21:45:00	0.389767408	0.020130279	22.63202477	21.80256844
11-Jan-12 21:46:00	0.390928596	0.022696504	20.83480263	20.68419456
11-Jan-12 21:47:00	0.392089784	0.025262728	18.80478668	18.86615753
11-Jan-12 21:48:00	0.393250972	0.027828952	17.22057533	17.06083679
11-Jan-12 21:49:00	0.39441216	0.030395178	14.92545128	14.45412254
11-Jan-12 21:50:00	0.395573348	0.032961402	13.95973682	13.91375732
11-Jan-12 21:51:00	0.396734536	0.035527628	13.52641487	14.20208549
11-Jan-12 21:52:00	0.397895694	0.03809385	13.85077	14.49041367
11-Jan-12 21:53:00	0.399056882	0.040660076	16.57591438	16.92634583
11-Jan-12 21:54:00	0.40021807	0.043226302	17.14048576	17.79216576
11-Jan-12 21:55:00	0.401379257	0.045792524	19.09986877	18.74776459
11-Jan-12 21:56:00	0.402540445	0.04835875	20.21797752	19.70336342
11-Jan-12 21:57:00	0.403701633	0.050924975	20.64878464	20.65896225
11-Jan-12 21:58:00	0.404862821	0.053491201	21.12921524	20.6390419
11-Jan-12 21:59:00	0.406023979	0.056057423	26.03007889	25.7877636
11-Jan-12 22:00:00	0.407185167	0.058623649	27.42060852	28.04262161
11-Jan-12 22:01:00	0.408346355	0.061189875	39.25189972	38.7690239

DATE/TIME	UNIT #1 MW	UNIT #2 MW	UNIT #3 MW	PLANT OUTPUT
11-Jan-12 22:02:00	0.409507543	0.063756101	37.87650681	37.31298065
11-Jan-12 22:03:00	0.410668731	0.066322319	40.36611557	40.35789108
11-Jan-12 22:04:00	0.411829919	0.068888545	39.93541336	40.65620041
11-Jan-12 22:05:00	0.412991107	0.071454771	40.84992981	41.03269958
11-Jan-12 22:06:00	0.414152294	0.074020997	43.77367783	42.93020248
11-Jan-12 22:07:00	0.415313452	0.076587223	44.23878098	44.92684937
11-Jan-12 22:08:00	0.41647464	0.079153448	45.88709259	46.79639816
11-Jan-12 22:09:00	0.417635828	0.081719674	49.33496475	49.46271133
11-Jan-12 22:10:00	0.418797016	0.084285893	49.98578644	50.06187439
11-Jan-12 22:11:00	0.419958204	0.086852118	49.95578766	50.23380661
11-Jan-12 22:12:00	0.421119392	0.089418344	49.92578888	50.40574265
11-Jan-12 22:13:00	0.42228058	0.09198457	49.8957901	50.57767868
11-Jan-12 22:14:00	0.423441738	0.094550796	49.86579132	50.74961472
11-Jan-12 22:15:00	0.424602926	0.097117022	49.83579254	50.92154694
11-Jan-12 22:16:00	0.425764114	0.09968324	49.80579376	51.09348297
11-Jan-12 22:17:00	0.426925302	17.20000076	34.67593002	52.2122612
11-Jan-12 22:18:00	0.428086489	17.71167946	35.60197067	52.91431046
11-Jan-12 22:19:00	0.429247677	17.82979584	35.90490341	53.70185471
11-Jan-12 22:20:00	0.430408865	17.56356812	34.98478317	53.19816208
11-Jan-12 22:21:00	0.431570053	17.29734039	35.02004623	52.24780655
11-Jan-12 22:22:00	0.432731211	17.03111267	34.68682098	51.70000458
11-Jan-12 22:23:00	0.433892399	16.3782959	32.78455353	49.13609695
11-Jan-12 22:24:00	0.435053587	15.3503418	31.60369873	46.45691299
11-Jan-12 22:25:00	0.436214775	14.37752819	28.95692444	43.21800613
11-Jan-12 22:26:00	0.437375963	13.99019146	27.42583084	40.23292542
11-Jan-12 22:27:00	0.438537151	13.60285378	26.66288757	39.95986176
11-Jan-12 22:28:00	0.439698339	3.12328E-06	34.65933228	34.30211639
11-Jan-12 22:29:00	0.440859497	3.80202E-05	34.32328796	33.70658112
11-Jan-12 22:30:00	0.442020684	7.29172E-05	33.80115891	33.39125824
11-Jan-12 22:31:00	0.443181872	0.000107814	33.93927002	33.07593536

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-104

Regarding: Design And Operation Of DGGS  
Witness: Rhoads

On page 7-8 of your testimony, you describe the physical design of DGGS. You explain at 7:12-14 that each unit has "two engines...which are aerodynamically coupled to a power turbine ('PT') which drive a common generator. You also note that one side of the unit can be isolated with a "blanking plate" (7:21).

- a. Absent the use of the blanking plate, are the two engines of a unit designed to ramp up and down in tandem and, if so, was that the operational experience at DGGS?
- b. Was the ramping of DGGS in advance of the outage, and today, typical of the ramps experienced by other aero derivative gas turbine generators?
- c. Were any of the DGGS units or engines operating outside of their design specifications at any time before the outage occurred?
- d. Were any blanking plates installed in anticipation of routine operations before the DGGS facility became operational in 2011 or utilized during operations preceding the outage?
- e. Were blanking plates immediately available on site at the time of the outage? If not, when did they become available?

RESPONSE:

- a. No, the two engines do not need to ramp up and down in tandem. One side of the unit (say Side A) can operate at any level of its operating range while the other side of the unit (say Side B) "windmills." Both Side A and Side B of the unit are connected to the generator through a "common shaft." The two power turbines and the generator turn at a constant speed of 3600 revolutions per minute (RPM), called "synchronous speed," after the unit is synchronized to the transmission grid regardless of whether fuel is provided to only one power turbine or both power turbines. "Windmilling" is a condition where only one power turbine is providing power to the generator and the other power turbine is spinning at synchronous speed but not providing power. If more power output is needed, Side B is started and the power output is increased until the power output of Side B matches the power output of Side A. At that point, the load is shared between the two units.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-104 cont'd

- b. NWE has not conducted a study of the typical ramping experienced by other aero derivative gas turbine generators and therefore cannot answer this question as posed. NWE's knowledge of possible ramping for other aero derivative gas turbine generators is informed by the responses to its RFP. As relates to regulation service, only one other supplier of aero derivative gas turbine generators bid on the project. The supplier claimed its units could meet the ramp rate requirement for the project.
- c. No.
- d. No.
- e. No. Over time, a blanking plate was designed, fabricated, and finally installed in Unit 2A on May 3, 2012.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-105

Regarding: Ramp Rates  
Witness: Rhoads

On 7:5-7 of your testimony, you write that “This [the aero derivative gas turbine generator of the kind used at DGGGS] is a proven technology that meets the requirements for availability, reliability, *ramp rate*, minimum operating level, emissions, and constructability” [emphasis added].

- a. Does NWE retain minutely data on ramp rates at DGGGS and for each of its units and engines?
- b. If the answer to (a) is yes, please provide that data in electronic spreadsheet format for the 60-day period leading up to the outage.
- c. On pages 19-20 of your Rebuttal Testimony you state, “The number of ramping events at DGGGS is greater than is seen in base load or peaking plants.” To what extent and how did this operational fact cause or contribute to the outage?

RESPONSE:

- a. If by minutely data, you mean ramp rate data for each minute of operation, no.
- b. Not applicable.
- c. The June 18 PWPS report referenced in response to Data Request PSC-101e discusses the status of the PT root cause investigation and specific major engineering findings. The number of ramping events, sometimes referred to as “subcycles,” was not a major factor in outage.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-106

Regarding: Modification to DGGS Hardware And Software  
Witness: Rhoads

- a. You write that "A modification to a power turbine is now in progress." (12:2; 18:7-8.) Describe that modification in detail, specifying the specific components modified, and explain why it is necessary.
- b. Has any software used to run the facility been modified in reaction to the outage? If so, please explain how it has been modified.
- c. Describe the "finite element analysis" model described on 11:18-22 of your testimony and describe in detail the problems with DGGS that it unearthed.
- d. Other than the modification to the power turbine referenced in (a), has any other hardware been modified or re-designed? If so, please explain what changes have been made.

RESPONSE:

- a. See Attachment, comprised of emails and attachments from PWPS to William Rhoads that describe the PT inlet module hardware modification. Note that pages 2 and 5 of this Attachment are protected and will be provided on yellow paper to the Commission and to parties who have signed the appropriate non-disclosure agreement in conformance with Protective Order No. 7219f.
- b. Following the outage, PWPS modified the control software to limit the ramp rate of the units to the level required in the purchase order.
- c. One definition of "finite element analysis" is as follows: Finite Element Analysis (FEA) is a type of computer program that uses the finite element method to analyze a material or object and find how applied stresses will affect the material or design. FEA can help determine any points of weakness in a design before it is manufactured. FEA programs are more widely available with the spread of more powerful computers, but are still mostly used in aerospace and other high-stress applications. The analysis is done by creating a mesh of points in the shape of the object that contains information about the material and the object at each point for analysis. In addition to determining the reaction to stress upon an object, FEA can also analyze the effect of vibrations, fatigue, and heat transfer. (Source: <http://www.chegg.com/homework-help/definitions/finite-element-analysis-5/21/13>)

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-106 cont'd

Also noteworthy is the following: "Finite element methods represent a powerful and general class of techniques for the approximate solution of partial differential equations;..." (Source: <http://people.maths.ox.ac.uk/suli/fem.pdf> (see page 4))

The problems that this analysis has unearthed are contained in the response to Data Request PSC-101e.

- d. In regard to the outage, except for the blanking plate, no hardware changes have been made; however, it is not unusual for modifications to be made over the life of a project, and such changes have been made at DGGS. For example, the lube oil pump is undergoing design modification and testing.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Friday, January 04, 2013 4:42 AM  
**To:** Rhoads, William T  
**Subject:** NWE - Description of PT8 inlet module hardware modification  
**Attachments:** NWE Modification, 1-3-13 (TE).pdf

**Bill R.,**

Attached is a description of the PT8 inlet hardware modifications that are called out in the extended warranty language that we sent to Heather last night.

<<NWE Modification, 1-3-13 (TE).pdf>>

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**This page is protected  
per MPSC Protective Order No. 7219f.**

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Monday, January 07, 2013 4:44 PM  
**To:** Rhoads, William T  
**Cc:** GREENBERG, MICHAEL D PW  
**Subject:** RE: NWE - Description of PT8 inlet module hardware modification  
**Attachments:** Montana Over Under.pptx

<<Montana Over Under.pptx>>

Bill R.,

Mike put the attached together. Open the PPT in presentation mode and it will show in color, the parts involved in the modification. Mike G. will walk you through all the elements of the modification. Major items shown in the attached, but he will be comprehensive with his description.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Monday, January 07, 2013 10:09 AM  
**To:** Emery, Todd B PW  
**Subject:** RE: NWE - Description of PT8 inlet module hardware modification

Todd: Thank you. Just looking at the modification, is there a way to overlay an "as is" outline perhaps a different color on the same scale over the modification so we can see the difference between the "old" and the "new"?

Looking forward to our discussion.

*Bill ("Dusty") Rhoads  
General Manager, Generation  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
Safe Production is Good Business!!!*

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Monday, January 07, 2013 3:56 AM  
**To:** Rhoads, William T  
**Subject:** FW: NWE - Description of PT8 inlet module hardware modification

Bill R.,

I am trying to confirm 30 minutes with Mike G. at 11 or 11:30 on Tuesday for the clarification meeting that you wanted to have. Let me know if either of these times would work for you and your team. If not I can throw out a few more times. 10:30 may also be able to work if neither of these two times work for you.

Regards,

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

---

**From:** Emery, Todd B PW  
**Sent:** Friday, January 04, 2013 6:42 AM  
**To:** Rhoads, William T  
**Subject:** NWE - Description of PT8 inlet module hardware modification

Bill R.,

Attached is a description of the PT8 Inlet hardware modifications that are called out in the extended warranty language that we sent to Heather last night.

<<NWE Modification, 1-3-13 (TE).pdf>>

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**This page is protected  
per MPSC Protective Order No. 7219f.**

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-107

Regarding: Warranty  
Witness: Rhoads

On pages 14:11-15:4, you note that NWE's warranty with PWPS did not cover consequential damage and observe, "I have never seen a contract where an original equipment manufacturer ('OEM') agreed to be liable for consequential damage for replacement power." The response to PSC-006d, Attachment 1, pg. 4, includes a Jan. 31, 2012, email where an NWE employee wrote to a PWPS representative asserting, "Some of the additional costs that could result from DGGs operating at reduced capacity or being totally offline may include: The total cost of sufficient incremental regulation service necessitated by the loss of power production at the DGGs; incremental costs not recoverable through FERC and state tariffs; any compliance costs or regulatory fines associated with the inability to meet mandatory reliability criteria; any additional supply power costs if NWE must operate other generation resources to replace regulation needs supplied by the DGGs and the cost of operating generation for regulation. We expect Pratt & Whitney to reimburse NWE for all of the direct and indirect costs that these power turbine failures will impose on the company."

- a. Does NWE no longer "expect" PWPS "to reimburse NWE" for the costs listed in the Jan. 31, 2012, email?
- b. If so, what caused NWE to change its expectation?
- c. Does NWE contend that, before its renewed warranty was issued for DGGs, its only recourse for the recovery of those costs was through the warranty process?

RESPONSE:

- a. Correct, NWE does not expect PWPS to reimburse it for the listed costs.
- b. See the response to Data Request PSC-100.
- c. No, but NorthWestern determined that the renewed warranty was the best choice for our customers.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-108

Regarding: Email Correspondence  
Witness: Rhoads

In the proprietary response to PSC-006d, Attachment 1, page 67, you reference in an email to NWE executives that you had a discussion with Todd Emery that you would summarize in a separate email.

- a. Please identify Todd Emery's occupation and what role he occupies in relation to NWE.
- b. Please provide a full copy of the separate e-mail referenced in the email, as well as any responses to it, and any correspondence between you and Mr. Emery.

**RESPONSE:**

- a. Todd Emery's occupation is Director, FT-8 Program. On May 16, 2013, United Technologies Corporation consummated the sale of Pratt & Whitney Power Systems, Inc. (PWPS) to Mitsubishi Heavy Industries, Ltd. PWPS changed its corporate name to PW Power Systems, Inc. Mr. Emery is the main point of contact for commercial related questions regarding the project. Mr. Emery is supported by and provides guidance to PWPS engineering, customer service, and legal personnel as needed.
- b. The "separate email referenced" may be found on the Privilege Log that NorthWestern provided in its Third Updated Response to Data Request PSC-006c&d. It is item number 679741, the second-to-last entry on page 31. Any related responses would be included on the Privilege Log as well.

See the responses to Data Requests PSC-006d and PSC-008c for correspondence between William Rhoads and Todd Emery that took place prior to August 9, 2012. See Attachments 1 and 2 for their correspondence from August 9 to the present. A number of pages of Attachment 2 are protected, and the specific page numbers are noted in the public version. A protected version of Attachment 2 in its entirety will be provided on yellow paper to the Commission and to parties who have signed the appropriate non-disclosure agreement in conformance with Protective Order No. 7219f. See also the Attachment provided in response to Data Request PSC-106a.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Wednesday, August 15, 2012 1:49 PM  
**To:** 'Emery, Todd B PW'  
**Cc:** GUIDOTTI, HAROLD A ESI; Thompson, William W  
**Subject:** RE: Travel/Testing Update

Todd: Thank you for your note. Bill Thompson and I just arrived at our Hotel in Glastonbury. Our meeting tomorrow will only include Bill and me as Jim Williams and Mike Voeller are at the plant working with the PWPS test team on site.

9 am tomorrow should work fine and we will plan on lunch. Is there anything we can look at regarding the status of the NWE power turbines at the Wood Group Pratt Whitney facility tomorrow afternoon? Is the Wood Group tearing down another PT? If you could check, that would be appreciated. Otherwise, your plan for meeting tomorrow morning should work just fine. We will plan to be at your office at 9 am tomorrow.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Wednesday, August 15, 2012 12:11 PM  
**To:** Rhoads, William T  
**Cc:** GUIDOTTI, HAROLD A ESI  
**Subject:** RE: Travel/Testing Update

Bill R.,

Are we on for Thursday morning? What time is good for you? I think if we meet at 9 or so we will have plenty of time to discuss what we need to and have lunch. Also, I need to know who will be joining you so that I can arrange for badges.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Emery, Todd B PW  
**Sent:** Friday, August 10, 2012 6:43 AM  
**To:** Rhoads, William T  
**Cc:** GUIDOTTI, HAROLD A ESI  
**Subject:** RE: Travel/Testing Update

Bill,

Yes I am away on vaca, but trying to manage a few things along the way. It probably makes sense to meet in the morning 8 – 12. This way, you guys can catch an afternoon flight if you want, or I would be happy to host dinner if you are staying over. Harold G. and I can be flexible, so let me know your plans and I will work around your schedule.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Thursday, August 09, 2012 10:13 AM

**To:** Emery, Todd B PW  
**Subject:** RE: Travel/Testing Update

Todd: I assume you are out on "vacation". We won't be ready to visit about the LTSA as we are still working through an initial draft of an LTSA internally. I would mainly like to get an update (perhaps a repeat of what was already provided Jim) on the ramp rate, and then visit in some detail about schedule. I wouldn't expect the meeting to take all day, just a few hours.

You name the time that would be convenient for you and your folks to start the meeting next Thursday.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Thursday, August 09, 2012 4:07 AM  
**To:** Rhoads, William T  
**Cc:** Patrizz, Michael J PW; GUIDOTTI, HAROLD A ESI; Williams, James L Jr.; Thompson, William W; Voeller, Mike; KOPF, STEPHEN J PW; MULAZZI, STEVE PW  
**Subject:** RE: Travel/Testing Update

**Bill R.,**  
We will be ready to meet with you on 8/16. Let me know if any plans need to change.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Wednesday, August 08, 2012 10:34 AM  
**To:** Emery, Todd B PW  
**Cc:** Patrizz, Michael J PW; GUIDOTTI, HAROLD A ESI; Williams, James L Jr.; Thompson, William W; Voeller, Mike; KOPF, STEPHEN J PW; MULAZZI, STEVE PW  
**Subject:** Travel/Testing Update

Todd: A couple of things –

- 1.) Jim Williams, Mike Voeller, and the crew at DGGS and our SOCC have been working diligently to get our CPS2 value to a level that would accommodate the installation of the thermocouples next week. Jim and others are monitoring this closely, and Jim will contact Mike Patrizz's back up customer support person Steve Mulazzi or Stephen Kopf to close the test schedule. PWPS should be ready to execute the test plan next week pending a final decision to execute the plan on that schedule. If PWPS would like for Jim to coordinate through someone else, please let us know.
- 2.) A few of us still plan to visit PWPS next week on August 16<sup>th</sup>. Due to the test plan for next week, we are uncertain who will be traveling to East Hartford at this time.

Thank you, Todd. We appreciate PWPS's efforts.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Tuesday, September 25, 2012 3:19 PM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: Accepted: PWPS FT8 Power Turbine Root Cause Status

Will do. Todd, can you give me a call for just a very short chat regarding the presentation? Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Tuesday, September 25, 2012 2:44 PM  
**To:** Rhoads, William T  
**Subject:** RE: Accepted: PWPS FT8 Power Turbine Root Cause Status

Sorry. When you enter ATT web, you will enter the ATT call-in tele number, participant code, name, and e-mail address. Then it will connect you to me. Can you be sure that all other NWE people know.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

-----Original Appointment-----

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Tuesday, September 25, 2012 3:56 PM  
**To:** Emery, Todd B PW  
**Subject:** Accepted: PWPS FT8 Power Turbine Root Cause Status  
**When:** Thursday, September 27, 2012 1:00 PM-2:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** ATT Teleconference

Thank you, Todd. When connecting, I assume we use the following to connect to the web presentation.

Web Conference URL: <https://www.connectmeeting.att.com>

This web address may work but intuitively appears too generic to specifically get to your PWPS presentation. I haven't used this site before so may be ok.

Take care.  
Dusty

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Thursday, September 27, 2012 2:00 PM  
**To:** Rhoads, William T  
**Subject:** RE: NWE Presentation

Thanks Bill.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Thursday, September 27, 2012 2:09 PM  
**To:** Emery, Todd B PW; GUIDOTTI, HAROLD A ESI  
**Cc:** CHRISTMAN, PETER PW  
**Subject:** NWE Presentation

Todd and Harold: Nicely done. Much appreciated.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Friday, January 04, 2013 6:53 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: NWE - Description of PT8 inlet module hardware modification

Todd: Thank you. Would you have some time (1/2 hour or less) to visit about the modification?

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Friday, January 04, 2013 4:42 AM  
**To:** Rhoads, William T  
**Subject:** NWE - Description of PT8 inlet module hardware modification

Bill R.,

Attached is a description of the PT8 inlet hardware modifications that are called out in the extended warranty language that we sent to Heather last night.

<<NWE Modification, 1-3-13 (TE).pdf>>

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Monday, January 07, 2013 7:58 AM  
**To:** 'Emery, Todd B PW'  
**Cc:** GREENBERG, MICHAEL D PW  
**Subject:** RE: NWE - Description of PT8 inlet module hardware modification

Todd: I will send out a meeting planner for 11 am EST for tomorrow. Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
*Safe Production is Good Business!!!*

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Monday, January 07, 2013 7:01 AM  
**To:** Rhoads, William T  
**Cc:** GREENBERG, MICHAEL D PW  
**Subject:** RE: NWE - Description of PT8 inlet module hardware modification

Bill R.,

Confirming availability of both Mike Greenberg and I at 11am EST for Tuesday, 1/8/13. Let me know if I should provide a dial-in, or if you will set up. We will plan to talk through the elements of the "modification" and answer questions.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Monday, January 07, 2013 7:45 AM  
**To:** Emery, Todd B PW  
**Subject:** RE: NWE - Description of PT8 inlet module hardware modification

Todd: We should be able to make that work. Wasn't sure if that was Eastern or Mountain time but either way I am ok.

Thank you.  
Dusty

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** Emery, Todd B PW [[todd.emery@pw.utc.com](mailto:todd.emery@pw.utc.com)]  
**Sent:** Monday, January 07, 2013 03:56 AM Mountain Standard Time

**To:** Rhoads, William T  
**Subject:** FW: NWE - Description of PT8 inlet module hardware modification

Bill R.,

I am trying to confirm 30 minutes with Mike G. at 11 or 11:30 on Tuesday for the clarification meeting that you wanted to have. Let me know if either of these times would work for you and your team. If not I can throw out a few more times. 10:30 may also be able to work if neither of these two times work for you.

Regards,

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

---

**From:** Emery, Todd B PW  
**Sent:** Friday, January 04, 2013 6:42 AM  
**To:** Rhoads, William T  
**Subject:** NWE - Description of PT8 inlet module hardware modification

Bill R.,

Attached is a description of the PT8 inlet hardware modifications that are called out in the extended warranty language that we sent to Heather last night.

<<NWE Modification, 1-3-13 (TE).pdf>>

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Monday, January 07, 2013 10:25 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: PWPS Inlet Module Modification

Excellent. Thank you, Todd.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!**

-----Original Appointment-----

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Monday, January 07, 2013 10:24 AM  
**To:** Rhoads, William T  
**Subject:** Accepted: PWPS Inlet Module Modification  
**When:** Tuesday, January 08, 2013 9:00 AM-10:00 AM (UTC-07:00) Mountain Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624#

**Bill R.,**

I imagine we will only need 30 minutes, but I have blocked the hour in the event we need the time.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Monday, January 07, 2013 5:03 PM  
**To:** 'Emery, Todd B PW'  
**Cc:** GREENBERG, MICHAEL D PW  
**Subject:** RE: NWE - Description of PT8 Inlet module hardware modification

Thank you for this comparison in such a prompt manner. This will help facilitate our discussion.

The following individuals will be on the call:

Bill Rhoads  
Jim Williams  
Bill Thompson (Tentative)  
Mike Voeller (NAES - Plant manager)  
Rodney Baisch (NAES - Plant O&M supervisor)

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Monday, January 07, 2013 4:44 PM  
**To:** Rhoads, William T  
**Cc:** GREENBERG, MICHAEL D PW  
**Subject:** RE: NWE - Description of PT8 Inlet module hardware modification

<<Montana Over Under.pptx>>

Bill R.,

Mike put the attached together. Open the PPT in presentation mode and it will show in color, the parts involved in the modification. Mike G. will walk you through all the elements of the modification. Major items shown in the attached, but he will be comprehensive with his description.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Monday, January 07, 2013 10:09 AM  
**To:** Emery, Todd B PW  
**Subject:** RE: NWE - Description of PT8 Inlet module hardware modification

Todd: Thank you. Just looking at the modification, is there a way to overlay an "as is" outline perhaps different color on the same scale over the modification so we can see the difference between the "old" and the "new"?

Looking forward to our discussion.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Monday, January 07, 2013 3:56 AM  
**To:** Rhoads, William T  
**Subject:** FW: NWE - Description of PT8 inlet module hardware modification

Bill R.,

I am trying to confirm 30 minutes with Mike G. at 11 or 11:30 on Tuesday for the clarification meeting that you wanted to have. Let me know if either of these times would work for you and your team. If not I can throw out a few more times. 10:30 may also be able to work if neither of these two times work for you.

Regards,

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

---

**From:** Emery, Todd B PW  
**Sent:** Friday, January 04, 2013 6:42 AM  
**To:** Rhoads, William T  
**Subject:** NWE - Description of PT8 inlet module hardware modification

Bill R.,

Attached is a description of the PT8 inlet hardware modifications that are called out in the extended warranty language that we sent to Heather last night.

<<NWE Modification, 1-3-13 (TE).pdf>>

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

Attachment 1  
Page 13 of 73

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Thursday, March 14, 2013 6:41 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: NorthWestern Energy - Open Items

Thank you, Todd for the update. We appreciate your efforts.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Wednesday, March 13, 2013 12:21 PM  
**To:** Rhoads, William T  
**Cc:** Williams, James L Jr.; Patrizzi, Michael J PW  
**Subject:** NorthWestern Energy - Open Items

Bill R.,

My apologies for lost time on LTSA discussions. I spoke to Mike P. this morning. Here are a few updates. I will lead on the LTSA, but I will ask that Mike P. lead on the other matters. Mike will reach for internal support as required.

- LTSA – Todd still needs to put some details together. Todd to provide info within a week, hopefully sooner.
- Power Turbine (current state) – PWPS reviewed hours and cycle data provided by NWE and reviewed with engineering. No concerns that any equipment is at risk currently.
- Power Turbine Modification – PWPS owes NWE a schedule for; PT Test, and installation of modification into remaining units
- Gas Generator 1A (high oil consumption) – PWPS continues with troubleshooting. CSE and CSM to review all troubleshooting to date and make recommendation for any final filed tests to conduct. Do not want to pull the engine until we are certain that the problem is not external to the GG. The start/stop of troubleshooting can result in something being overlooked, so I asked engineering to review the troubleshooting and data one more time.

Regards,

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

Attachment 1  
Page 15 of 73

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Friday, August 31, 2012 6:17 AM  
**To:** Rhoads, William T  
**Subject:** RE: Northwestern - Update on info to share

Bill R.,  
Thanks best wishes to you for nice labor day.

I am a little concerned that NWE is spending so much time on language when we do not even have a fundamental understand of scope and price. Unclear to me why NWE is taking this approach. My suggestion would be to stick to a term sheet approach, so that we can reach an agreement in principal. It is quite unorthodox for a customer to draft language associated with a service supply agreement, in which the OEM is the one providing the services. I am truly puzzled. I will continue to standby.

On separate note, you should receive schedule today, and I am working to get two other pieces of info cleared for export marking that we discussed during your most recent visit to East Hartford; milestone schedule and instrumentation mapping.

Regards,

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Tuesday, August 28, 2012 11:58 AM  
**To:** Emery, Todd B PW  
**Subject:** RE: Northwestern - Update on info to share

Thank you, Todd. We have folks working on the LTSA and I agree this is beginning to lag (currently its pages long, not volumes long). I believe I indicated that our target was to get you something around September 1. Again, we are trying to sort through what we should have included, term, etc.

If we don't visit before the Labor Day, have a safe and enjoyable weekend.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Monday, August 27, 2012 5:01 PM  
**To:** Rhoads, William T; Thompson, William W  
**Cc:** Patrizzi, Michael J PW; KOPF, STEPHEN J PW  
**Subject:** Northwestern - Update on info to share

Bill R.,

Received note in the mail. Thank you for handwritten note. Don't see this too much anymore. This is a bit of your hallmark, and a nice one at that.

**Bill^2,**

Thank you again for taking the time to visit PWPS. Read recent article on NWE earnings, which seemed favorable, which is good for business overall. I have not forgotten that I owe you schedule and a few other details. I expect to have schedule with a day or two. Sorry for the delay. I am interested to receive something from NWE regarding LTSA.

Regards,

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Thursday, October 11, 2012 2:49 AM  
**To:** Rhoads, William T  
**Subject:** RE: Northwestern LTSA - Discussion in Hartford

Thanks Bill. We will look forward to seeing you next week.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Wednesday, October 10, 2012 6:04 PM  
**To:** Emery, Todd B PW  
**Subject:** RE: Northwestern LTSA - Discussion in Hartford

Todd: Thank you for your note. I would suggest we arrive at your office a little before 8 am EDT, and plan to work through lunch.

Those attending [subject to any last minutes changes] will be:

William Rhoads – NorthWestern Energy  
Jim Williams, Jr. – NorthWestern Energy  
Michael Callahan - Stinson Morrison Hecker LLP

If I learn of any changes to our attendance list, I will let you know as soon as possible.

As far as agenda, we will plan to have some opening remarks/discussion, and then use our document as the working document integrating a discussion of your previous comments provided to NWE, then near the close of the day develop a plan to continue/finalize our discussions. I will provide you with any updates we may have prior to the meeting.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Wednesday, October 10, 2012 6:00 AM  
**To:** Rhoads, William T  
**Subject:** Northwestern LTSA - Discussion in Hartford

<<Example - Comprehensive Services Agmt (10-10-12).docx>>

**Bill R.,**

I am looking forward to meeting with you and others from Northwestern next week. I assume that we are still on for meeting Tuesday (10/16/12). I know that our plan is to conclude our discussions no later than 4pm so

that you can travel to airport for flights. We can discuss an appropriate start time (anytime ~~Base file of 73~~), based on the agenda you will propose, and specific goals you want us to reach. Can you provide me with a list of attendees so that I can prepare visitor badges?

Tanya Tymchenko (PWPS Counsel) and I will make ourselves available all day for Northwestern. While it is our sincere intent to reach an agreement with Northwestern as quickly as possible, there is still a large difference between our respective company positions. The budgetary LTSA proposal that I provided on June 4<sup>th</sup> tried to frame up the general scope and price of an LTSA that PWPS would be willing to offer. The comments I provided on September 14<sup>th</sup>, in response to the Northwestern authored LTSA framework dated September 7<sup>th</sup>, highlighted the differences in our positions, but I thought it may be helpful to share with you a typical LTSA which PWPS currently offers to customers. I am ready, willing, and able to be creative and open with respect to how we structure an agreement, but thought sharing the terms and conditions we typically offer associated with such agreements may be useful for Northwestern to review, so that our discussions may be more productive next week.

Best Regards,

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Saturday, October 13, 2012 8:26 PM  
**To:** 'Emery, Todd B PW'  
**Subject:** Heather Grahame's schedule  
**Attachments:** Heather Grahame

Todd: As a follow up to our conversation, Heather's availability is 9:30 am to 10:30 am on Monday. I have attached Heather's contact information to this e-mail.

Have a great weekend.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**Stauffer, Roberta (Bobbi)**

---

**Full Name:** Heather Grahame  
**Last Name:** Grahame  
**First Name:** Heather  
**Job Title:** VP-GENERAL COUNSEL  
**Company:** Northwestern Energy

**Business Address:** 208 N Montana Avenue  
Helena, MT 59601

**Business:** 406-443-8958

**E-mail:** Heather.Grahame@northwestern.com  
**E-mail Display As:** Grahame, Heather (Heather.Grahame@northwestern.com)

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Sunday, October 14, 2012 5:28 AM  
**To:** Rhoads, William T  
**Subject:** RE: Heather Grahame's schedule

Thank you.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Saturday, October 13, 2012 10:26 PM  
**To:** Emery, Todd B PW  
**Subject:** Heather Grahame's schedule

Todd: As a follow up to our conversation, Heather's availability is 9:30 am to 10:30 am on Monday. I have attached Heather's contact information to this e-mail.

Have a great weekend.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Sunday, October 14, 2012 8:26 PM  
**To:** 'Emery, Todd B PW'  
**Subject:** LTSA meeting

Todd: In our discussion last Friday evening, I committed to send you my thoughts regarding an agenda for Tuesday morning. I would propose we visit about the following:

- NWE presentation (Similar but updated presentation offered to Peter Christman on April 19<sup>th</sup>, 2012)
- Discuss NWE/PWPS operational and commercial goals
- Discuss LTSA

Although the agenda is high level, the substance could be fairly in depth. If you have other items you would like included, please let me know.

Looking forward to our seeing you on Tuesday. Take care.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Tuesday, October 16, 2012 5:00 AM  
**To:** Rhoads, William T  
**Subject:** Arrival at 0800 - PWPS EH

Bill R.,

I am running a few minutes behind on some things. Can you plan to arrive at 0800 at the PWP offices. I know that your note said arrive a bit earlier.

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Thursday, November 01, 2012 12:00 PM  
**To:** Rhoads, William T  
**Subject:** RE: Voicemail

I'll call your office at 5.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Thursday, November 01, 2012 1:58 PM  
**To:** Emery, Todd B PW  
**Subject:** RE: Voicemail

Glad to hear things are ok.

How about you all me about 5 your time. I blocked out some time then so if your meeting runs long and you don't call right at 5 that is ok.

Appreciate your prompt response.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Thursday, November 01, 2012 11:55 AM  
**To:** Rhoads, William T  
**Subject:** RE: Voicemail

Bill R.,

Thanks for the e&v mails. I am not as good at monitoring voice. All is well on this end. We secured P&W facility 12 noon Monday until 0830 Tuesday. On home front, just some tree branches in the yard, and flicker of lights at my house, but we never lost power, which was so surprising. Several folks in PWPS lost power for a few days, but most all reconnected now.

I free up at about 5pm my time. Do you want me to call at 5, 6, or 7 so we can speak?

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Thursday, November 01, 2012 1:44 PM  
**To:** Emery, Todd B PW  
**Subject:** Voicemail

Todd: I left you a voicemail yesterday on your office phone. Have been concerned about the impacts of the storm Sandy on you, your family, and your associates. Hopefully everything is ok. You have been in our thoughts.

Was wondering if there is a convenient time we can visit about the warranty and LTSA? Let me know what works for you so I can be available for your call.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Thursday, November 01, 2012 4:10 PM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: Meeting Friday - Warranty & LTSA

Great. I sent this on to Michael. I will let you know as soon as I hear back from Mike.  
Have a good evening.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Thursday, November 01, 2012 3:46 PM  
**To:** Rhoads, William T  
**Subject:** Meeting Friday - Warranty & LTSA

**Bill R.,**

I just met with Tanya T. Times that work for us are: 12 noon, 1pm, 2:30pm (all EST). Let us know what works for you.

Todd B. Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Thursday, November 01, 2012 8:29 PM  
**To:** 'Emery, Todd B PW'  
**Cc:** 'Tymchenko, Tanya (LEGAL) PW'; 'MCallahan@stinson.com'  
**Subject:** RE: Meeting Friday - Warranty & LTSA

One half hour is fine Todd. Let's plan on 30 minutes, no problem.  
Dusty

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** Emery, Todd B PW [[todd.emery@pw.utc.com](mailto:todd.emery@pw.utc.com)]  
**Sent:** Thursday, November 01, 2012 05:00 PM Mountain Standard Time  
**To:** Rhoads, William T  
**Cc:** Tymchenko, Tanya (LEGAL) PW; [MCallahan@stinson.com](mailto:MCallahan@stinson.com)  
**Subject:** RE: Meeting Friday - Warranty & LTSA

Bill R.,

I had only planned for 30 minutes to chart a course. I am not sure that Tanya and I will be in a position to commit to a unified position, but let's see where we can get. I will move things in my schedule so that I can commit to an hour, but I think Tanya had a conflict at 1:30.

Will watch for her response.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Thursday, November 01, 2012 6:33 PM  
**To:** Emery, Todd B PW  
**Cc:** Tymchenko, Tanya (LEGAL) PW; Michael E. Callahan ([MCallahan@stinson.com](mailto:MCallahan@stinson.com))  
**Subject:** RE: Meeting Friday - Warranty & LTSA

Todd: I just sent a meeting planner for tomorrow at 1 pm EDT, 12 CDT, and 11 MDT. Everyone should have received. I also included a conference bridge number.

1-877-820-7831  
Participant: 403624

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**

NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Thursday, November 01, 2012 3:46 PM  
**To:** Rhoads, William T  
**Subject:** Meeting Friday - Warranty & LTSA

**Bill R.,**

I just met with Tanya T. Times that work for us are: 12 noon, 1pm, 2:30pm (all EST). Let us know what works for you.

Todd B. Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Thursday, November 08, 2012 7:12 AM  
**To:** 'Emery, Todd B PW'  
**Cc:** Tymchenko, Tanya (LEGAL) PW; Michael E. Callahan (MCallahan@stinson.com)  
**Subject:** RE: Proposed meetings; warranty (11/8-6pm) & LTSA (11/12-5pm)

Todd: Both times look good. I will send out a meeting planner.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Thursday, November 08, 2012 5:17 AM  
**To:** Rhoads, William T  
**Cc:** Tymchenko, Tanya (LEGAL) PW  
**Subject:** Proposed meetings; warranty (11/8-6pm) & LTSA (11/12-5pm)

**Bill R.,**

I just confirm with Tanya T. her availability to meet tonight at 6pm our time. Would you and Mike Callahan be available to meet. Plan would be to resume discussion on warranty.

On LTSA, do you want to schedule something for 5pm on Monday (11/12)?

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Thursday, November 08, 2012 1:00 PM  
**To:** Rhoads, William T; Tymchenko, Tanya (LEGAL) PW; MCallahan@stinson.com  
**Subject:** RE: PWPS Warranty Follow Up

Bill R.,

Can we start at 6:15 instead?

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

-----Original Appointment-----

**From:** Rhoads, William T  
**Sent:** Thursday, November 08, 2012 9:13 AM  
**To:** Rhoads, William T; Emery, Todd B PW; Tymchenko, Tanya (LEGAL) PW; Michael E. Callahan (MCallahan@stinson.com)  
**Subject:** PWPS Warranty Follow Up  
**When:** Thursday, November 08, 2012 6:00 PM-7:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624

**Stauffer, Roberta (Bobbi)**

---

**Subject:** PWPS Warranty Follow Up  
**Location:** 1-877-820-7831 Participant: 403624

**Start:** Thu 11/8/2012 4:15 PM  
**End:** Thu 11/8/2012 5:15 PM  
**Show Time As:** Tentative

**Recurrence:** (none)

**Meeting Status:** Not yet responded

**Organizer:** Rhoads, William T

**Required Attendees:** Todd Emery (todd.emery@pw.utc.com); Tanya Tymchenko (tanya.tymchenko@pw.utc.com);  
Michael E. Callahan (MCallahan@stinson.com)

Updated time...

Thank you.

Dusty

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Thursday, November 08, 2012 4:13 PM  
**To:** Rhoads, William T  
**Subject:** RE: LTSA Follow Up

6pm for me is okay.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Thursday, November 08, 2012 6:03 PM  
**To:** Emery, Todd B PW  
**Subject:** RE: LTSA Follow Up

We can shift to 6 pm your time, or we can plan for the next morning if you are clear. I several meetings Tuesday morning, but we could schedule around those...

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Thursday, November 08, 2012 3:41 PM  
**To:** Rhoads, William T  
**Subject:** RE: LTSA Follow Up

Bill R.,

I have conflict with meeting beginning at 5pm on my side. Can we shift this meeting to 6pm start?

Sorry for inconvenience.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

-----Original Appointment-----

**From:** Rhoads, William T  
**Sent:** Thursday, November 08, 2012 9:18 AM

**To:** Rhoads, William T; Emery, Todd B PW; Williams, James L Jr.; Thompson, William W; Voeller, Mike  
**Subject:** LTSA Follow Up  
**When:** Monday, November 12, 2012 5:00 PM-6:30 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Monday, November 12, 2012 12:52 PM  
**To:** 'Emery, Todd B PW'  
**Cc:** Williams, James L Jr.; Thompson, William W; Voeller, Mike  
**Subject:** RE: LTSA Follow Up

Todd: Did you want to visit about unit operation on this call? If so, and if Jim believes necessary, we could possibly add someone from our SOCC operations. So far we haven't and this could be short notice for them.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Monday, November 12, 2012 10:52 AM  
**To:** Rhoads, William T  
**Cc:** Williams, James L Jr.; Thompson, William W; Voeller, Mike  
**Subject:** RE: LTSA Follow Up

Bill R.,

At this point I think best if we lock in the 6pm (EST) schedule. Thank you for the flexibility. If you send a notice I will dial-in.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Monday, November 12, 2012 10:58 AM  
**To:** Emery, Todd B PW  
**Cc:** Williams, James L Jr.; Thompson, William W; Voeller, Mike  
**Subject:** RE: LTSA Follow Up

Todd: I have a conflict at 4 pm EST, 2 pm MST. However, communication and progress could still be made without me but with Jim, Bill, and Mike at the time you suggested. Let us know if you would like to meet at 4 pm EST and Jim can send out a meeting planner to do so.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Monday, November 12, 2012 6:35 AM  
**To:** Rhoads, William T  
**Subject:** FW: LTSA Follow Up

Bill R.,

I am getting a little boxed in at the end of the day here. I have one moving target with Peter that I need to firm up early this afternoon. An alternative that looks \clear at the moment is 4pm to 5pm my time. Would this window work for you and the others? I have no conflict with this slot.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

---

**From:** Emery, Todd B PW  
**Sent:** Thursday, November 08, 2012 5:41 PM  
**To:** Rhoads, William T  
**Subject:** RE: LTSA Follow Up

Bill R.,

I have conflict with meeting beginning at 5pm on my side. Can we shift this meeting to 6pm start?

Sorry for inconvenience.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

-----Original Appointment-----

**From:** Rhoads, William T  
**Sent:** Thursday, November 08, 2012 9:18 AM  
**To:** Rhoads, William T; Emery, Todd B PW; Williams, James L Jr.; Thompson, William W; Voeller, Mike  
**Subject:** LTSA Follow Up  
**When:** Monday, November 12, 2012 5:00 PM-6:30 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Tuesday, December 11, 2012 10:46 AM  
**To:** 'Michael E. Callahan'; 'Tanya Tymchenko'; 'Todd Emery'  
**Subject:** Conference call at 6 pm EST tonight

Let's plan on a conference call at 6 pm EST tonight. I will send out conference bridge information later.  
Thank you.  
Dusty

Sent with Good ([www.good.com](http://www.good.com))

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Tuesday, December 11, 2012 4:02 PM  
**To:** Rhoads, William T  
**Cc:** Tymchenko, Tanya (LEGAL) PW; MCallahan@stinson.com  
**Subject:** RE: Discuss PWPS NWE Warranty

Okay...6:30 It Is.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Tuesday, December 11, 2012 5:56 PM  
**To:** Emery, Todd B PW  
**Cc:** Tymchenko, Tanya (LEGAL) PW; Michael E. Callahan (MCallahan@stinson.com)  
**Subject:** RE: Discuss PWPS NWE Warranty

Todd: Just received your e-mail. Yes, let's move to 6:30 pm.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

-----Original Appointment-----

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Tuesday, December 11, 2012 3:42 PM  
**To:** Rhoads, William T  
**Cc:** Tymchenko, Tanya (LEGAL) PW  
**Subject:** New Time Proposed: Discuss PWPS NWE Warranty  
**When:** Tuesday, December 11, 2012 4:00 PM-5:00 PM (UTC-07:00) Mountain Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624

Dusty R.,

Can we move to 6:30? I am tied-up and cannot make 6pm call.

-----  
New Meeting Time Proposed:

Tuesday, December 11, 2012 6:30 PM-7:30 PM (UTC-05:00) Eastern Time (US & Canada).

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Wednesday, December 12, 2012 11:23 AM  
**To:** 'Tymchenko, Tanya (LEGAL) PW'; 'Emery, Todd B PW'; 'mcallahan@stinson.com'  
**Subject:** RE: NWE warranty

This should work for me.  
Thank you.  
Dusty

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** Tymchenko, Tanya (LEGAL) PW [[Tanya.Tymchenko@pw.utc.com](mailto:Tanya.Tymchenko@pw.utc.com)]  
**Sent:** Wednesday, December 12, 2012 11:06 AM Mountain Standard Time  
**To:** Emery, Todd B PW; [mcallahan@stinson.com](mailto:mcallahan@stinson.com); Rhoads, William T  
**Subject:** NWE warranty

When: Thursday, December 13, 2012 9:00 AM-10:00 AM (GMT-05:00) Eastern Time (US & Canada).  
Where: 866-285-7784; code 5798910  
Note: The GMT offset above does not reflect daylight saving time adjustments.  
\*\*\*\*\*

Please advise if this time does not work for you. Thanks, Tanya

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Friday, December 14, 2012 1:31 PM  
**To:** Tymchenko, Tanya (LEGAL) PW'; Callahan, Michael E.  
**Cc:** Emery, Todd B PW  
**Subject:** RE: Today's telecon

Yes...

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

---

**From:** Tymchenko, Tanya (LEGAL) PW [<mailto:Tanya.Tymchenko@pw.utc.com>]  
**Sent:** Friday, December 14, 2012 1:27 PM  
**To:** Callahan, Michael E.; Rhoads, William T  
**Cc:** Emery, Todd B PW  
**Subject:** Today's telecon

Todd and I are running a little late. Can we start at 3:45?

**Tanya Tymchenko**  
Counsel  
Pratt & Whitney Power Systems, Inc.  
400 Main Street, M/S 191-11  
East Hartford, Connecticut 06108  
Tel: 860.565.0289  
Cell: 860.830.6613  
Efax: 860.660.3908  
Email: [tanya.tymchenko@pw.utc.com](mailto:tanya.tymchenko@pw.utc.com)

**CONFIDENTIALITY WARNING:** This message may contain proprietary and/or privileged information of Pratt & Whitney and its affiliated companies. If you are not the intended recipient, please: 1) do not disclose, copy, distribute or use this message or its contents, 2) advise the sender by return e-mail, and 3) delete all copies (including all attachments) from your computer. Your cooperation is greatly appreciated.

**EXPORT WARNING:** This email, including any attachments, may contain technical data, the export of which is or may be restricted by the Export Administration Act and the Export Administration Regulations (EAR), 15 C.F.R. parts 730-774. Diversion contrary to U.S. law is prohibited. The export, reexport, transfer or re-transfer of this technical data to any other company, entity, person, or destination, or for any use or purpose other than that for which the technical data was originally provided by Pratt & Whitney and/or its affiliated companies, is prohibited without prior written approval from Pratt & Whitney and authorization under applicable export control laws.

Export Classification: ECCN EAR99 unless noted otherwise in this email or any attachment.

Please consider the environment before printing this email.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Monday, December 31, 2012 3:59 PM  
**To:** Rhoads, William T  
**Subject:** RE: DGGS

Mutual Dusty. We will get through this one I am sure.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Monday, December 31, 2012 5:58 PM  
**To:** Emery, Todd B PW  
**Subject:** FW: DGGS

Todd: On a personal note, thank you. Looking forward to working with you in 2013.

Take care.  
Dusty

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** Grahame, Heather  
**Sent:** Monday, December 31, 2012 03:28 PM Mountain Standard Time  
**To:** Tymchenko, Tanya (LEGAL) PW  
**Cc:** [mcallahan@stinson.com](mailto:mcallahan@stinson.com); Rhoads, William T; Emery, Todd B PW  
**Subject:** RE: DGGS

Thanks again. Heather

---

**From:** Tymchenko, Tanya (LEGAL) PW [mailto:Tanya.Tymchenko@pw.utc.com]  
**Sent:** Monday, December 31, 2012 3:26 PM  
**To:** Grahame, Heather  
**Cc:** [mcallahan@stinson.com](mailto:mcallahan@stinson.com); Rhoads, William T; Emery, Todd B PW  
**Subject:** Re: DGGS

Heather, as we just discussed, my client has agreed to extend the existing warranty in its entirety until 11:59 pm on Monday, January 7, 2013.

I look forward to speaking with you further this Wednesday. Hopefully the parties can reach agreement on the extended warranty terms quickly.

Thanks, and happy new year.

Tanya

Tanya Tymchenko  
Counsel  
Pratt & Whitney Power Systems, Inc.  
400 Main Street, M/S 191-11  
East Hartford, CT 06108  
Tel: 860.565.0289  
Cell: 860.830.6613  
Efax: 860.660.3908  
Email: [tanya.tymchenko@pw.utc.com](mailto:tanya.tymchenko@pw.utc.com)

CONFIDENTIALITY STATEMENT: This message may contain proprietary and/or privileged information of Pratt & Whitney and its affiliated companies. If you are not the intended recipient, please: 1) do not disclose, copy, distribute or use this message or its contents, 2) advise the sender by return e-mail, and 3) delete all copies (including all attachments) from your computer. Your cooperation is greatly appreciated.

Please consider the environment before printing this email.

---

**From:** Grahame, Heather <[Heather.Grahame@northwestern.com](mailto:Heather.Grahame@northwestern.com)>  
**To:** Tymchenko, Tanya (LEGAL) PW  
**Cc:** Callahan, Michael E. <[MCallahan@stinson.com](mailto:MCallahan@stinson.com)>; Rhoads, William T <[William.Rhoads@northwestern.com](mailto:William.Rhoads@northwestern.com)>  
**Sent:** Mon Dec 31 14:22:13 2012  
**Subject:** DGGS

Tanya – I am very concerned that this is Dec. 31, 2012 and we don't have a negotiated agreement. I know we are close, but we don't have decisionmakers here in the office at the moment, and that might also be the case for PWPS. From a commercial and legal perspective, I think it makes sense for both PWPS and NorthWestern to agree to an extension of all warranties for an additional 30 days while we finalize negotiations. Obviously, we are concerned with warranties expiring at midnight tonight.

My cell is: 406 431-9625.

Thanks.

Heather

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Friday, January 04, 2013 1:38 PM  
**To:** 'Emery, Todd B PW'; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: warranty modification

Todd and Tanya: Just as an FYI, I explained to Heather and Mike PWPS's rationale below and that after the PT is delivered, NWE is in control of the schedule regarding how quickly the PT is installed. NWE will of course expedite the installation.

I didn't realize that the reason Heather was going to be gone most of the day today was because she was going in for surgery. Not sure how serious it might be, but in any case I know the last e-mail we received from her was one that she literally sent from the surgery area.

Thanks to you both for all of your hard work regarding the warranty. It appears that Bob will inform the Board this weekend (NWE has a Board that is very engaged), and plans to sign, subject to any scheduling changes/conflicts, to sign on Monday. We will keep you posted.

After Bob signs, we should process this through our Contracts Administration area including our Matt Fischer and formalize the communication between NWE and PWPS.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Friday, January 04, 2013 11:32 AM  
**To:** Grahame, Heather  
**Cc:** Rhoads, William T; CASHELL, MICHAEL R; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: warranty modification

**Heather G.,**

Tanya T. is not readily available. We used the term redeliver because when the unit is delivered, we want the warranty to begin. NEW will determine when (likely ASAP) the turbine is installed. I believe that your changes are fine, but would like Tanya T. to opine.

Would our acceptance resolve this matter, subject to NWE Board approval?

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Grahame, Heather [<mailto:Heather.Grahame@northwestern.com>]  
**Sent:** Friday, January 04, 2013 11:27 AM  
**To:** Tymchenko, Tanya (LEGAL) PW  
**Cc:** Emery, Todd B PW; Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** RE: warranty modification

Tanya and Todd: we like your changes a lot. We have one question, and one proposed technical edit for consideration:

1. In Paragraph 1(B), where it says "redelivered," do you mean "reinstalled?"? I am just seeking clarity as I don't know if "redeliver" includes reinstallation or not.
2. Would you accept the following minor, nonsubstantive edit to 1A? All it seeks to do is introduce the outage first, then the root cause analysis. Currently, the root cause analysis comes first, then the outage, and to a reader (i.e. the Montana PSC), it might be clearer if the sentence starts with the outage. So, here is the proposal:

As a result of the outage at DGGG that began in January, 2012 due to distress to the power turbines (the "Outage"), and Contractor's root cause analysis into that Outage, Contractor shall incorporate an inlet module hardware modification into each of the Customer's six (6) power turbines. This modification shall be installed in the power turbines in calendar year 2013.

Let me know, and thanks again. Heather

---

**From:** Tymchenko, Tanya (LEGAL) PW [mailto:Tanya.Tymchenko@pw.utc.com]  
**Sent:** Friday, January 04, 2013 8:46 AM  
**To:** Grahame, Heather  
**Cc:** Emery, Todd B PW; Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** warranty modification

Heater, Michael and Dusty,

Attached is the warranty modification as discussed. Please call or email me with any questions.

*Tanya Tymchenko*  
Counsel  
Pratt & Whitney Power Systems, Inc.  
400 Main Street, M/S 191-11  
East Hartford, Connecticut 06108  
Tel: 860.565.0289  
Cell: 860.830.6613  
Efax: 860.660.3908  
Email: [tanya.tymchenko@pw.utc.com](mailto:tanya.tymchenko@pw.utc.com)

**CONFIDENTIALITY WARNING:** This message may contain proprietary and/or privileged information of Pratt & Whitney and its affiliated companies. If you are not the intended recipient, please: 1) do not disclose, copy, distribute or use this message or its contents, 2) advise the sender by return e-mail, and 3) delete all copies (including all attachments) from your computer. Your cooperation is greatly appreciated.

**EXPORT WARNING:** This email, including any attachments, may contain technical data, the export of which is or may be restricted by the Export Administration Act and the Export Administration Regulations (EAR), 15 C.F.R. parts 730-774. Diversion contrary to U.S. law is prohibited. The export, reexport, transfer or re-transfer of this technical data to any other company, entity, person, or destination, or for any use or purpose other than that for which the technical data was originally provided by Pratt &

Whitney and/or its affiliated companies, is prohibited without prior written approval from Pratt & Whitney Page and/or its affiliates under applicable export control laws.

Export Classification: ECCN EAR99 unless noted otherwise in this email or any attachment.

Please consider the environment before printing this email.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Friday, January 04, 2013 2:25 PM  
**To:** Rhoads, William T  
**Subject:** RE: warranty modification

Thanks for the update Dusty. I appreciate the work over past few days by those on your side. We are all committed, and it shows.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Friday, January 04, 2013 3:38 PM  
**To:** Emery, Todd B PW; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: warranty modification

Todd and Tanya: Just as an FYI, I explained to Heather and Mike PWPS's rational below and that after the PT is delivered, NWE is in control of the schedule regarding how quickly the PT is installed. NWE will of course expedite the Installation.

I didn't realize that the reason Heather was going to be gone most of the day today was because she was going in for surgery. Not sure how serious it might be, but in any case I know the last e-mail we received from her was one that she literally sent from the surgery area.

Thanks to you both for all of your hard work regarding the warranty. It appears that Bob will inform the Board this weekend (NWE has a Board that is very engaged), and plans to sign, subject to any scheduling changes/conflicts, to sign on Monday. We will keep you posted.

After Bob signs, we should process this through our Contracts Administration area including our Matt Fischer and formalize the communication between NWE and PWPS.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Friday, January 04, 2013 11:32 AM  
**To:** Grahame, Heather  
**Cc:** Rhoads, William T; CASHELL, MICHAEL R; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: warranty modification

Heather G.,  
Tanya T. is not readily available. We used the term redeliver because when the unit is delivered, we want the warranty to begin. NEW will determine when (likely ASAP) the turbine is installed. I believe that your changes are fine, but would like Tanya T. to opine.

Would our acceptance resolve this matter, subject to NWE Board approval?

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Grahame, Heather [mailto:Heather.Grahame@northwestern.com]  
**Sent:** Friday, January 04, 2013 11:27 AM  
**To:** Tymchenko, Tanya (LEGAL) PW  
**Cc:** Emery, Todd B PW; Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** RE: warranty modification

Tanya and Todd: we like your changes a lot. We have one question, and one proposed technical edit for your consideration:

1. In Paragraph 1(B), where it says "redelivered," do you mean "reinstalled"? I am just seeking clarity as I don't know if "redeliver" includes reinstallation or not.
2. Would you accept the following minor, nonsubstantive edit to 1A? All it seeks to do is introduce the outage first, then the root cause analysis. Currently, the root cause analysis comes first, then the outage, and to a reader (i.e. the Montana PSC), it might be clearer if the sentence starts with the outage. So, here is the proposal:

As a result of the outage at DGGs that began in January, 2012 due to distress to the power turbines (the "Outage"), and Contractor's root cause analysis into that Outage, Contractor shall incorporate an Inlet module hardware modification into each of the Customer's six (6) power turbines. This modification shall be installed in the power turbines in calendar year 2013.

Let me know, and thanks again. Heather

---

**From:** Tymchenko, Tanya (LEGAL) PW [mailto:Tanya.Tymchenko@pw.utc.com]  
**Sent:** Friday, January 04, 2013 8:46 AM  
**To:** Grahame, Heather  
**Cc:** Emery, Todd B PW; Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** warranty modification

Heater, Michael and Dusty,

Attached is the warranty modification as discussed. Please call or email me with any questions.

*Tanya Tymchenko*  
Counsel  
Pratt & Whitney Power Systems, Inc.  
400 Main Street, M/S 191-11  
East Hartford, Connecticut 06108

Tel: 860.565.0289  
Cell: 860.830.6613  
Efax: 860.660.3908  
Email: [tanya.tymchenko@pw.utc.com](mailto:tanya.tymchenko@pw.utc.com)

**CONFIDENTIALITY WARNING:** This message may contain proprietary and/or privileged information of Pratt & Whitney and its affiliated companies. If you are not the intended recipient, please: 1) do not disclose, copy, distribute or use this message or its contents, 2) advise the sender by return e-mail, and 3) delete all copies (including all attachments) from your computer. Your cooperation is greatly appreciated.

**EXPORT WARNING:** This email, including any attachments, may contain technical data, the export of which is or may be restricted by the Export Administration Act and the Export Administration Regulations (EAR), 15 C.F.R. parts 730-774. Diversion contrary to U.S. law is prohibited. The export, reexport, transfer or re-transfer of this technical data to any other company, entity, person, or destination, or for any use or purpose other than that for which the technical data was originally provided by Pratt & Whitney and/or its affiliated companies, is prohibited without prior written approval from Pratt & Whitney and authorization under applicable export control laws.

**Export Classification:** ECCN EAR99 unless noted otherwise in this email or any attachment.

Please consider the environment before printing this email.

**Stauffer, Roberta (Bobbl)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Friday, January 04, 2013 6:59 PM  
**To:** Grahame, Heather; Tymchenko, Tanya (LEGAL) PW  
**Cc:** Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** Re: warranty modification

Heather G.,  
Thank you. Look forward to hearing back when Board has approved.

Tanya T.,  
I assume that you will send Heather the clean version.

Todd

---

**From:** Grahame, Heather <Heather.Grahame@northwestern.com>  
**To:** Tymchenko, Tanya (LEGAL) PW; Emery, Todd B PW  
**Cc:** Rhoads, William T <William.Rhoads@northwestern.com>; CASHELL, MICHAEL R <MICHAEL.CASHELL@northwestern.com>  
**Sent:** Fri Jan 04 19:24:54 2013  
**Subject:** RE: warranty modification

We are in agreement and please send over the clean version as soon as you can. Thank you again. Heather

---

**From:** Tymchenko, Tanya (LEGAL) PW [mailto:Tanya.Tymchenko@pw.utc.com]  
**Sent:** Friday, January 04, 2013 1:08 PM  
**To:** Emery, Todd B PW; Grahame, Heather  
**Cc:** Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** RE: warranty modification

Heather, I am OK with the version you circulated at 12:19 pm Eastern and agree with Todd's position on the "redeliver" language. With that I am hopeful we have all reached agreement, and NWE can seek board approval. I know you are not available this afternoon, but feel free to contact me tonight or tomorrow if you feel there are any outstanding issues remaining.

Thanks,

*Tanya Tymchenko*  
Counsel  
Pratt & Whitney Power Systems, Inc.  
400 Main Street, M/S 191-11  
East Hartford, Connecticut 06108  
Tel: 860.565.0289  
Cell: 860.830.6613  
Bfax: 860.660.3908  
Email: tanya.tymchenko@pw.utc.com

**CONFIDENTIALITY WARNING:** This message may contain proprietary and/or privileged information of Pratt & Whitney and its affiliated companies. If you are not the intended recipient, please: 1) do not disclose, copy, distribute or use this message or its contents, 2) advise the sender by return e-mail, and 3) delete all copies (including all attachments) from your computer. Your cooperation is greatly appreciated.

**EXPORT WARNING:** This email, including any attachments, may contain technical data, the export of which is or may be restricted by the Export Administration Act and the Export Administration Regulations (EAR), 15 C.F.R. parts 730-774. Diversion contrary to U.S. law is prohibited. The export, reexport, transfer or re-transfer of this technical data to any other company, entity, person, or destination, or for any use or purpose other than that for which the technical data was originally provided by Pratt & Whitney and/or its affiliated companies, is prohibited without prior written approval from Pratt & Whitney and authorization under applicable export control laws.

**Export Classification:** BCCN EAR99 unless noted otherwise in this email or any attachment.

Please consider the environment before printing this email.

---

**From:** Emery, Todd B PW  
**Sent:** Friday, January 04, 2013 1:32 PM  
**To:** Grahame, Heather  
**Cc:** Rhoads, William T; CASHELL, MICHAEL R; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: warranty modification

Heather G.,

Tanya T. is not readily available. We used the term redeliver because when the unit is delivered, we want the warranty to begin. NEW will determine when (likely ASAP) the turbine is installed. I believe that your changes are fine, but would like Tanya T. to opine.

Would our acceptance resolve this matter, subject to NWE Board approval?

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Grahame, Heather [mailto:Heather.Grahame@northwestern.com]  
**Sent:** Friday, January 04, 2013 11:27 AM  
**To:** Tymchenko, Tanya (LEGAL) PW  
**Cc:** Emery, Todd B PW; Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** RE: warranty modification

Tanya and Todd: we like your changes a lot. We have one question, and one proposed technical edit for your consideration:

1. In Paragraph 1(B), where it says "redelivered," do you mean "reinstalled"? I am just seeking clarity as I don't know if "redeliver" includes reinstallation or not.
2. Would you accept the following minor, nonsubstantive edit to 1A? All it seeks to do is introduce the outage first, then the root cause analysis. Currently, the root cause analysis comes first, then the outage, and to a reader (i.e. the Montana PSC), it might be clearer if the sentence starts with the outage. So, here is the proposal:

As a result of the outage at DGGs that began in January, 2012 due to distress to the power turbines (the "Outage"), and Contractor's root cause analysis into that Outage, Contractor shall incorporate an inlet module hardware modification into each of the Customer's six (6) power turbines. This modification shall be installed in the power turbines in calendar year 2013.

Let me know, and thanks again. Heather

---

**From:** Tymchenko, Tanya (LEGAL) PW [mailto:Tanya.Tymchenko@pw.utc.com]  
**Sent:** Friday, January 04, 2013 8:46 AM  
**To:** Grahame, Heather  
**Cc:** Emery, Todd B PW; Rhoads, William T; CASHELL, MICHAEL R  
**Subject:** warranty modification

Heater, Michael and Dusty,

Attached is the warranty modification as discussed. Please call or email me with any questions.

*Tanya Tymchenko*  
Counsel  
Pratt & Whitney Power Systems, Inc.  
400 Main Street, M/S 191-11  
East Hartford, Connecticut 06108  
Tel: 860.565.0289  
Cell: 860.830.6613  
Efax: 860.660.3908  
Email: [tanya.tymchenko@pw.utc.com](mailto:tanya.tymchenko@pw.utc.com)

**CONFIDENTIALITY WARNING:** This message may contain proprietary and/or privileged information of Pratt & Whitney and its affiliated companies. If you are not the intended recipient, please: 1) do not disclose, copy, distribute or use this message or its contents, 2) advise the sender by return e-mail, and 3) delete all copies (including all attachments) from your computer. Your cooperation is greatly appreciated.

**EXPORT WARNING:** This email, including any attachments, may contain technical data, the export of which is or may be restricted by the Export Administration Act and the Export Administration Regulations (EAR), 15 C.F.R. parts 730-774. Diversion contrary to U.S. law is prohibited. The export, reexport, transfer or re-transfer of this technical data to any other company, entity, person, or destination, or for any use or purpose other than that for which the technical data was originally provided by Pratt & Whitney and/or its affiliated companies, is prohibited without prior written approval from Pratt & Whitney and authorization under applicable export control laws.

**Export Classification:** ECCN EAR99 unless noted otherwise in this email or any attachment.

Please consider the environment before printing this email.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Wednesday, January 16, 2013 10:06 AM  
**To:** 'Emery, Todd B PW'  
**Cc:** Grahame, Heather; Fischer, Matthew C; 'VECCHIARELLI, PHILIP PW'  
**Subject:** PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613  
**Attachments:** PWPS Mod 4 RCR signed 011613.pdf

Todd: Attached is a copy of the referenced document signed today by Bob Rowe. The original document was given to Matt Fischer for processing through our formal Contract Administration process. Not sure of PWPS' preference for processing of the original document, but unless we hear otherwise, Matt will continue to process through the procedures outlined in the original purchase order. Heather e-mailed a copy of this same document to Tanya.

Todd, again NWE extends our appreciation to Tanya and you for your efforts needed to negotiate this modification and to gain the approval of this modification within the PWPS organization. Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**MODIFICATION NO. 4**  
**To the Agreement between**  
**NorthWestern Corporation d/b/a NorthWestern Energy**  
**and**  
**Pratt & Whitney Power Systems**  
**Contract # CLM0001695**

RE: Purchase Order No. 301264, dated July 2, 2009, and incorporated documents (the "Contract")

Attn: Phil Vecchiarelli  
Pratt & Whitney Power Systems  
400 Main Street  
East Hartford, CT 06108

**CONTRACT DESCRIPTION:** Engineering, fabrication, shipment and delivery of Turbine Generator sets for the Mill Creek Generating Station n/k/a Dave Gates Generating Station ("DGGS"). Capitalized terms used but not defined herein shall have the definitions set forth in the Contract.

**MODIFICATION:** In consideration of the terms and conditions contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the above referenced Contract is hereby modified as follows:

1. A. As a result of the outage at DGGS that began in January, 2012 due to distress to the power turbines (the "Outage"), and Contractor's root cause analysis into that Outage, Contractor shall incorporate an Inlet module hardware modification into each of the Customer's six (6) power turbines. This modification shall be installed in the power turbines in calendar year 2013.

B. In accordance with Article 10 of the Terms and Conditions of Purchase – Major Equipment, the warranty for the power turbines shall be extended and remain in effect for two (2) years from the date the last of the six (6) power turbines is redelivered to DGGS with the modification described in 1(A) above (the "Power Turbine Warranty Extension").

2. The existing warranty on all other equipment supplied under the Contract (except the Unit #3 Brush Generator), currently set to expire on or about January 1, 2013, shall be extended and remain in effect until May 1, 2013. PWPS' obligation to provide a Spare GG-8 in accordance with Article 10.1 of the Terms and Conditions of Purchase – Major Equipment shall also be extended and remain in effect until May 1, 2013.

3. The warranty on the Unit #3 Brush generator, currently set to expire on or about January 1, 2014, shall be extended and remain in effect until May 1, 2014.

4. Contractor shall, for the term of the Power Turbine Warranty Extension, provide any additional modifications to the power turbines that Contractor determines, in its sole discretion, are needed as a result of the Outage.

5. Additionally, in the event that Contractor determines further modifications related to the Outage will be incorporated into the bill of material for new FT8-3 power turbine builds, replacement hardware and shop assembly labor to incorporate hardware will be provided by the Contractor at no charge to Company, regardless of whether the Power Turbine Warranty Extension has expired.

6. Contractor's obligations under this Modification No. 4 shall be subject to (i) all limitations and requirements set forth in Article 10 of the Terms and Conditions of Purchase – Major Equipment, (ii) Company operating and maintaining the CTG Units in accordance with Contractor or Contractor's suppliers' current or future manuals, bulletins, and similar technical, operating and/or maintenance documents, as such documents are modified from time to time (collectively, "Contractor's O&M Documents"), as well as (iii) the Project Specifications in the Contract, except that the instructions in Contractor's O&M Documents shall replace and supersede the "less than 20 starts per year" specification for the CTG Units in the Project Specifications.

7. All power turbine modifications contemplated under this Modification No. 4 shall apply only to the power turbines purchased by Customer under Purchase Order No. 301264. Further, Customer may not assign any of its rights, nor any of Contractor's obligations, under this Modification No. 4 to any other party, and any attempted assignment in contravention of this restriction shall be null and void.

8. In consideration for this Modification No. 4, Company, on behalf of itself and its respective parent companies, subsidiaries, officers, directors, employees, partners, insurers, agents, affiliates, successors and assigns (the "Releasers"), hereby forever irrevocably releases, remises and discharges Contractor, and its respective past, present and future parent companies, subsidiaries, officers, directors, employees, partners, insurers, agents, affiliates, successors and assigns (the "Releasees"), of and from any and all claims, demands, proceedings, causes of action, orders, obligations, contracts, agreements, debts and liabilities, of whatever nature or kind, at law or in equity, which Releasers now have, ever have had or hereafter would or could have against the Releasees, whether known or unknown, suspected or unsuspected, fixed or contingent, related to or arising from the Outage, except that this paragraph 8 shall not preclude Releasers or Releasees from enforcing the terms of this Modification No. 4.

**CONTRACT COMPLETION DATE ADJUSTMENT:** None

**PAYMENT ADJUSTMENT:** None.

**OTHER:** Any prior agreements, promises, negotiations or representations, either oral or written, relating to the subject matter hereof, not expressly set forth herein, are of no force or effect. The above adjustments constitute the entire and complete modification to the Contract referenced herein, and all other terms and conditions of the Contract

shall remain in full force and effect. This Modification No.4 hereby incorporates by reference any general or miscellaneous terms and conditions set forth in the Contract.

**NORTHWESTERN CORPORATION**  
**D/B/A NORTHWESTERN ENERGY**  
(Company)

**PRATT & WHITNEY POWER SYSTEMS**  
(Contractor)

By: *Robert C. Rowe*  
Printed Name: Robert C. Rowe  
Title: President & Chief Executive Officer  
Date: 1-16-13

By: \_\_\_\_\_  
Printed Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Wednesday, January 16, 2013 10:25 AM  
**To:** Rhoads, William T  
**Cc:** Grahame, Heather; Fischer, Matthew C; VECCHIARELLI, PHILIP PW; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613

Bill R.,

Thanks. Peter forwarded a nice note from Bob Rowe last night expressing appreciation. Thanks. Either Peter or I will sign, so feel free to send it through normal channels back to PWPS East Hartford.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Wednesday, January 16, 2013 12:06 PM  
**To:** Emery, Todd B PW  
**Cc:** Grahame, Heather; Fischer, Matthew C; VECCHIARELLI, PHILIP PW  
**Subject:** PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613

Todd: Attached is a copy of the referenced document signed today by Bob Rowe. The original document was given to Matt Fischer for processing through our formal Contract Administration process. Not sure of PWPS' preference for processing of the original document, but unless we hear otherwise, Matt will continue to process through the procedures outlined in the original purchase order. Heather e-mailed a copy of this same document to Tanya.

Todd, again NWE extends our appreciation to Tanya and you for your efforts needed to negotiate this modification and to gain the approval of this modification within the PWPS organization. Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Sunday, January 20, 2013 8:41 AM  
**To:** Rhoads, William T  
**Cc:** Grahame, Heather; Fischer, Matthew C; VECCHIARELLI, PHILIP PW; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613  
**Attachments:** NWE TPA Modification 4, 1-17-13.pdf

Bill R.,

I signed last week, and expect that you have already received electronic and original fully executed agreement by now. Just in case, attached here is the executed version.

<<NWE TPA Modification 4, 1-17-13.pdf>>

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Wednesday, January 16, 2013 12:06 PM  
**To:** Emery, Todd B PW  
**Cc:** Grahame, Heather; Fischer, Matthew C; VECCHIARELLI, PHILIP PW  
**Subject:** PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613

Todd: Attached is a copy of the referenced document signed today by Bob Rowe. The original document was given to Matt Fischer for processing through our formal Contract Administration process. Not sure of PWPS' preference for processing of the original document, but unless we hear otherwise, Matt will continue to process through the procedures outlined in the original purchase order. Heather e-mailed a copy of this same document to Tanya.

Todd, again NWE extends our appreciation to Tanya and you for your efforts needed to negotiate this modification and to gain the approval of this modification within the PWPS organization. Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

ORIGINAL

**MODIFICATION NO. 4**  
**To the Agreement between**  
**NorthWestern Corporation d/b/a NorthWestern Energy**  
**and**  
**Pratt & Whitney Power Systems**  
**Contract # CLM0001695**

**RE:** Purchase Order No. 301264, dated July 2, 2009, and incorporated documents (the "Contract")

Attn: Phil Vecchiarelli  
Pratt & Whitney Power Systems  
400 Main Street  
East Hartford, CT 06108

**CONTRACT DESCRIPTION:** Engineering, fabrication, shipment and delivery of Turbine Generator sets for the Mill Creek Generating Station n/k/a Dave Gates Generating Station ("DGGS"). Capitalized terms used but not defined herein shall have the definitions set forth in the Contract.

**MODIFICATION:** In consideration of the terms and conditions contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the above referenced Contract is hereby modified as follows:

1. A. As a result of the outage at DGGS that began in January, 2012 due to distress to the power turbines (the "Outage"), and Contractor's root cause analysis into that Outage, Contractor shall incorporate an inlet module hardware modification into each of the Customer's six (6) power turbines. This modification shall be installed in the power turbines in calendar year 2013.  
B. In accordance with Article 10 of the Terms and Conditions of Purchase – Major Equipment, the warranty for the power turbines shall be extended and remain in effect for two (2) years from the date the last of the six (6) power turbines is redelivered to DGGS with the modification described in 1(A) above (the "Power Turbine Warranty Extension").
2. The existing warranty on all other equipment supplied under the Contract (except the Unit #3 Brush Generator), currently set to expire on or about January 1, 2013, shall be extended and remain in effect until May 1, 2013. PWPS' obligation to provide a Spare GG-8 in accordance with Article 10.1 of the Terms and Conditions of Purchase – Major Equipment shall also be extended and remain in effect until May 1, 2013.
3. The warranty on the Unit #3 Brush generator, currently set to expire on or about January 1, 2014, shall be extended and remain in effect until May 1, 2014. 

4. Contractor shall, for the term of the Power Turbine Warranty Extension, provide any additional modifications to the power turbines that Contractor determines, in its sole discretion, are needed as a result of the Outage.

5. Additionally, in the event that Contractor determines further modifications related to the Outage will be incorporated into the bill of material for new FT8-3 power turbine builds, replacement hardware and shop assembly labor to incorporate hardware will be provided by the Contractor at no charge to Company, regardless of whether the Power Turbine Warranty Extension has expired.

6. Contractor's obligations under this Modification No. 4 shall be subject to (i) all limitations and requirements set forth in Article 10 of the Terms and Conditions of Purchase – Major Equipment, (ii) Company operating and maintaining the CTG Units in accordance with Contractor or Contractor's suppliers' current or future manuals, bulletins, and similar technical, operating and/or maintenance documents, as such documents are modified from time to time (collectively, "Contractor's O&M Documents"), as well as (iii) the Project Specifications in the Contract, except that the instructions in Contractor's O&M Documents shall replace and supersede the "less than 20 starts per year" specification for the CTG Units in the Project Specifications.

7. All power turbine modifications contemplated under this Modification No. 4 shall apply only to the power turbines purchased by Customer under Purchase Order No. 301264. Further, Customer may not assign any of its rights, nor any of Contractor's obligations, under this Modification No. 4 to any other party, and any attempted assignment in contravention of this restriction shall be null and void.

8. In consideration for this Modification No. 4, Company, on behalf of itself and its respective parent companies, subsidiaries, officers, directors, employees, partners, insurers, agents, affiliates, successors and assigns (the "Releasors"), hereby forever irrevocably releases, remises and discharges Contractor, and its respective past, present and future parent companies, subsidiaries, officers, directors, employees, partners, insurers, agents, affiliates, successors and assigns (the "Releasees"), of and from any and all claims, demands, proceedings, causes of action, orders, obligations, contracts, agreements, debts and liabilities, of whatever nature or kind, at law or in equity, which Releasors now have, ever have had or hereafter would or could have against the Releasees, whether known or unknown, suspected or unsuspected, fixed or contingent, related to or arising from the Outage, except that this paragraph 8 shall not preclude Releasors or Releasees from enforcing the terms of this Modification No. 4.

**CONTRACT COMPLETION DATE ADJUSTMENT:** None

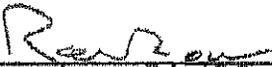
**PAYMENT ADJUSTMENT:** None.

**OTHER:** Any prior agreements, promises, negotiations or representations, either oral or written, relating to the subject matter hereof, not expressly set forth herein, are of no force or effect. The above adjustments constitute the entire and complete modification to the Contract referenced herein, and all other terms and conditions of the Contract 

shall remain in full force and effect. This Modification No.4 hereby incorporates by reference any general or miscellaneous terms and conditions set forth in the Contract.

**NORTHWESTERN CORPORATION  
D/B/A NORTHWESTERN ENERGY  
(Company)**

**PRATT & WHITNEY POWER SYSTEMS  
(Contractor)**

By:   
Printed Name: Robert C. Rowe  
Title: President & Chief Executive Officer  
Date: 1-16-13

By:   
Printed Name: Todd B. Gentry  
Title: DIRECTOR, PWS  
Date: 1-17-13

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Sunday, January 20, 2013 10:16 AM  
**To:** 'Emery, Todd B PW'  
**Cc:** Grahame, Heather; Fischer, Matthew C; VECCHIARELLI, PHILIP PW; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613

Todd: Thank you. Not sure if Matt received the fully executed original yet, but we understand that it's on its way. If the original doesn't appear in a few days we will let you know.

Appreciate you following up with your e-mail below.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Sunday, January 20, 2013 8:41 AM  
**To:** Rhoads, William T  
**Cc:** Grahame, Heather; Fischer, Matthew C; VECCHIARELLI, PHILIP PW; Tymchenko, Tanya (LEGAL) PW  
**Subject:** RE: PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613

Bill R.,

I signed last week, and expect that you have already received electronic and original fully executed agreement by now. Just in case, attached here is the executed version.

<<NWE TPA Modification 4, 1-17-13.pdf>>

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Wednesday, January 16, 2013 12:06 PM  
**To:** Emery, Todd B PW  
**Cc:** Grahame, Heather; Fischer, Matthew C; VECCHIARELLI, PHILIP PW  
**Subject:** PWPS NWE PO Mod 4 Extended Warranty RCR signed 011613

Todd: Attached is a copy of the referenced document signed today by Bob Rowe. The original document was given to Matt Fischer for processing through our formal Contract Administration process. Not sure of PWPS' preference for processing of the original document, but unless we hear otherwise, Matt will continue to process through the procedures outlined in the original purchase order. Heather e-mailed a copy of this same document to Tanya.

Todd, again NWE extends our appreciation to Tanya and you for your efforts needed to negotiate this modification and to gain the approval of this modification within the PWPS organization. Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Tuesday, February 05, 2013 8:49 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: [External] RE: LTSA discussions with NWE

Todd: I will send out a meeting planner for Thursday at 1 pm CT. We will try to get a scoping document to you before the meeting. Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Tuesday, February 05, 2013 8:35 AM  
**To:** Rhoads, William T  
**Subject:** RE: [External] RE: LTSA discussions with NWE

**Bill R.,**

I agree that this week should discuss scope and term. Really need to pin this down. Then I can estimate pricing. Thumbing through the document really does not add value until we have an approximate agreement on scope and price.

I have a few open times on Thursday, 1pm (EST) is one option. It might be productive to have a scope written out in advance of the discussion. A basic one or two page list would be a way to begin. Can NWE prepare a list of the scope items in advance of a scheduled discussion, or is this something you would like me to prepare?

No luck with passport/visa, but I am counting on it arriving.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Tuesday, February 05, 2013 9:27 AM  
**To:** Emery, Todd B PW  
**Subject:** [External] RE: LTSA discussions with NWE

Todd: I believe we should do both. I would suggest we have a call to define scope and term, then pricing. It's probably too vague to try to discuss pricing without defining the scope first, but we can discuss. I need to start getting a handle on cost. We would be available to initiate a dialogue on Thursday or Friday of this week. (There are just a few meeting conflicts on Thursday I would have to work around.) Based upon your schedule, we should try to visit this week yet, then deeper discussions regarding the entire document the week of February 18<sup>th</sup>. Perhaps that would be a good week to visit Montana.

UPS must have located your passport.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**

NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Tuesday, February 05, 2013 6:37 AM  
**To:** Rhoads, William T  
**Subject:** LTSA discussions with NWE

Bill R.,

I checked on flights, and cannot seem to find a way to fit trip in this week with my other commitments. It appears I will be in Algeria next week 2/12 – 2/14. WE may want to try telephone, or look for another date in order to make progress with LTSA.

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Thursday, February 07, 2013 10:53 AM  
**To:** 'Emery, Todd B PW'; Williams, James L Jr.; Thompson, William W; Oostra, Jon; Voeller, Mike  
**Subject:** RE: [External] Discuss PWPS LTSA

Can do. We will plan on 15 minutes past the hour...

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Thursday, February 07, 2013 10:52 AM  
**To:** Rhoads, William T; Williams, James L Jr.; Thompson, William W; Oostra, Jon; Voeller, Mike  
**Subject:** RE: [External] Discuss PWPS LTSA

Bill R.,

Can we begin 15 minutes later...1:15 my time? I am finishing up on another matter and need few more minutes.

Todd Emery

Director, FT3 Program

cell (860) 324-3083, desk (860) 565-8082

-----Original Appointment-----

**From:** Rhoads, William T  
**Sent:** Tuesday, February 05, 2013 10:50 AM  
**To:** Rhoads, William T; Williams, James L Jr.; Thompson, William W; Oostra, Jon; Emery, Todd B PW; Voeller, Mike  
**Subject:** [External] Discuss PWPS LTSA  
**When:** Thursday, February 07, 2013 1:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624#

Discuss Scope and Term...

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Saturday, February 09, 2013 10:38 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: [External] FW: LTSA DATA

Todd: Thanks for the update.

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** Emery, Todd B PW [[todd.emery@pw.utc.com](mailto:todd.emery@pw.utc.com)]  
**Sent:** Saturday, February 09, 2013 09:34 AM Mountain Standard Time  
**To:** Williams, James L Jr.  
**Cc:** Voeller, Mike; Thompson, William W; Rhoads, William T; Patrizzi, Michael J PW  
**Subject:** RE: [External] FW: LTSA DATA

Jim W.,

Thanks for the data. I reviewed and this is just what I was looking for. It will help me to establish how to represent the operating expectation in the LTSA. Thanks for quick response. Crazy blizzard yesterday. I think we got over 2 feet of snow, but now power loss, which is great. Hopefully back to normal by Monday. Picture is my son on back porch.

<<Snow in Connecticut.jpg>>

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

**From:** Williams, James L Jr. [<mailto:JamesL.Williams@northwestern.com>]  
**Sent:** Friday, February 08, 2013 5:26 PM  
**To:** Thompson, William W; Rhoads, William T; Emery, Todd B PW  
**Cc:** Voeller, Mike  
**Subject:** [External] FW: LTSA DATA

Todd,

Please see attached the spreadsheet Mike put together. The greyed cells aren't calculated into the averages.

Thanks,

**Jim Williams Jr.**  
**Project Manager/Montana Production**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3190 / Cell: 406-533-8701/ Fax: 406-497-3480

e-mail: [JamesL.Williams@northwestern.com](mailto:JamesL.Williams@northwestern.com)

**From:** Voeller, Mike  
**Sent:** Friday, February 08, 2013 2:41 PM  
**To:** Williams, James L Jr.  
**Subject:** LTSA DATA

Jim, attached is the LTSA statistical data for Pratt, please review and forward on to Todd.

Thanks

---

Mike Voeller | Plant Manager | NAES Corporation Dave Gates Generating Station | Office 406-497-4680 | [www.naes.com](http://www.naes.com) |

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Tuesday, February 19, 2013 8:15 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: [External] FW: PWPS LTSA Discussion

No. (Just kidding!). We are doing ok...

Sent with Good ([www.good.com](http://www.good.com))

-----Original Message-----

**From:** Emery, Todd B PW [[todd.emery@pw.utc.com](mailto:todd.emery@pw.utc.com)]  
**Sent:** Tuesday, February 19, 2013 08:01 AM Mountain Standard Time  
**To:** Rhoads, William T  
**Subject:** Re: [External] FW: PWPS LTSA Discussion

Bill, I will need a few more minutes. Can I ask for 15 delay? Todd

---

**From:** Rhoads, William T <[William.Rhoads@northwestern.com](mailto:William.Rhoads@northwestern.com)>  
**To:** Emery, Todd B PW  
**Cc:** Williams, James L Jr. <[JamesL.Williams@northwestern.com](mailto:JamesL.Williams@northwestern.com)>  
**Sent:** Tue Feb 19 08:58:04 2013  
**Subject:** RE: [External] FW: PWPS LTSA Discussion

We will focus on the technical or business portion of your proposal to start. The meeting will probably not last 2 hours. Thank you.

*Bill ("Dusty") Rhoads  
General Manager, Generation  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
Safe Production is Good Business!!!*

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Tuesday, February 19, 2013 6:47 AM  
**To:** Rhoads, William T  
**Subject:** RE: [External] FW: PWPS LTSA Discussion

Also, what is agenda for the meeting? May be helpful to have an agenda to keep us on track. 2 hours seems like a large block of time to discuss what I have sent.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

---

**From:** Emery, Todd B PW  
**Sent:** Tuesday, February 19, 2013 8:45 AM  
**To:** 'Rhoads, William T'  
**Subject:** RE: [External] FW: PWPS LTSA Discussion

Bill R.,

I have meeting with Peter that ends at 10. FYI, Just in case I am a couple minutes late.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

-----Original Appointment-----

**From:** Rhoads, William T  
**Sent:** Thursday, February 07, 2013 3:01 PM  
**To:** Rhoads, William T; Emery, Todd B PW  
**Subject:** [External] FW: PWPS LTSA Discussion  
**When:** Tuesday, February 19, 2013 10:00 AM-12:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624#

-----Original Appointment-----

**From:** Rhoads, William T  
**Sent:** Thursday, February 07, 2013 12:31 PM  
**To:** Rhoads, William T; Williams, James L Jr.; Thompson, William W; Oostra, Jon; Voeller, Mike  
**Subject:** PWPS LTSA Discussion  
**When:** Tuesday, February 19, 2013 8:00 AM-10:00 AM (UTC-07:00) Mountain Time (US & Canada).  
**Where:** 1-877-820-7831 Participant: 403624#

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Tuesday, March 26, 2013 8:33 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** RE: [External] RE: NorthWestern Energy - Open Items

Todd: Just as an FYI, Montana's sole Congressman, Congressman Daines, is visiting DGGs tomorrow at 11:00 am. He will be there with his delegation and a host of folks from the Building Trades Council. Bob Rowe and I plan to be there for discussion/tours/media, etc...

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Tuesday, March 26, 2013 7:55 AM  
**To:** Rhoads, William T  
**Subject:** RE: [External] RE: NorthWestern Energy - Open Items

Bill R.,  
I will call you after 4:30 your time.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [<mailto:William.Rhoads@northwestern.com>]  
**Sent:** Tuesday, March 26, 2013 9:48 AM  
**To:** Emery, Todd B PW  
**Subject:** RE: [External] RE: NorthWestern Energy - Open Items

Todd: OK. I am in meetings until about 4:30 pm this afternoon, MDT. Does that work for you? Otherwise, I could take a call earlier. Please let me know what time to visit works best for you.

Thank you...

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Tuesday, March 26, 2013 7:16 AM  
**To:** Rhoads, William T  
**Subject:** Re: [External] RE: NorthWestern Energy - Open Items

Let's speak late today.  
Todd

---

**From:** Rhoads, William T <[William.Rhoads@northwestern.com](mailto:William.Rhoads@northwestern.com)>  
**To:** Emery, Todd B PW  
**Cc:** Williams, James L Jr. <[JamesL.Williams@northwestern.com](mailto:JamesL.Williams@northwestern.com)>; Patrizzi, Michael J PW  
**Sent:** Mon Mar 25 09:31:23 2013  
**Subject:** [External] RE: NorthWestern Energy - Open Items

Todd: Good morning. I can imagine things are pretty hectic for PWPS with the transition to MHI.

Your note from March 13 indicated you would have an updated LTSA to us by last Wednesday. Wanted to make sure we are still on task. Towards the beginning of the year we targeted to be near completion with the LTSA by the end of March. We have a lot of work to do for review/consideration after we receive your next draft.

Could you give us a update regarding our receipt of the next draft LTSA?

As an FYI, the NWE 2012 Shareholders Report shows a picture of the PWPS FT-8 Aberdeen Peaking Unit, with a few pictures inside as well. <http://www.northwesternenergy.com/documents/investor/AnnualReport2012.pdf>

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [<mailto:todd.emery@pw.utc.com>]  
**Sent:** Wednesday, March 13, 2013 12:21 PM  
**To:** Rhoads, William T  
**Cc:** Williams, James L Jr.; Patrizzi, Michael J PW  
**Subject:** NorthWestern Energy - Open Items

Bill R.,

My apologies for lost time on LTSA discussions. I spoke to Mike P. this morning. Here are a few updates. I will lead on the LTSA, but I will ask that Mike P. lead on the other matters. Mike will reach for internal support as required.

- LTSA – Todd still needs to put some details together. Todd to provide info within a week, hopefully sooner.
- Power Turbine (current state) – PWPS reviewed hours and cycle data provided by NWE and reviewed with engineering. No concerns that any equipment is at risk currently.
- Power Turbine Modification – PWPS owes NWE a schedule for; PT Test, and installation of modification into remaining units

- Gas Generator 1A (high oil consumption) – PWPS continues with troubleshooting. CSE and CSM to review all troubleshooting to date and make recommendation for any final filed tests to conduct. Do not want to pull the engine until we are certain that the problem is not external to the GG. The start/stop of troubleshooting can result in something being overlooked, so I asked engineering to review the troubleshooting and data one more time.

Regards,

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1) do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Thursday, March 28, 2013 5:20 AM  
**To:** Rhoads, William T  
**Subject:** RE: [External] PWPS DGGG LOC

**Bill R.,**

I have reviewed your request internally, and have decided that it would be better for us not to pursue an amendment for extension. As you can imagine, the review and approval process for things out of the normal course of business is difficult, and I am trying to minimize what gets escalated to P&W Aircraft and MHI. We are at an unusually sensitive time with transition to MHI expected within 30 days or so. As I considered your request I also reflected on the goodwill and trust that our two organizations have established. I appreciate that perceptions could be improved with PWPS agreeing to amend, but in the end I had trouble justifying this request.

If any questions, please contact me.

Regards,

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Tuesday, March 26, 2013 7:47 PM  
**To:** Emery, Todd B PW  
**Subject:** [External] PWPS DGGG LOC

Todd: Could you review this and see if PWPS would accommodate an extension? See section 3B. and 4. Your consideration would be appreciated.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production Is Good Business!!!**

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Thursday, August 16, 2012 6:06 AM  
**To:** Rhoads, William T  
**Cc:** GUIDOTTI, HAROLD A ESI  
**Subject:** RE: Travel/Testing Update

Will do.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Thursday, August 16, 2012 7:56 AM  
**To:** Emery, Todd B PW  
**Cc:** GUIDOTTI, HAROLD A ESI  
**Subject:** RE: Travel/Testing Update

  
Thank you.

**Bill ("Dusty") Rhoads**  
*General Manager, Generation*  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Wednesday, August 15, 2012 12:11 PM  
**To:** Rhoads, William T  
**Cc:** GUIDOTTI, HAROLD A ESI  
**Subject:** RE: Travel/Testing Update

Bill R.,

Are we on for Thursday morning? What time is good for you? I think if we meet at 9 or so we will have plenty of time to discuss what we need to and have lunch. Also, I need to know who will be joining you so that I can arrange for badges.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Emery, Todd B PW  
**Sent:** Friday, August 10, 2012 6:43 AM  
**To:** Rhoads, William T  
**Cc:** GUIDOTTI, HAROLD A ESI  
**Subject:** RE: Travel/Testing Update

Bill,

Yes I am away on vaca, but trying to manage a few things along the way. It probably makes sense to meet in the morning 8 – 12. This way, you guys can catch an afternoon flight if you want, or I would be happy to host dinner if you are staying over. Harold G. and I can be flexible, so let me know your plans and I will work around your schedule.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Thursday, August 09, 2012 10:13 AM  
**To:** Emery, Todd B PW  
**Subject:** RE: Travel/Testing Update

Todd: I assume you are out on "vacation". We won't be ready to visit about the LTSA as we are still working through an initial draft of an LTSA Internally. I would mainly like to get an update (perhaps a repeat of what was already provided Jim) on the ramp rate, and then visit in some detail about schedule. I wouldn't expect the meeting to take all day, just a few hours.

You name the time that would be convenient for you and your folks to start the meeting next Thursday.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Thursday, August 09, 2012 4:07 AM  
**To:** Rhoads, William T  
**Cc:** Patrizzi, Michael J PW; GUIDOTTI, HAROLD A ESI; Williams, James L Jr.; Thompson, William W; Voeller, Mike; KOPF, STEPHEN J PW; MULAZZI, STEVE PW  
**Subject:** RE: Travel/Testing Update

**Bill R.,**  
We will be ready to meet with you on 8/16. Let me know if any plans need to change.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Wednesday, August 08, 2012 10:34 AM  
**To:** Emery, Todd B PW  
**Cc:** Patrizzi, Michael J PW; GUIDOTTI, HAROLD A ESI; Williams, James L Jr.; Thompson, William W; Voeller, Mike; KOPF, STEPHEN J PW; MULAZZI, STEVE PW  
**Subject:** Travel/Testing Update

Todd: A couple of things –

- 1.) Jim Williams, Mike Voeller, and the crew at DGGS and our SOCC have been working diligently to get our CPS2 value to a level that would accommodate the installation of the thermocouples next week. Jim and others are monitoring this closely, and Jim will contact Mike Patrizzi's back up customer support person Steve Mulazzi or

Stephen Kopf to close the test schedule. PWPS should be ready to execute the test plan next week pending a final decision to execute the plan on that schedule. If PWPS would like for Jim to coordinate through someone else, please let us know.

- 2.) A few of us still plan to visit PWPS next week on August 16<sup>th</sup>. Due to the test plan for next week, we are uncertain who will be traveling to East Hartford at this time.

Thank you, Todd. We appreciate PWPS's efforts.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Friday, September 28, 2012 4:34 PM  
**To:** Rhoads, William T  
**Cc:** Tymchenko, Tanya (LEGAL) PW; Thompson, William W  
**Subject:** RE: LTSA Meeting Date Availability

Thanks Bill. Will head home soon.

Tanya and I will plan to be available on 10/16.

You have a great weekend also.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Friday, September 28, 2012 6:03 PM  
**To:** Emery, Todd B PW  
**Subject:** RE: LTSA Meeting Date Availability

Todd: We are currently planning on 10/16. Finish by about 4 pm. Flight leaves Bradley Airport at 6:05 pm. Checking with Mike Callahan, outside counsel to see if these times work for his schedule.

GO HOME and have a wonderful weekend!

*Bill ("Dusty") Rhoads  
General Manager, Generation  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
Safe Production is Good Business!!!*

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Wednesday, September 26, 2012 3:41 PM  
**To:** Rhoads, William T  
**Subject:** RE: LTSA Meeting Date Availability

Okay. Let's tentatively plan 10/16.

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Wednesday, September 26, 2012 12:48 PM  
**To:** Emery, Todd B PW  
**Subject:** RE: LTSA Meeting Date Availability

Todd: From what I am hearing on the NWE side so far, the week of October 15<sup>th</sup> is shaping up to be the best week. Can you see what you can do on your end for that week? I would suggest starting on a Tuesday or Wednesday if possible. I will keep you posted.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Rhoads, William T  
**Sent:** Wednesday, September 26, 2012 10:28 AM  
**To:** 'Emery, Todd B PW'  
**Subject:** LTSA Meeting Date Availability

Todd: I am currently soliciting the NWE team for their availability over the next 3 weeks. I modified a form for your reference where you may want to indicate PWPS's availability. Otherwise, simply just e-mail me the dates your team is available. When I find out from NWE's team their availability, I will let you know as well so we can flange together a mutually acceptable date.

Thank you for our chat this morning.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

**Stauffer, Roberta (Bobbi)**

---

**From:** Rhoads, William T  
**Sent:** Friday, September 07, 2012 2:25 PM  
**To:** 'Emery, Todd B PW'  
**Cc:** Williams, James L Jr.; Thompson, William W; KOPF, STEPHEN J PW; 'Patrizzi, Michael J PW'  
**Subject:** NWE\_PWPS DGGGS Draft LTSA  
**Attachments:** LTSA with Pratt Whitney for DGGGS 090712.docx

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Todd: Please find attached our draft LTSA. The draft took a significant amount of time to put together as the draft LTSA is more than a typical maintenance agreement. In recognition of the impact on our ratepayers arising out of the failure of the power turbines, we have crafted an agreement that addresses both the commercial and regulatory issues caused by the power turbines' failures as well as the long term maintenance issues. Please remember that we are a fully regulated utility and that, as a result, we are differently situated from other PWPS customers.

In the interim, while we negotiate these issues, which could take some time, NWE would like a commitment from PWPS that the time spent working toward a final agreement will not count against the warranty period for the warranties associated with the power turbines and with the balance of the PWPS supplied equipment, and that the running of such warranty period will be tolled.

NWE appreciates PWPS's continued efforts related to determining the root cause for the turbine failure and ultimately the final repair. Please contact me to visit further about the LTSA.

Thank you.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Friday, August 31, 2012 6:17 AM  
**To:** Rhoads, William T  
**Subject:** RE: Northwestern - Update on info to share

Bill R.,  
Thanks best wishes to you for nice labor day.

I am a little concerned that NWE is spending so much time on language when we do not even have a fundamental understand of scope and price. Unclear to me why NWE is taking this approach. My suggestion would be to stick to a term sheet approach, so that we can reach an agreement in principal. It is quite unorthodox for a customer to draft language associated with a service supply agreement, in which the OEM is the one providing the services. I am truly puzzled. I will continue to standby.

On separate note, you should receive schedule today, and I am working to get two other pieces of info cleared for export marking that we discussed during your most recent visit to East Hartford; milestone schedule and instrumentation mapping.

Regards,

Todd Emery  
Director, FT8 Program  
cell (860) 324-3083, desk (860) 565-8082

---

**From:** Rhoads, William T [mailto:William.Rhoads@northwestern.com]  
**Sent:** Tuesday, August 28, 2012 11:58 AM  
**To:** Emery, Todd B PW  
**Subject:** RE: Northwestern - Update on info to share

Thank you, Todd. We have folks working on the LTSA and I agree this is beginning to lag (currently its pages long, not volumes long). I believe I indicated that our target was to get you something around September 1. Again, we are trying to sort through what we should have included, term, etc.

If we don't visit before the Labor Day, have a safe and enjoyable weekend.

**Bill ("Dusty") Rhoads**  
**General Manager, Generation**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3496 / Cell: 406-491-1802 / Fax: 406-497-3480  
**Safe Production is Good Business!!!**

---

**From:** Emery, Todd B PW [mailto:todd.emery@pw.utc.com]  
**Sent:** Monday, August 27, 2012 5:01 PM  
**To:** Rhoads, William T; Thompson, William W  
**Cc:** Patrizzi, Michael J PW; KOPF, STEPHEN J PW  
**Subject:** Northwestern - Update on Info to share

Bill R.,

Received note in the mail. Thank you for handwritten note. Don't see this too much anymore. This is a bit of your hallmark, and a nice one at that.

Bill^2,

Thank you again for taking the time to visit PWPS. Read recent article on NWE earnings, which seemed favorable, which is good for business overall. I have not forgotten that I owe you schedule and a few other details. I expect to have schedule with a day or two. Sorry for the delay. I am interested to receive something from NWE regarding LTSA.

Regards,

Todd B. Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

This message may contain proprietary information of United Technologies Corporation and its affiliated companies, including Pratt & Whitney Power Systems, Inc., and may not be disclosed to other parties. The message is intended only for the use of the named addressee(s). If you receive this message in error, please (1)

do not disclose, copy, distribute or use this information; (2) advise the sender by return email; and (3) delete all copies from your computer. Unauthorized disclosure, copying, distribution and/or use of this message or its contents is prohibited. Your cooperation is greatly appreciated.

This message is for the named person's use only. It may contain confidential, proprietary or legally privileged information. No confidentiality or privilege is waived or lost by any mistransmission. If you receive this message in error, please immediately delete it and all copies of it from your system, destroy any hard copies of it and notify the sender. You must not, directly or indirectly, use, disclose, distribute, print, or copy any part of this message if you are not the intended recipient. NorthWestern Corporation and its subsidiaries each reserve the right to monitor all e-mail communications through its network.

**Stauffer, Roberta (Bobbi)**

---

**From:** Emery, Todd B PW [todd.emery@pw.utc.com]  
**Sent:** Sunday, February 17, 2013 11:14 PM  
**To:** Rhoads, William T  
**Cc:** Voeller, Mike; Thompson, William W; Williams, James L Jr.; Patrizzi, Michael J PW  
**Subject:** RE: [External] FW: LTSA DATA  
**Attachments:** LTSA\_Proposal\_NWE, 2-17-13.docx

Bill R.,

Apologies for delay. Attached is the LTSA proposal in advance of our meeting on Tuesday. Let me know if we need to reschedule that meeting, due to me being a couple days late with the LTSA offer. Note that there are several embedded pdf files on last page of the MS Word file (page 6). 5 of the embedded docs are our standard T's and C's that we provide with all of our proposals. This is simply a starting point so that our proposal has terms. I would suggest we stick to scope and pricing and take up the terms and conditions in due course. The remaining 5 exhibits have decent info that may be worth taking a few minutes to understand.

I left annual price blank on page 5. I will provide the price under a separate e-mail.

<<LTSA\_Proposal\_NWE, 2-17-13.docx>>

I'll speak to you on Tuesday.

Todd Emery

Director, FT8 Program

cell (860) 324-3083, desk (860) 565-8082

**From:** Williams, James L Jr. [mailto:JamesL.Williams@northwestern.com]  
**Sent:** Friday, February 08, 2013 5:26 PM  
**To:** Thompson, William W; Rhoads, William T; Emery, Todd B PW  
**Cc:** Voeller, Mike  
**Subject:** [External] FW: LTSA DATA

Todd,

Please see attached the spreadsheet Mike put together. The greyed cells aren't calculated into the averages.

Thanks,

**Jim Williams Jr.**  
**Project Manager/Montana Production**  
NorthWestern Energy • 40 E. Broadway • Butte, MT 59701  
Office: 406-497-3190 / Cell: 406-533-8701/ Fax: 406-497-3480

e-mail: [JamesL.Williams@northwestern.com](mailto:JamesL.Williams@northwestern.com)

**From:** Voeller, Mike  
**Sent:** Friday, February 08, 2013 2:41 PM  
**To:** Williams, James L Jr.  
**Subject:** LTSA DATA

Jim, attached is the LTSA statistical data for Pratt, please review and forward on to Todd.

Thanks

---

Mike Voeller | Plant Manager | NAES Corporation Dave Gates Generating Station | Office 406-497-4680 | [www.naes.com](http://www.naes.com) |

**The following pages of PSC-108b Attachment 2 are protected in full per MPSC Protective Order No. 7219f:**

- **Page 6**
- **Pages 10-117**
- **Pages 120-146**

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-109

Regarding: Off System Transactions, Hedging  
Witness: Markovich

- a. Do any of the “fixed price energy supply market transactions” you refer to on page 3 or the “fixed price hedges entered into at the Mid C market” on page 4 of your rebuttal testimony *not* involve the physical delivery of power from the contractual counterparty to NorthWestern?
- b. If the answer to subpart a. is yes, please identify the counterparty, number of megawatts hours contracted for, and terms (including price) of any transaction in which the contractual counterparty does not physically deliver electricity to NorthWestern.
- c. Mr. Donkin expressed surprise that NWE does not closely follow with detailed calculations how its electric supply hedges are performing, and believes that invoices with counterparties should have been provided in response to MCC-003(b). On page 4 of your rebuttal testimony, you assert, “NWE closely follows how its electric supply hedges and hedging programs are performing.” Please provide any underlying data, including invoices, that enables NorthWestern to closely follow how transactions not involving the physical delivery of power from the contractual counterparty to NWE performed between July 2011 and June 2013.
- d. On page 4 of your rebuttal testimony, you state, “Evaluation of individual transactions could produce conclusions or recommendations that result in more rather than less risk to customers and it would provide little or no value in managing the future supply portfolio.” Please explain how evaluation of individual hedging transactions could produce conclusions that result in more risk to customers.

RESPONSE:

- a. No.
- b. Not applicable.
- c. See the response to part a, above.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-109 cont'd

- d. By viewing these transactions as “hedging gains and losses,” as Mr. Donkin proposes, the wrong conclusions may be made, resulting in less hedging (insurance) and in turn exposing customers to additional risk of bad outcomes.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-110

Regarding: Off System Transactions, Hedging  
Witness: Markovich

Exhibit\_(GLD-1) in George L. Donkin's direct testimony contains analysis of off-system transactions displayed in Exhibit\_(FVB-2)12\_13 in Frank V. Bennett's direct testimony.

- a. Do you consider the off-system transactions described in pp. 3-5 of Exhibit\_(FVB-2)12\_13 to be examples of hedging?
- b. For each off-system "Competitive Solicitation" or "Term" transaction listed in Exhibit\_(FVB-2)12\_13, p.3, rows 9-18, please provide a copy of the contract and, if applicable, the RFP or RFI from which it resulted.
- c. Please explain why the fixed price competitive solicitation purchases appear significantly more expensive than term fixed price purchases and the various index price sales. (See Exhibit\_(FVB-2)12\_13, p.5, rows 129, 132, 137-141.)

RESPONSE:

- a. The fixed price transactions are considered hedges.
- b. See Attachment.
- c. The difference is due to when the transaction was consummated, the duration, and the type of product, i.e. on-peak, off-peak, or around-the clock. Transactions entered into before the current recession and subsequent reduction in market prices will almost always be higher than current market prices. However, if forward market prices increase in the future, transactions entered into now for future delivery will be less than market prices at the time of delivery.



## **REQUEST FOR PROPOSALS - FIRM ELECTRICITY AND EXCHANGE**

**September 8, 2010**

By this Request for Proposal (RFP), NorthWestern Energy (NWE) invites proposals to provide firm electricity products and exchanges ("Firm Supply") to NWE for the purposes of providing reliable service to NWE's retail customers. This RFP is a request for proposals and no legal obligation will arise between NWE and any respondent absent a definitive final agreement executed by each party.

NWE will evaluate the proposals based on the following criteria:

**a) Compliance with Requirements**

The respondents must satisfy the specific requirements listed in this RFP document. Proposals not meeting the requirements of this RFP shall not be considered.

**b.) Price of Service**

NWE will only accept proposals that rely on a fixed dollar value or fixed price per Megawatt hour (MWh) over the entire term of the contract.

**c) Ability to Perform Service**

The respondent must provide documentation to support its ability to timely provide the Firm Supply in a manner consistent with the requirements described in this RFP. Some examples of documentation include: membership in WSPP, prior energy purchase/sales transactions with NWE, a description of a resource, with operational history, capable of providing the requested products, etc. NWE, at its sole discretion, will determine if a respondent is capable of providing the requested products(s).

## I. Requirements:

### A. Firm Supply

Firm Supply is defined as firm energy with Contingency (Operating) Reserves. When submitting its offer, respondents must acknowledge they will adhere to the standards, requirements, and rules of the Balancing Authority (BA) where the energy is delivered, particularly those involving responsibility for contingency reserves.

### B. Products Requested

NWE seeks Firm Supply proposals for the following volumes and terms:

#### Product #1: 50 MW On-Peak Purchase

Term: 7/1/2012 through 6/30/2017  
Volume: 50 MW per hour for each "On-Peak" hour  
Type: Firm Energy  
Delivery: See below  
Price: Must be a fixed price per MWh

#### Product #2: 50 MW On-Peak Energy Exchange

Term: 7/1/2012 through 6/30/2017  
Volume: Up to 50 MW for each "On-Peak" hour  
Type: Firm Energy for Firm Energy  
Delivery: NWE receives energy at any available interconnection point on the NWE Energy transmission system where NWE can take delivery pursuant to its existing Network Transmission Agreement. NWE delivers a like-kind of energy at the Mid Columbia trading hub.  
Price: Must be a fixed price per MWh paid to or received from NWE

"On-peak" hours are Hour Ending ("HE") 0700 through HE 2200 PPT, Monday through Saturday, excluding NERC holidays.

C. Delivery Points

NWE seeks offers which will deliver Firm Supply to: (1) Any available interconnection point on the NWE Energy transmission system where NWE can take delivery pursuant to its existing Network Transmission Agreement; or (2) at the Mid Columbia trading hub.

D. Pricing

NWE will only consider fixed price offers.

E. Contract

NWE intends to utilize industry standard agreements such as the WSPP, EEI, ISDA, or other similar standard agreements with the successful respondent(s).

Respondents may submit, provided the terms allow, their offer pursuant to an existing master agreement between itself and NWE. If there is not an acceptable enabling agreement between NWE and a respondent at the response deadline, the respondents offer will not be considered.

During the time this RFP is open, NWE will work with potential respondents to negotiate and sign a master agreement that would govern the terms of the transaction(s) if the respondent is successful. NWE makes no warranty that it will ensure an agreement is in place prior to the response deadline.

F. Credit

Each respondent will be required to provide a minimum of \$20 million in open credit specific to any commitments entered into under this RFP. NWE will negotiate other credit terms and conditions as necessary. NWE will not grant any credit to a respondent that does not meet its internal creditworthiness standards. NWE will, in its sole discretion, consider a letter of credit or some other acceptable form of collateral in the event a respondent does not meet NWE's creditworthiness standards. Respondents should indicate how credit will be addressed in their offers.

## II. RFP Responses

### 1. Response Development and Presentation

On the attached offer sheets, or as a separate attachment, respondents should provide special conditions or qualifications including but not limited to:

- a) Definition of Terms used in the response

- b) Description of Firm Supply to be provided
- c) Scheduling and Tagging Provisions.
- d) Pricing
- e) Non-Price Terms and Conditions
- f) Administrative Matters as Appropriate at the Proposal level
- h) Contact Person (mailing address, fax, phone, e-mail).
- i) Respondents submitting offers must hold open the offer until the Award Notification date (September 22). At that time verbal, telephonically recorded confirmations will be made pending final written agreements.

Responses that fail to meet the foregoing criteria and the minimum requirements set out in Section II shall be deemed incomplete and rejected from consideration.

## 2. Responses

It is expected that potential suppliers will respond by e-mail on or before the deadline to Kevin Markovich at the email address provided below.

Offers may be made on any or both products. NWE will select the combination of offers that provides the highest value to NWE.

## 3. Deadline to Respond

*All offers are due by 3:00 pm Mountain time on Tuesday, September 21, 2010. All offers must remain valid until 9:00 pm Mountain time on Tuesday, September 21, 2010. Verbal confirmations of selected offers will occur prior to 9:00 pm on September 21, 2010.*

## III. **Proposed Timeline**

This is an estimate only and may vary for a variety of reasons.

The proposed procurement and selection process will be carried out in accordance with the following schedule:

<u>Activity</u>	<u>Date</u>
RFP Issued	9/08/2010

Submission Deadline  
Award Notification

9/21/2010  
9/21/2010

**NWE Reserves the right to modify all or part of this proposed schedule at any time during the RFP process.**

#### **IV. Selection**

NWE reserves the right, in its sole discretion: (1) to select some or none of the proposals; (2) to modify, revise, amend, or otherwise change the requirements of this RFP and (2) to withdraw, in whole or in part, without notice, this RFP. This is an RFP and no binding legal obligation will be entered into unless and until the successful bidder and NWE negotiate and execute a definitive agreement.

#### **V. Confidentiality**

Because NWE is a regulated entity, NWE may be required to release RFP information to the appropriate regulatory authorities and other intervening parties during the course of future regulatory proceedings. NWE will not seek protection on behalf of any Respondent for the information contained in any bid.

#### **VI. Contacts**

Questions regarding this RFP should be directed to:

Kevin Markovich  
[Kevin.Markovich@northwestern.com](mailto:Kevin.Markovich@northwestern.com)  
Phone: 406-497-3336  
Cell: 406-490-3284  
Fax: 406-497-2629

Credit questions should be directed to:

Dennis Heinz  
[Dennis.Heinz@northwestern.com](mailto:Dennis.Heinz@northwestern.com)  
Phone: 605-353-7517  
Cell: 605-354-2163  
Fax: 605-353-7569



## **REQUEST FOR PROPOSALS - FIRM ELECTRICITY AND EXCHANGE**

**September 30, 2011**

By this Request for Proposal (RFP), NorthWestern Energy (NWE) invites proposals to provide firm electricity products and exchanges ("Firm Supply") to NWE for the purposes of providing reliable service to NWE's retail customers in its Montana Balancing Authority. No legal obligation will arise between NWE and any respondent absent a definitive final agreement executed by each party.

NWE is seeking up to 100 MW of Firm Supply for the period of January 1, 2013 through December 31, 2014, as described in more detail below.

NWE will evaluate the proposals based on the following criteria:

**A. Compliance with Requirements**

The respondents must satisfy the specific requirements listed in this RFP document. Proposals not meeting the requirements of this RFP shall not be considered.

**B. Price of Service**

NWE will accept proposals that rely on a fixed dollar value or fixed price per Megawatt hour (MWh) or proposals based on the Intercontinental Exchange (ICE) day-ahead index for Mid C Peak and Mid C Off-Peak transactions.

**C. Delivery Points**

NWE seeks offers which will deliver Firm Supply to: (1) Any available interconnection point on the NWE Energy transmission system where NWE can take delivery pursuant to its existing Network Transmission Service on the NWE transmission system or (2) at the Mid Columbia trading hub.

**D. Contract**

NWE intends to utilize industry standard agreements such as the WSPP, EEI, ISDA, or other similar standard agreements with the successful respondent(s). Respondent may submit, provided the terms allow, its offer pursuant to an existing master agreement between itself and NWE. If there is not an acceptable enabling agreement between NWE and a respondent at the response deadline, the respondent's offer will not be considered.

**Potential respondents that do not currently have a master agreement in place should notify NWE by October 5 of their intent to respond.** During the time this RFP is open, NWE will work in good faith to negotiate and execute a master agreement that would govern the terms of the transaction(s) if the respondent is successful. NWE makes no warranty that an enabling agreement will be negotiated and executed prior to the response deadline.

**F. Credit**

Each respondent will be required to provide NWE a minimum of \$20 million in open credit for the full RFP quantity (or a proportional amount if the respondent offers a lower quantity), either through an existing agreement, additional credit through an existing agreement, or through an arrangement specific to this transaction. NWE will not grant any credit to a respondent that does not meet its internal creditworthiness standards. NWE will, in its sole discretion, consider a letter of credit or some other acceptable form of collateral in the event a respondent does not meet NWE's creditworthiness standards. Respondents should indicate how credit will be addressed in their offers.

**I. Requirements:**

**A. Firm Supply**

Firm Supply is defined as firm energy with Contingency (Operating) Reserves. By submitting its offer, a respondent acknowledges that it will adhere to the standards, requirements, and rules of the WECC and the Balancing Authority (BA) where the energy is delivered, particularly those involving responsibility for contingency reserves.

**B. Products Requested**

NWE seeks Firm Supply proposals for the following volumes and terms:

**Product #1: On-Peak Fixed Price Purchase**

Term: 1/1/2013 through 12/31/2014 (2 Years)  
Volume: Fixed quantity of up to 100 MW in 25 MW increments  
Type: Firm Energy  
Delivery: Mid-C or NWE System as described above  
Price: Must be a fixed price per MWh

**Product #2: Off-Peak Fixed Price Purchase**

Term: 1/1/2013 through 12/31/2014 (2 Years)  
Volume: Fixed quantity of up to 100 MW in 25 MW increments  
Type: Firm Energy  
Delivery: Mid-C or NWE System as described above  
Price: Must be a fixed price per MWh

**Product #3: On-Peak Index Based Purchase**

Term: 1/1/2013 through 12/31/2014 (2 Years)  
Volume: Fixed quantity of up to 100 MW in 25 MW increments  
Type: Firm Energy  
Delivery: NWE System as described above  
Price: Based on the ICE day-ahead Mid C Peak index plus or minus a fixed amount per MWh.

**Product #4: Off-Peak Index Based Purchase**

Term: 1/1/2013 through 12/31/2014 (2 Years)  
Volume: Fixed quantity of up to 100 MW in 25 MW increments  
Type: Firm Energy  
Delivery: NWE System as described above  
Price: Based on the ICE day-ahead Mid C Off-Peak index plus or minus a fixed amount per MWh.

**Product #5: On-Peak Exchange**

Term: 1/1/2013 through 12/31/2014 (2 Years)  
Volume: Fixed quantity of up to 100 MW in 25 MW increments  
Type: Firm Energy for Firm Energy  
Delivery: NWE receives energy at any available interconnection point on the NWE transmission system where NWE can take delivery pursuant to its existing Network Transmission Service with the NWE Balancing Authority. NWE delivers a like-quantity of energy at the Mid Columbia trading hub.

Price: Must be a fixed price per MWh paid to or received from NWE

**Product #6: Off-Peak Exchange**

Term: 1/1/2013 through 12/31/2014 (2 Years)

Volume: Fixed quantity of up to 100 MW in 25 MW increments

Type: Firm Energy for Firm Energy

Delivery: NWE receives energy at any available interconnection point on the NWE transmission system where NWE can take delivery pursuant to its existing Network Transmission Service with the NWE Balancing Authority. NWE delivers a like-quantity of energy at the Mid Columbia trading hub.

Price: Must be a fixed price per MWh paid to or received from NWE

## II. RFP Responses

### 1. Response Development and Presentation

On the attached offer sheets, or as a separate attachment, if warranted, respondents should provide special conditions or qualifications including but not limited to:

- a) Definition of Terms used in the response
- b) Description of Firm Supply to be provided
- c) Scheduling and Tagging Provisions.
- d) Pricing
- e) Non-Price Terms and Conditions
- f) Administrative Matters as Appropriate at the Proposal level
- h) Contact Person (mailing address, fax, phone, e-mail).
- i) Respondents submitting offers must hold open the offer until the Award Notification date and time. At that time, verbal, telephonically recorded confirmations will be made pending final written agreements.

Responses that fail to meet the foregoing criteria and the minimum requirements set out in Section II shall be deemed incomplete and rejected from consideration without notification or justification to respondent.

## **2. Responses**

It is expected that potential suppliers will respond by e-mail prior to the deadline to Kevin Markovich at the email address provided below.

Offers may be made on any or all products. NWE will select the combination of offers that it determines provides the highest value to NWE customers.

## **3. Schedule and Deadline to Respond**

The proposed procurement and selection process will be carried out in accordance with the following schedule:

<u>Activity</u>	<u>Time and Date</u>
RFP Issued	9/30/2011
Submission Deadline	3:00 pm MDT on 10/12/2011
Award Notification	4:00 pm MDT on 10/12/2011

All offers are due by 3:00 pm MDT on Wednesday, October 12, 2011. All offers must remain valid until 4:00 pm MDT on Wednesday, October 12, 2011.

NWE will notify successful bidders, if any, by 4:00 pm on October 12, 2011.

**NWE Reserves the right to modify all or part of this proposed schedule at any time during the RFP process.**

## **III. Selection**

NWE reserves the right, in its sole discretion: (1) to select some or none of the proposals; (2) to modify, revise, amend, or otherwise change the requirements of this RFP and (3) to withdraw, in whole or in part, without notice, this RFP. This is an RFP and no binding legal obligation will be entered into unless and until the successful bidder and NWE negotiate and execute a definitive agreement.

## **IV. Confidentiality**

NWE may be required to release RFP information to the appropriate regulatory authorities and other intervening parties during the course of future regulatory proceedings. NWE will not seek protection on behalf of any Respondent for the information contained in any bid.

## V. Contacts

Questions regarding this RFP should be directed to:

Kevin Markovich  
[Kevin.Markovich@northwestern.com](mailto:Kevin.Markovich@northwestern.com)  
Phone: 406-497-3336  
Cell: 406-490-3284  
Fax: 406-497-2629

Credit questions should be directed to:

Dennis Heinz  
[Dennis.Heinz@northwestern.com](mailto:Dennis.Heinz@northwestern.com)  
Phone: 605-353-7517  
Cell: 605-354-2163  
Fax: 605-353-7560



Merrill Lynch Commodities, Inc., 20 E Greenway Plaza, 7th Floor, Houston, TX 77046

NORTHWESTERN CORPORATION  
3010 W. 69th Street  
Sioux Falls, SD 57108  
Attn: Confirmations Department  
Phone: 605-353-7517  
Fax: 605 353 7569

**Physical Power Fixed Price Confirmation**  
**Trade ID: 3688225 (Original Version)**

This letter shall confirm the agreement reached on 10/13/2011 between Merrill Lynch Commodities, Inc. ("MLC") and NORTHWESTERN CORPORATION ("Northwestern") regarding the purchase/sale of Electric Energy under the terms and conditions as follows:

<b>Seller:</b>	Merrill Lynch Commodities, Inc.
<b>Buyer:</b>	NORTHWESTERN CORPORATION
<b>Commodity:</b>	Power
<b>Contract Quantity:</b>	25 Megawatt-hour, Total: 192,400 Megawatt-hour
<b>Price per MWH:</b>	USD 30.50 per Megawatt-hour
<b>Scheduling Period:</b>	(HE: 01:00 through HE: 06:00, 23:00 - 24:00), (01:00 - 24:00) PPT, off-peak (Monday through Saturday) (Sunday) Pacific Prevailing Times, including NERC holidays
<b>Delivery Point:</b>	MC
<b>Delivery Period:</b>	01/01/2013 through 12/31/2014
<b>Product Type:</b>	Firm LD, WSPP Schedule C
<b>Scheduling:</b>	Schedule Prior business Day by 1100 CPT: (1-800-650 9288)

**Please sign and return by facsimile within two (2) business days to fax number 713-544-1507.**



This confirmation is being provided in accordance with the ISDA dated (31 December 2010) ("Agreement") and shall constitute part of and is subject to the terms and provisions of such Agreement. Failure to object to this confirmation within 2 (two) Business Days shall be deemed an acceptance of the terms contained herein, as provided by and in accordance with the terms and conditions of the Agreement.

Merrill Lynch Commodities, Inc.

NORTHWESTERN CORPORATION

*Cyril S. Fisher*

*Dawn M. Petritz*

Dawn M. Petritz  
Director Energy Risk Management  
10/20/11





909 Fannin, Plaza Level 1  
 Houston, TX 77010  
 713.767.5400

October 17, 2011

Deal No. 1922501

NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY  
 40 EAST BROADWAY,  
 BUTTE, MT 59701  
 Fax: 1-651-305-8138

CONFIRMATION AGREEMENT

This confirmation agreement (this "Confirmation" or "Agreement") shall confirm the agreement reached on October 14, 2011, between Shell Energy North America (US), L.P. ("Shell Energy") and NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY ("CounterParty") (herein sometimes referred to as a "Party" and collectively as the "Parties") regarding the sale of electric capacity and/or electric energy under the terms and conditions set forth below.

BUYER: Shell Energy North America (US), L.P.  
 SELLER: NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY  
 PRODUCT/FIRMNESS: FIRM  
 TERM: 01/01/2013 through 12/31/2013  
 QUANTITY: 50 Mws of energy per hour  
 PRICE: (PRICE/MIDC OFF/DAILY)+0/Mwhr Index  
 DELIVERY POINT(S): MID-C  
 SCHEDULING: Monday thru Saturday, Hours ending 0100 thru 0600; Monday thru Saturday, Hours ending 2300 thru 2400; NERC Holidays, Hours ending 0100 thru 2400; Sunday thru Sunday, Hours ending 0100 thru 2400  
 TIME ZONE: PPT  
 TOTAL MWH: 192,400

SUBJECT TO MASTER AGREEMENT DATED: 03/01/2007

This Confirmation sets forth the terms of the transaction into which the Parties have entered into and shall constitute the entire agreement between the Parties relating to the contemplated purchase and sale of electric energy and/or electric capacity. Please have this confirmation executed by an authorized representative or officer of your company and return via facsimile to (713)767-5414. If no facsimile objection to this Confirmation has been received by Shell Energy by facsimile transmission by 5:00 p.m., Houston, Texas time, five (5) business days after delivery of this Confirmation to the other Party by facsimile, then this Confirmation (i) shall be binding and enforceable against Counterparty and Shell Energy and (ii) shall be the final expression of all the terms hereof, regardless whether executed by the other Party.

NORTHWESTERN CORPORATION DBA  
 NORTHWESTERN ENERGY

Shell Energy North America (US), L.P.

By: *Dawn M. Petritz*  
 Name: Dawn M. Petritz  
 Title: Director Energy Risk Management  
 Date: 10/19/11

By: *Patricia Butler*  
 Name: Patricia Butler  
 Title: Contracts Manager, Energy Administration  
 Date: 10/17/2011

- Page 1 of 3 -



5 The North Colonnade  
Canary Wharf  
London E14 4BB  
United Kingdom  
Tel +44 (0)20 7623 2323

To: Northwestern Corporation  
125 South Dakota Avenue  
Sioux Falls  
United States  
SD 57104-6403

Attention: John M. Smith  
Facsimile Number: 0016513058138  
Email Address:  
Date: 18 October, 2011  
Reference: Z7741997

**POWER TRANSACTION**

**CONFIRMATION (Floating Price)**

The purpose of this facsimile (this "Confirmation") is to confirm the terms and conditions of the Transaction described below, entered into between Barclays Bank PLC (London Head Office) ("Barclays") and Northwestern Corporation (the "Counterparty") on the date ("Date Date") specified below (the "Transaction").

This Confirmation supersedes any previous Confirmation or other written communication with respect to the Transaction described below and evidences a complete binding agreement between you and us as to the terms of the Transaction described below. This Confirmation constitutes a "Confirmation" as referred to in the Agreement specified below.

This Confirmation supplements, forms a part of, and is subject to the ISDA Master Agreement dated as of 17 September, 2009, as amended and supplemented from time to time (the "Agreement") between you and us. All provisions contained in the Agreement govern this Confirmation except as expressly modified below.

In the event of any inconsistency between this Confirmation and any other relevant governing document, this Confirmation will govern for purposes of the Transaction. Capitalized terms used in this Confirmation and not defined in this Confirmation shall have the respective meanings assigned in the Agreement.

Each party represents to the other party that (absent a written agreement between the parties that expressly imposes affirmative obligations to the contrary):

- (a) Purpose. It is entering into the Transaction for the purposes of hedging its assets or liabilities or in connection with a line of business.

The terms of the particular Transaction to which this Confirmation relates are as follows:

Barclays Capital - the investment banking division of Barclays Bank PLC, Registered in England 1026187,  
Registered office 1 Churchill Place, London E14 5HR. Authorized and regulated by the Financial Services Authority and a member of the  
London Stock Exchange.



- Page 2 of 3 -

Trade Date: 13 October, 2011

Broker: Tullett Prehon Americas Corporation

Seller: Counterparty

Buyer: Barclays

Product: Mid Columbia, Firm Energy (LD)

Contract Quantity: "Contract Quantity" shall mean in respect of the Delivery Period, the product of the Quantity and the total number of hours in such Delivery Period, expressed in MWh. For the purposes of this Transaction, this amount will be 245,600.00 MWh.

Quantity: 50.00 MW per hour

Delivery Point: Mid Columbia

Contract Price: An amount in USD calculated as the sum of the Energy Prices in respect of each hour within the Delivery Period.

Energy Price: In respect of each hour within the Delivery Period, an amount in USD calculated as the product of (i) the Commodity Reference Price; and (ii) the Quantity, each in respect of such hour.

Calculation Period(s): Each calendar month during the Term of the Transaction from, and including, the first calendar day of each calendar month to, and including, the last calendar day of such calendar month except that (a) the initial Calculation Period shall commence on, and include, the Effective Date, and the final Calculation Period shall end on, and include, the Termination Date.

Delivery Period: In respect of each Monday to Saturday inclusive therein, from and including 01 January, 2013 to and including 31 December, 2013, each of the sixteen (16) "peakload" hours during such day, beginning at and including the hour ending 07:00 hours Pacific Prevailing time and ending at and including the hour ending 22:00 hours Pacific Prevailing time on such day. Excluding NERC Holidays

Commodity Reference Price: ELECTRICITY-MID CPEAK-ICE/10X DAILY-POWER

Price Source: ICE/10X DAILY-POWER



\*Page 3 of 3\*

Calculation Agent: Barclays

Other Charges: Not applicable

Special Conditions: Not applicable

Scheduling: Toll free 24-hour no.: +1 (0) 866-861-047E (Real Time)  
+1 (0) 866-304-2113 (Day Ahead)

The time of dealing will be confirmed by Barclays Bank PLC upon written request.

Please confirm that the foregoing correctly sets forth all the terms and conditions of our agreement with respect to the Transaction by responding within two (2) Business Days by promptly signing in the space provided below and faxing the signed copy to Barclays, Commodities Documentation Group, Americas - toll-free facsimile number (from USA) 1 877 354 8065, contact Michelle Stevens, telephone 001 713 401 6750, email uspowertgasconfirms@barcap.com / gdmisda@barcap.com / uscommoditiesderivs@barcap.com, Asia Pac - facsimile number 0065 5308 7890, EMEA - facsimile number 0044 (0)207 516 7484. Your failure to respond within such period shall not affect the validity or enforceability of the Transaction as against you. This facsimile shall be the only Confirmation documentation in respect of this Transaction and accordingly no hard copy versions of this Confirmation for this Transaction shall be provided unless the Counterparty requests.

For and on behalf of  
BARCLAYS BANK PLC

For and on behalf of  
NORTHWESTERN CORPORATION

Michelle Stevens

NAME: Michelle Stevens  
Authorized Signatory  
Date: 19 October 2011

NAME: Dawn M. Petritz  
Authorized Signatory Director Energy Risk Management  
Date: 10/19/11



- Page 1 of 4 -



5 The North Colonnade  
Canary Wharf  
London E14 4BB  
United Kingdom  
Tel +44 (0)20 7623 2323

**To:** Northwestern Corporation  
125 South Dakota Avenue  
Sioux Falls  
United States  
SD 57104-6403

**Attention:** John M. Smith  
**Facsimile Number:** 00165 13058138  
**Date:** 18 October, 2011  
**Reference:** 27742001

**POWER TRANSACTION**  
**CONFIRMATION (Floating Price)**

The purpose of this facsimile (this "Confirmation") is to confirm the terms and conditions of the Transaction described below, entered into between Barclays Bank PLC (London Head Office) ("Barclays") and Northwestern Corporation (the "Counterparty") on the date ("Trade Date") specified below (the "Transaction").

This Confirmation supersedes any previous Confirmation or other written communication with respect to the Transaction described below and evidences a complete binding agreement between you and us as to the terms of the Transaction described below. This Confirmation constitutes a "Confirmation" as referred to in the Agreement specified below.

This Confirmation supplements, forms a part of, and is subject to the ISDA Master Agreement dated as of 17 September, 2009, as amended and supplemented from time to time (the "Agreement") between you and us. All provisions contained in the Agreement govern this Confirmation except as expressly modified below.

In the event of any inconsistency between this Confirmation and any other relevant governing document, this Confirmation will govern for purposes of the Transaction. Capitalized terms used in this Confirmation and not defined in this Confirmation shall have the respective meanings assigned in the Agreement.

Each party represents to the other party that (absent a written agreement between the parties that expressly imposes affirmative obligations to the contrary):

- (a) **Purpose.** It is entering into the Transaction for the purposes of hedging its assets or liabilities or in connection with a line of business.

The terms of the particular Transaction to which this Confirmation relates are as follows:



- Page 2 of 4 -

Trade Date: 13 October, 2011

Broker: Tullett Prebon Americas Corporation

Seller: Counterparty

Buyer: Barclays

Product: Mid Columbia, Firm Energy (LD)

Contract Quantity: "Contract Quantity" shall mean in respect of the Delivery Period, the product of the Quantity and the total number of hours in such Delivery Period, expressed in MWh. For the purposes of this Transaction, this amount will be 192,400.00 MWh.

Quantity: 50.00 MW per hour

Delivery Point: Mid Columbia

Contract Price: An amount in USD calculated as the sum of the Energy Prices in respect of each hour within the Delivery Period.

Energy Price: In respect of each hour within the Delivery Period, an amount in USD calculated as the product of (i) the Commodity Reference Price; and (ii) the Quantity, each in respect of such hour.

Calculation Period(s): Each calendar month during the Term of the Transaction from, and including, the first calendar day of each calendar month to, and including, the last calendar day of such calendar month except that (a) the initial Calculation Period shall commence on, and include, the Effective Date, and the final Calculation Period shall end on, and include, the Termination Date.



- Page 3 of 4 -

**Delivery Period:**

In respect of:

(i) each day Monday to Saturday inclusive therein, but excluding North American Electric Reliability Council ("NERC") holidays, from and including 01 January, 2013 to and including 31 December, 2013, each of the eight (8) "Off-Peak" hours during each day, (a) beginning at and including the hour ending 01:00 hours Pacific Prevailing time and ending at and including the hour ending 06:00 hours Pacific Prevailing time on such day; and (b) beginning at and including the hour ending 23:00 hours Pacific Prevailing time and ending at and including the hour ending 24:00 hours Pacific Prevailing time on such day;

and

(ii) each Sunday inclusive therein, and each official NERC holiday, from and including 01 January, 2013 to and including 31 December, 2013, and each official NERC holiday, each of the (24) "Off-Peak" hours comprising such day, beginning at and including the hour ending 01:00 hours Pacific Prevailing time and ending at and including the hour ending 24:00 hours Pacific Prevailing time on such day.

**Commodity Reference Price:**

ELECTRICITY-MID C OFF-PEAK-ICE/10X  
DAILY-POWER

**Price Source:**

ICE/10X DAILY-POWER

**Calculation Agent:**

Barclays

**Other Charges:**

Not applicable

**Special Conditions:**

Not applicable

**Scheduling:**

Toll free 24-hour no.: +1 (0) 866-861-0478 (Real Time)  
+1 (0) 866-304-2113 (Day Ahead)

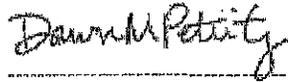
The time of dealing will be confirmed by Barclays Bank PLC upon written request.



Please confirm that the foregoing correctly sets forth all the terms and conditions of our agreement with respect to the Transaction by responding within two (2) Business Days by promptly signing in the space provided below and faxing the signed copy to Barclays, Commodities Documentation Group, America - toll-free facsimile number (from USA) 1 877 354 8065, contact Mechelle Stevens, telephone 001 713 401 6750, email [uspowergasconfirms@barcap.com](mailto:uspowergasconfirms@barcap.com) / [gtdmista@barcap.com](mailto:gtdmista@barcap.com) / [uscommoditiesderive@barcap.com](mailto:uscommoditiesderive@barcap.com), Asia Pac - facsimile number 0065 6308 7890, EMEA - facsimile number 0044 (0)207 516 7484. Your failure to respond within such period shall not affect the validity or enforceability of the Transaction as against you. This facsimile shall be the only Confirmation documentation in respect of this Transaction and accordingly no hard copy versions of this Confirmation for this Transaction shall be provided unless the Counterparty requests.

For and on behalf of  
BARCLAYS BANK PLC

For and on behalf of  
NORTHWESTERN CORPORATION

  
Mechelle Stevens

NAME: Mechelle Stevens  
Authorised Signatory  
Date: 19 October 2011

NAME: Dawn M. Petritz  
Authorised Signatory  
Date: 10/19/11  
Director Energy Risk Management





909 Fannin, Plaza Level 1  
 Houston, TX 77010  
 713.767.5400

October 17, 2011

Deal No. 1922500

NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY  
 40 EAST BROADWAY,  
 BUTTE, MT 59701  
 Fax: 1-651-305-8138

CONFIRMATION AGREEMENT

This confirmation agreement (this "Confirmation" or "Agreement") shall confirm the agreement reached on October 14, 2011, between Shell Energy North America (US), L.P. ("Shell Energy") and NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY ("CounterParty") (herein sometimes referred to as a "Party" and collectively as the "Parties") regarding the sale of electric capacity and/or electric energy under the terms and conditions set forth below.

BUYER:	Shell Energy North America (US), L.P.
SELLER:	NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY
PRODUCT/FIRMNESS:	FIRM
TERM:	01/01/2013 through 01/31/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	02/01/2013 through 02/28/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	03/01/2013 through 03/31/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	04/01/2013 through 04/30/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	05/01/2013 through 05/31/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays

Deal No. 1922500

TERM:	06/01/2013 through 06/30/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	07/01/2013 through 07/31/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	08/01/2013 through 08/31/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	09/01/2013 through 09/30/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	10/01/2013 through 10/31/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	11/01/2013 through 11/30/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TERM:	12/01/2013 through 12/31/2013
QUANTITY:	50 Mws of energy per hour
PRICE:	((ICE MIDC ON DAILY]+0)/Mwhr Index
DELIVERY POINT(S):	MID-C
SCHEDULING:	Monday thru Saturday, Hours ending 0700 thru 2200 Excluding NERC Holidays
TIME ZONE:	PPT
TOTAL MWH:	245,600
SUBJECT TO MASTER AGREEMENT DATED: 03/01/2007	

Deal No. 1022500

This Confirmation sets forth the terms of the transaction into which the Parties have entered into and shall constitute the entire agreement between the Parties relating to the contemplated purchase and sale of electric energy and/or electric capacity. Please have this confirmation executed by an authorized representative or officer of your company and return via facsimile to (713)767-5414. If no facsimile objection to this Confirmation has been received by Shell Energy by facsimile transmission by 5:00 p.m., Houston, Texas time, five (5) business days after delivery of this Confirmation to the other Party by facsimile, then this Confirmation (i) shall be binding and enforceable against Counterparty and Shell Energy and (ii) shall be the final expression of all the terms hereof, regardless whether executed by the other Party.

NORTHWESTERN CORPORATION DBA  
NORTHWESTERN ENERGY

Shell Energy North America (US), L.P.

By:

*Dawn M. Petritz*

By:

*Patricia Butler*

Name:

Dawn M. Petritz

Name:

Patricia Butler

Title:

Director Energy Risk Management

Title:

Contracts Manager, Energy Administration

Date:

10/19/11

Date:

10/17/2011

<id>NWENL1-051-305-8138</id>

<billinfo2.010113 123113>

<oname>NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY</oname>

<billinfo1:1022500>

<ocompany>NORTHWESTERN CORPORATION DBA NORTHWESTERN ENERGY</ocompany>



# Cargill Power Markets, LLC

9350 Excelsior Blvd, MS#150  
Hopkins, MN 55343

Mail Address: P.O. Box 5653  
Minneapolis, MN 55440-5653

DATE: February 22, 2012

Please fax confirms for NorthWestern Energy to 651-305-8138

TO: NorthWestern Corporation d/b/a NorthWestern Energy  
Confirmations  
FAX: 4064972529

CONFIRMATION # FZJ499-D  
Internal Reference # 131321997

This Confirmation (this "Confirmation") is being provided pursuant to and in accordance with the EET Master Power Purchase & Sale Agreement dated October 1, 2011 between Cargill Power Markets, LLC ("CPM") and NorthWestern Corporation d/b/a NorthWestern Energy ("Counterparty") (the "Agreement") and constitutes part of and is subject to all of the terms and provisions of the Agreement. Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. In the case of a conflict or inconsistency between the terms of this Confirmation and the terms of the Agreement, the terms of this Confirmation shall govern.

This Confirmation confirms the agreement reached between CPM and Counterparty regarding the purchase/sale of electricity upon the terms and conditions set forth herein.

<b>Transaction Date:</b>	February 22, 2012	<b>Buyer:</b>	NorthWestern Corporation d/b/a NorthWestern Energy
<b>Transaction Type:</b>	Firm Liquidated Damages	<b>Seller:</b>	CPM
<b>Start Date:</b>	July 1, 2012	<b>Broker:</b>	Tullet Prebon Americas Corp.
<b>End Date:</b>	July 31, 2012	<b>Delivery Point:</b>	Mid Columbia
<b>Total MWH:</b>	20,000 MWH		

Start Date	End Date	Notional Quantity:	Days:	Period:	Fixed Price:
1-Jul-12	31-Jul-12	50 MW per hour	Mon/Tue/Wed/Thu/Fri/Sat only, excluding NERC Holidays.	HE 07:00 - 22:00 PPT	\$27.0000 / MW / HOUR

Scheduling shall occur no later than 2 p.m. Pacific Prevailing Time on the Business Day before the next delivery day. If interface capacity is not available at the designated Delivery Point (at the time of scheduling), Seller shall either (a) schedule delivery to a mutually acceptable alternate delivery point with available capacity, or (b) notify Buyer of its inability to perform, though such inability shall not excuse Seller from its delivery obligations hereunder.

If you are not in agreement with the terms and conditions as specified above, please advise by return facsimile within two (2) Business Days of receipt. Failure to object within the designated time shall constitute acceptance of the same.

CPM hereby adopts as its signature its letterhead above as its signature for this Confirmation and for, and with the intention of authenticating, this Confirmation.

Cargill Power Markets, LLC

NorthWestern Corporation d/b/a NorthWestern Energy

Kristine Olmschek

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

Contact Information

Phone: (952) 954-3070 / 954-3525  
Fax: (952) 387-0919  
Email: powerconfirmations@cargill.com

Phone: \_\_\_\_\_

Dawn M. Petritz  
Director Energy Risk Management  
2/27/12

www.powerconfirmations.com



# Cargill Power Markets, LLC

9350 Excelsior Blvd, MS#150  
 Hopkins, MN 55343

Mail Address: P.O. Box 3653  
 Minneapolis, MN 55440-5653

DATE: February 24, 2012

Please fax confirms for NorthWestern Energy to 651-305-8138

TO: NorthWestern Corporation d/b/a NorthWestern Energy  
 Confirmations  
 FAX: 4084972629

CONFIRMATION # FZN872-D  
 Internal Reference # 131330702

This Confirmation (this "Confirmation") is being provided pursuant to and in accordance with the EEl Master Power Purchase & Sale Agreement dated October 1, 2011 between Cargill Power Markets, LLC ("CPM") and NorthWestern Corporation d/b/a NorthWestern Energy ("Counterparty") (the "Agreement") and constitutes part of and is subject to all of the terms and provisions of the Agreement. Terms used but not defined herein shall have the meanings ascribed to them in the Agreement. In the case of a conflict or inconsistency between the terms of this Confirmation and the terms of the Agreement, the terms of this Confirmation shall govern.

This Confirmation confirms the agreement reached between CPM and Counterparty regarding the purchase/sale of electricity upon the terms and conditions set forth herein.

<b>Transaction Date:</b>	February 24, 2012	<b>Buyer:</b>	NorthWestern Corporation d/b/a NorthWestern Energy
<b>Transaction Type:</b>	Firm Liquidated Damages	<b>Seller:</b>	CPM
<b>Start Date:</b>	July 1, 2012	<b>Broker:</b>	Tullet Prebon Americas Corp.
<b>End Date:</b>	July 31, 2012	<b>Delivery Point:</b>	Mid Columbia
<b>Total MWH:</b>	20,000 MW		

Start Date	End Date	Notional Quantity:	Days:	Period:	Fixed Price:
1-Jul-12	31-Jul-12	50 MW per hour	Mon/Tue/Wed/Thu/Fri/Sat only, excluding NERC Holidays.	HE 07:00 - 22:00 PPT	\$26.0000 / MW / HOUR

Scheduling shall occur no later than 2 p.m. Pacific Prevailing Time on the Business Day before the next delivery day. If interface capacity is not available at the designated Delivery Point (at the time of scheduling), Seller shall either (a) schedule delivery to a mutually acceptable alternate delivery point with available capacity, or (b) notify Buyer of its inability to perform, though such inability shall not excuse Seller from its delivery obligations hereunder.

If you are not in agreement with the terms and conditions as specified above, please advise by return facsimile within two (2) Business Days of receipt. Failure to object within the designated time shall constitute acceptance of the same.

CPM hereby adopts as its signature its letterhead above as its signature for this Confirmation and for, and with the intention of authenticating, this Confirmation.

Cargill Power Markets, LLC

Kristine Engman

Contact Information

Phone: (952) 984-3070 / 984-3525  
 Fax: (952) 367-0919  
 Email: powerconfirmations@cargill.com

NorthWestern Corporation d/b/a NorthWestern Energy

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

Phone: \_\_\_\_\_

Dawn M. Petritz  
 Director Energy Risk Management  
 2/27/12



Department of Energy  
Bonneville Power Administration  
Power Services

CONFIRMATION AGREEMENT

From: Bonneville Power Administration  
P O Box 3621  
Portland, OR 97208-3621

To: Northwestern Energy LLC  
Fax: 651-305-8138

BPA Preschedule: 503-230-3813

BPA Contract: 12PM-10336

BPA Real Time: 503-230-3341

Trade Date: 03/06/2012

The following memorializes the terms of a transaction agreed to by Bonneville Power Administration (BPA) and Northwestern Energy LLC (NWDS). Transactions hereunder are in accordance with the WSPP Agreement, as amended.

Buyer: NWDS  
Seller: BPA  
BPA Trader: Nga (Dan) Le  
Phone: 503-230-3144  
NWDS Trader: Lisa Barkell  
Point of Delivery: Mid Columbia

Broker: TUL  
Holiday: NERC  
Product: Surplus Firm (WSPP Schedule C)  
Product Description: Energy

Start Date	End Date	Demand Limit	Energy Price \$/MWh	Hours	Amount (MWh / hr)	Total MWh	Revenue / Cost
07/01/2012	07/31/2012	50	\$24.00	HLH	50	20,000	\$480,000.00
<b>Transaction Total</b>							<b>\$480,000.00</b>

All hours will be shown in Pacific Prevailing Time.

HLHs are defined as HE 0700 - HE 2200, Monday through Saturday (excludes Sundays and NERC holidays).

LLHs are defined as HE 0100 - HE 0600, HE 2300 and HE 2400, Monday through Saturday, all day Sunday and NERC holidays.

Flat is defined as HE 0100 - HE 2400.

Pursuant to the WSPP, this transaction shall be prescheduled. The preschedule day is defined by the Western Electricity Coordinating Council's Preschedule Calendar. Energy shall be prescheduled, identifying source and sink, by 1100 on the preschedule day or as mutually agreed. Real Time modifications will not be allowed except by mutual agreement or due to an uncontrollable force.

This confirmation agreement is intended to memorialize the terms of an existing oral agreement.

We are pleased to have this agreed upon transaction. Please confirm the terms by signing and returning an executed copy of this Confirmation via fax to BPA 503-230-7463.

AGREED AND ACCEPTED

Bonneville Power Administration

Northwestern Energy LLC

Alex Spain

Dawn M. Petritz

Print Name: Director Energy Risk Management

Trading Floor Manager

Date: 3/6/12

Title: 3/06/12

Date:

Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



POWER CONFIRMATION

Date: March 12, 2012

To: Northwestern Corporation dba Northwestern Energy  
Attn: Dawn Petritz  
Email: dawn.petritz@northwestern.com  
Tel: 1-406-497-3336  
Fax: 1-653-305-8138

From: Citigroup Energy Inc.  
Attn: Viridiana Gamez  
Email: celocnfirms@citi.com  
Tel: 1-713-693-6697  
Fax: 1-646-291-3383

Re: Physical Power Transaction

Transaction Reference Number: 11350964

The purpose of this letter agreement is to confirm the terms and conditions of the Transaction entered into between us on the Trade Date referred to below. This letter constitutes a "Confirmation" as referred to in the Agreement specified below.

U.S. Federal law requires Citi to obtain, verify and record customer identification information.

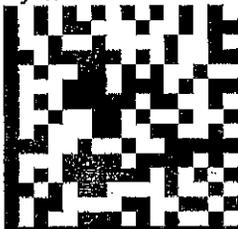
1. This Confirmation supplements, forms a part of, and is subject to, the ISDA 2002 Master Agreement dated as of November 18, 2008 as amended and supplemented from time to time (the "Agreement") between you and us. All provisions contained in the Agreement shall govern this Confirmation except as expressly modified below.

The definitions and provisions contained in the 2000 ISDA Definitions (which include the Annex thereto), as amended and/or supplemented from time to time (the "Swap Definitions") and in the 2005 ISDA Commodity Definitions (the "Commodity Definitions"), and together with the Swap Definitions, the "Definitions", in each case as published by the International Swaps and Derivatives Association, Inc., are incorporated into this Confirmation. In the event of any inconsistency between the Swap Definitions and Commodity Definitions, the Commodity Definitions will govern. In the event of any inconsistency between either set of Definitions and this Confirmation, this Confirmation will govern."

2. Terms used but not defined herein shall have the meaning ascribed to them in the Agreement.
3. The terms of the particular Transaction to which this Confirmation relates are as follows:

Trade Date: March 12, 2012

Buyer: Northwestern Corporation dba Northwestern Energy



Trade Date: March 12, 2012  
Reference: 11350964 - 1  
Page 1 of 3

Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



Seller: Citigroup Energy Inc.  
Commodity/Product: Firm Energy with Liquidated Damages  
Quantity: 25 MW per hour  
Total Quantity: 10,000 MWH  
Term: July 01, 2012 to and including July 31, 2012  
Delivery Period: All deliveries are made during the defined Peak hour periods, Hours Ending (HE) 0700 through (HE) 2200 (16 hours each day), Monday through Saturday, Excluding Sunday and NERC Holidays, Pacific Prevailing Time (PPT)  
Contract Price: USD 23.00 per MWH  
Delivery Point: Mid Columbia  
Scheduling: All scheduling will be completed on or before the time specified by either rule or convention applicable to the market at the delivery point.

Northwestern Corporation dba Northwestern Energy hereby agrees to check this Confirmation carefully and immediately upon receipt so that errors or discrepancies can be promptly identified and rectified. If this Confirmation correctly sets forth the terms of our agreement, please confirm such agreement by executing this Confirmation in the space provided below and returning it to Citigroup Energy Inc. at 1-646-291-3383. In the absence of the receipt by Citigroup Energy Inc. of an executed Confirmation or an objection to the terms hereof delivered to Citigroup Energy Inc. in accordance with the terms of the Agreement, the acceptance of the provisions of this Confirmation by Northwestern Corporation dba Northwestern Energy shall be governed by the applicable terms and conditions of the Agreement, which, for this particular purpose, shall be deemed to control over any conflicting terms in this Confirmation.

Accepted and confirmed as of the date first written:

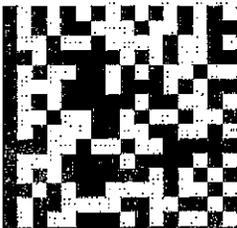
Northwestern Corporation dba Northwestern Energy

Citigroup Energy Inc.

Dawn M. Petritz  
Director Energy Risk Management  
3/28/12

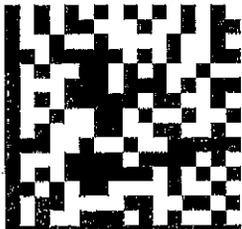
By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: Stephanie Sever  
Title: Vice President



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056

Docket D2012.5.49  
Data Request PSC-110b  
Attachment  
Page 30 of 83



Trade Date: March 12, 2012  
Reference: 11350964 - 1  
Page 3 of 3

Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



POWER CONFIRMATION

Date: March 12, 2012

To: Northwestern Corporation dba Northwestern Energy  
Attn: Dawn Petritz  
Email: dawn.petritz@northwestern.com  
Tel: 1-406-497-3336  
Fax: 1-653-305-8138

From: Citigroup Energy Inc.  
Attn: Viridiana Gamez  
Email: ceiconfirms@citi.com  
Tel: 1-713-693-6697  
Fax: 1-646-291-3383

Re: Physical Power Transaction

Transaction Reference Number: 11350965

The purpose of this letter agreement is to confirm the terms and conditions of the Transaction entered into between us on the Trade Date referred to below. This letter constitutes a "Confirmation" as referred to in the Agreement specified below.

U.S. Federal law requires Citi to obtain, verify and record customer identification information.

1. This Confirmation supplements, forms a part of, and is subject to, the ISDA 2002 Master Agreement dated as of November 18, 2008 as amended and supplemented from time to time (the "Agreement") between you and us. All provisions contained in the Agreement shall govern this Confirmation except as expressly modified below.

The definitions and provisions contained in the 2000 ISDA Definitions (which include the Annex thereto), as amended and/or supplemented from time to time (the "Swap Definitions") and in the 2005 ISDA Commodity Definitions (the "Commodity Definitions", and together with the Swap Definitions, the "Definitions"), in each case as published by the International Swaps and Derivatives Association, Inc., are incorporated into this Confirmation. In the event of any inconsistency between the Swap Definitions and Commodity Definitions, the Commodity Definitions will govern. In the event of any inconsistency between either set of Definitions and this Confirmation, this Confirmation will govern."

2. Terms used but not defined herein shall have the meaning ascribed to them in the Agreement.
3. The terms of the particular Transaction to which this Confirmation relates are as follows:

Trade Date: March 12, 2012

Buyer: Northwestern Corporation dba Northwestern Energy



Trade Date: March 12, 2012  
Reference: 11350965 - 1  
Page 1 of 3

Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



Seller: Citigroup Energy Inc.  
Commodity/Product: Firm Energy with Liquidated Damages  
Quantity: 50 MW per hour  
Total Quantity: 21,600 MWH  
Term: August 01, 2012 to and including August 31, 2012  
Delivery Period: All deliveries are made during the defined Peak hour periods, Hours Ending (HE) 0700 through (HE) 2200 (16 hours each day), Monday through Saturday, Excluding Sunday and NERC Holidays, Pacific Prevailing Time (PPT)  
Contract Price: USD 27.00 per MWH  
Delivery Point: Mid Columbia  
Scheduling: All scheduling will be completed on or before the time specified by either rule or convention applicable to the market at the delivery point.

Northwestern Corporation dba Northwestern Energy hereby agrees to check this Confirmation carefully and immediately upon receipt so that errors or discrepancies can be promptly identified and rectified. If this Confirmation correctly sets forth the terms of our agreement, please confirm such agreement by executing this Confirmation in the space provided below and returning it to Citigroup Energy Inc. at 1-646-291-3383. In the absence of the receipt by Citigroup Energy Inc. of an executed Confirmation or an objection to the terms hereof delivered to Citigroup Energy Inc. in accordance with the terms of the Agreement, the acceptance of the provisions of this Confirmation by Northwestern Corporation dba Northwestern Energy shall be governed by the applicable terms and conditions of the Agreement, which, for this particular purpose, shall be deemed to control over any conflicting terms in this Confirmation.

Accepted and confirmed as of the date first written:

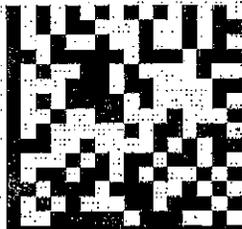
Northwestern Corporation dba Northwestern Energy

Citigroup Energy Inc.

Dawn M. Petritz  
Director Energy Risk Management  
3/28/12

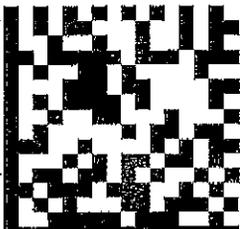
By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: Stephanie Sever  
Title: Vice President



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056

Docket D2012.5.49  
Data Request PSC-110b  
Attachment  
Page 33 of 83



Trade Date: March 12, 2012  
Reference: 11350985 - 1  
Page 3 of 3



Department of Energy  
Bonneville Power Administration  
Power Services

CONFIRMATION AGREEMENT

From: Bonneville Power Administration  
P O Box 3621  
Portland, OR 97208-3621

To: Northwestern Energy  
Fax: 651-305-8138 (SD)

BPA Preschedule: 603-230-3813  
BPA Real Time: 503-230-3341

BPA Contract: 12PM-10525  
Trade Date: 04/30/2012

The following memorializes the terms of a transaction agreed to by Bonneville Power Administration (BPA) and Northwestern Energy (NWES). Transactions hereunder are in accordance with the WSPC Agreement, as amended.

Buyer:	NWES	Broker:	TUL
Seller:	BPA	Holiday:	NERC
BPA Trader:	Nga (Dan) Le	Product:	Surplus Firm (WSPC Schedule C)
Phone:	503-230-3144	Product Description:	Energy
NWES Trader:	Lisa Barkell		
Point of Delivery:	Mid Columbia		

Start Date	End Date	Demand Limit	Energy Price \$/MWh	Hours	Amount (MWh / hr)	Total MWh	Revenue / Cost
08/01/2012	08/31/2012	25	\$26.25	HLH	25	10,800	\$283,500.00
<b>Transaction Total</b>							<b>\$283,500.00</b>

All hours will be shown in Pacific Prevailing Time.

HLHs are defined as HE 0700 - HE 2200, Monday through Saturday (excludes Sundays and NERC holidays).

LLHs are defined as HE 0100 - HE 0600, HE 2300 and HE 2400, Monday through Saturday, all day Sunday and NERC holidays.

Flat is defined as HE 0100 - HE 2400.

Pursuant to the WSPC, this transaction shall be prescheduled. The preschedule day is defined by the Western Electricity Coordinating Council's Preschedule Calendar. Energy shall be prescheduled, identifying source and sink, by 1100 on the preschedule day or as mutually agreed. Real Time modifications will not be allowed except by mutual agreement or due to an uncontrollable force.

This confirmation agreement is intended to memorialize the terms of an existing oral agreement.

We are pleased to have this agreed upon transaction. Please confirm the terms by signing and returning an executed copy of this Confirmation via fax to BPA 503-230-7463.

AGREED AND ACCEPTED

Bonneville Power Administration

Northwestern Energy

*Alex Spain*  
\_\_\_\_\_  
Alex Spain

*Dawn M. Petritz*  
\_\_\_\_\_  
Print Name: \_\_\_\_\_

Trading Floor Manager Date: 4/30/12

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Dawn M. Petritz  
Director Energy Risk Management  
5/15/12



Department of Energy  
Bonneville Power Administration  
Power Services

CONFIRMATION AGREEMENT

From: Bonneville Power Administration  
P O Box 3621  
Portland, OR 97208-3621

To: Northwestern Energy  
Fax: 651-305-8138

BPA Preschedule: 503-230-3813

BPA Contract: 12PM-10425

BPA Real Time: 503-230-3341

Trade Date: 03/30/2012

The following memorializes the terms of a transaction agreed to by Bonneville Power Administration (BPA) and Northwestern Energy LLC (NWDS). Transactions hereunder are in accordance with the WSPPP Agreement, as amended.

Buyer: NWDS  
Seller: BPA  
BPA Trader: Alex Spain  
Phone: 503-230-3183  
NWDS Trader: Lisa Barkell  
Point of Delivery: Mid Columbia  
Broker: TUL  
Holiday: NERC  
Product: Surplus Firm (WSPPP Schedule C)  
Product Description: Energy

Start Date	End Date	Demand Limit	Energy Price \$/MWh	Hours	Amount (MWh / hr)	Total MWh	Revenue / Cost
08/01/2012	08/31/2012	25	\$26.00	HLH	25	10,800	\$280,800.00
<b>Transaction Total</b>							<b>\$280,800.00</b>

All hours will be shown in Pacific Prevailing Time.

HLHs are defined as HE 0700 - HE 2200, Monday through Saturday (excludes Sundays and NERC holidays).

LLHs are defined as HE 0100 - HE 0600, HE 2300 and HE 2400, Monday through Saturday, all day Sunday and NERC holidays.

Flat is defined as HE 0100 - HE 2400.

Pursuant to the WSPPP, this transaction shall be prescheduled. The preschedule day is defined by the Western Electricity Coordinating Council's Preschedule Calendar. Energy shall be prescheduled, identifying source and sink, by 1100 on the preschedule day or as mutually agreed. Real Time modifications will not be allowed except by mutual agreement or due to an uncontrollable force.

This confirmation agreement is intended to memorialize the terms of an existing oral agreement.

We are pleased to have this agreed upon transaction. Please confirm the terms by signing and returning an executed copy of this Confirmation via fax to BPA 503-230-7463.

AGREED AND ACCEPTED

Bonneville Power Administration

Northwestern Energy LLC

ROBERT C JOHNSON

Alex Spain

Print Name: \_\_\_\_\_

Trading Floor Manager

Date: 3/30/2012

Title: \_\_\_\_\_ Date: \_\_\_\_\_

Dawn M. Petritz  
Director Energy Risk Management  
4/16/12

05/22/2012



## POWER CONFIRMATION

## Buyer:

Attn: Confirmation Department  
NORTHWESTERN CORPORATION D-B-A NW ENERGY  
Fax #: (651)305-8138

## Seller:

Rep: Chris Stelzer  
BP ENERGY COMPANY  
201 Helios Way  
Houston, TX 77079

Trade Date:	05/22/2012
Trade Sequence:	2167325
Buyer:	NORTHWESTERN CORPORATION D-B-A NW ENERGY
Seller:	BP ENERGY COMPANY
Quantity:	25 MW
Total Quantity:	10,000MWH
Period of Delivery:	12/01/2012 through 12/31/2012, Monday through Saturday, excluding NERC holidays, HE 0700 through HE 2200
Contract Price:	35.20 / MW H
Delivery Point(s):	Mid-Columbia
Service:	WSPP Schedule C Firm-LD Energy Only
Broker:	Tullett Prebon Americas Corp
Agreement Number:	165650
Agreement Date:	04/01/2003

## GENERAL TERMS AND CONDITIONS:

Western Systems Power Pool Agreement, referenced above, which the Parties are signatories to, and which agreement, being the version in effect at the time this Transaction was entered into, is incorporated herein by reference. In the event that the parties have not yet executed a Master Agreement, this transaction shall be subject to the Master Power Purchase & Sale Agreement (Edison Electric Institute Version 2.1 -- modified 4/25/00) (default elections applying), and upon the execution of a Master Agreement between the parties, this transaction shall be merged into and governed by such executed Master Agreement. Please confirm that the foregoing correctly sets forth the terms of our agreement with respect to this Transaction by signing this confirmation in the space provided below and returning a copy of the executed confirmation within five (5) business days of receipt by faxing to us at (713) 323-1633. Failure to respond by providing a signed copy of this Transaction Confirmation or an objection to any specific terms to which the counterparty does not agree will be deemed acceptance of the terms hereof.

If you have any questions, please contact the Confirmation Department at 713-323-1666.

BP ENERGY COMPANY

NORTHWESTERN CORPORATION D-B-A NW ENERGY

*Chris Stelzer*  
Name: Chris Stelzer

Date: 05/22/2012

Name: *Dawn M. Petritz*

Date: 5/31/12



Department of Energy  
Bonneville Power Administration  
Power Services

CONFIRMATION AGREEMENT

From: Bonneville Power Administration  
P O Box 3621  
Portland, OR 97208-3621

To: Northwestern Energy  
Fax: 651-305-8138

BPA Preschedule: 503-230-3813

BPA Contract: 12PM-10530

BPA Real Time: 503-230-3341

Trade Date: 05/01/2012

The following memorializes the terms of a transaction agreed to by Bonneville Power Administration (BPA) and Northwestern Energy (NWDS). Transactions hereunder are in accordance with the WSPP Agreement, as amended.

Buyer:	NWDS	Broker:	TUL
Seller:	BPA	Holiday:	NERC
BPA Trader:	Nga (Dan) Le	Product:	Surplus Firm (WSPP Schedule C)
Phone:	503-230-3144	Product Description:	Energy
NWDS Trader:	Lisa Barkell		
Point of Delivery:	Mid Columbia		

Start Date	End Date	Demand Limit	Energy Price \$/MWh	Hours	Amount (MWh / hr)	Total MWh	Revenue / Cost
08/01/2012	08/31/2012	25	\$26.00	HLH	26	10,800	\$280,800.00
<b>Transaction Total</b>							<b>\$280,800.00</b>

All hours will be shown in Pacific Prevailing Time.

HLHs are defined as HE 0700 - HE 2200, Monday through Saturday (excludes Sundays and NERC holidays).

LLHs are defined as HE 0100 - HE 0600, HE 2300 and 10:2400, Monday through Saturday, all day Sunday and NERC holidays.

Flat is defined as HE 0100 - HE 2400.

Pursuant to the WSPP, this transaction shall be prescheduled. The preschedule day is defined by the Western Electricity Coordinating Council's Preschedule Calendar. Energy shall be prescheduled, identifying source and sink, by 1100 on the preschedule day or as mutually agreed. Real Time modifications will not be allowed except by mutual agreement or due to an uncontrollable force.

This confirmation agreement is intended to memorialize the terms of an existing oral agreement.

We are pleased to have this agreed upon transaction. Please confirm the terms by signing and returning an executed copy of this Confirmation via fax to BPA 503-230-7463.

AGREED AND ACCEPTED

Bonneville Power Administration

Northwestern Energy

ALEX SPAIN FOR:

Dawn M. Petrlik

Alex Spain

Print Name: Director Energy Risk Management

Trading Floor Manager

Date: 5/1/2012

Title: 5/07/12 Date:

Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



POWER CONFIRMATION

Date: October 12, 2011

To: Northwestern Corporation dba Northwestern Energy  
Attn: Dawn Petritz  
Email: dawn.petritz@northwestern.com  
Tel: 1-406-497-3336  
Fax: 1-653-305-8138

From: Citigroup Energy Inc.  
Attn: Viridiana Gamez  
Email: ceiconfirms@citi.com  
Tel: 1-713-693-6697  
Fax: 1-646-291-3383

Re: Physical Power Transaction.

Transaction Reference Number: 9776170

The purpose of this letter agreement is to confirm the terms and conditions of the Transaction entered into between us on the Trade Date referred to below. This letter constitutes a "Confirmation" as referred to in the Agreement specified below.

U.S. Federal law requires Citi to obtain, verify and record customer identification information.

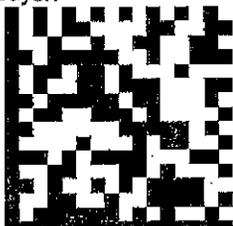
1. This Confirmation supplements, forms a part of, and is subject to, the ISDA 2002 Master Agreement dated as of November 18, 2008 as amended and supplemented from time to time (the "Agreement") between you and us. All provisions contained in the Agreement shall govern this Confirmation except as expressly modified below.

The definitions and provisions contained in the 2000 ISDA Definitions (which include the Annex thereto), as amended and/or supplemented from time to time (the "Swap Definitions") and in the 2005 ISDA Commodity Definitions (the "Commodity Definitions", and together with the Swap Definitions, the "Definitions"), in each case as published by the International Swaps and Derivatives Association, Inc., are incorporated into this Confirmation. In the event of any inconsistency between the Swap Definitions and Commodity Definitions, the Commodity Definitions will govern. In the event of any inconsistency between either set of Definitions and this Confirmation, this Confirmation will govern."

2. Terms used but not defined herein shall have the meaning ascribed to them in the Agreement.
3. The terms of the particular Transaction to which this Confirmation relates are as follows:

Trade Date: October 12, 2011

Buyer: Northwestern Corporation dba Northwestern Energy



Trade Date: October 12, 2011  
Reference: 9776170 - 1  
Page 1 of 3

Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



**Seller:** Citigroup Energy Inc.

**Commodity/Product:** Firm Energy with Liquidated Damages

**Quantity:** 25 MW per hour

**Total Quantity:** 192,400 MWH

**Term:** January 01, 2013 to and including December 31, 2014

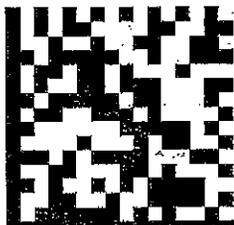
**Delivery Period:** All deliveries are made during the defined Offpeak hour periods, Hour Ending (HE) 0100 through (HE) 0600, (HE) 2300 and 2400, (8 hours each day), Monday through Saturday, Hour Ending (HE) 0100 through (HE) 2400 (24 hours each day), Sunday and NERC Holidays, Pacific Prevailing Time (PPT)

**Contract Price:** USD 30.30 per MWH

**Delivery Point:** Mid Columbia

**Scheduling:** All scheduling will be completed on or before the time specified by either rule or convention applicable to the market at the delivery point.

Northwestern Corporation dba Northwestern Energy hereby agrees to check this Confirmation carefully and immediately upon receipt so that errors or discrepancies can be promptly identified and rectified. If this Confirmation correctly sets forth the terms of our agreement, please confirm such agreement by executing this Confirmation in the space provided below and returning it to Citigroup Energy Inc. at 1-646-291-3383. In the absence of the receipt by Citigroup Energy Inc. of an executed Confirmation or an objection to the terms hereof delivered to Citigroup Energy Inc. in accordance with the terms of the Agreement, the acceptance of the provisions of this Confirmation by Northwestern Corporation dba Northwestern Energy shall be governed by the applicable terms and conditions of the Agreement, which, for this particular purpose, shall be deemed to control over any conflicting terms in this Confirmation.



Citigroup Energy Inc.  
2300 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



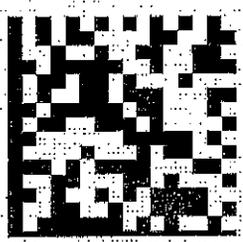
Accepted and confirmed as of the date first written:

Northwestern Corporation dba Northwestern Energy

Citigroup Energy Inc.

By: \_\_\_\_\_  
Name: Dawn M. Petritz  
Title: Director Energy Risk Management

By: \_\_\_\_\_  
Name: Stephanie Sever  
Title: Vice President





CONFIRMATION AGREEMENT

Date: October 21, 2011  
Buyer: NorthWestern Corporation  
Seller: Cargill Power Markets, LLC  
Agreement: WSPP Agreement and Service Schedule C  
Trade Date: October 12, 2011

This confirmation agreement is provided to confirm the oral agreement entered into on the above referenced trade date pursuant to the following terms and conditions:

Start Date: 01/01/2013  
End Date: 12/31/2014  
Delivery Hours: HE 0700 - HE 2200, Monday through Saturday, excluding NERC holidays

Hourly Volume: 50 MWh/Hr  
Total Volume: 491,200 MW

Price: \$40.85  
Total Value: \$20,065,520.00

Delivery Point(s): Mid-C

The Seller and Buyer agreed to the above transactions pursuant to and in accordance with the terms and conditions of the WSPP Agreement and Service Schedule C, as amended and effective as of August 19, 2011.

This Confirmation Agreement shall be final and binding, whether or not signed, unless NorthWestern Corporation is notified in writing of any inaccuracy within five (5) business days following the receipt of this Confirmation Agreement.

NorthWestern Corporation

Signed: Dawn M. Petritz

Name: Dawn M. Petritz

Title: Director, Energy Risk Management

Date: 10/21/2011

Counterparty

Signed: [Signature]

Name: John Ivey

Title: Manager, Structured Trading

Date: 11/28/2011

Citigroup Energy Inc.  
2900 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



POWER CONFIRMATION

Date: October 24, 2008

To: Northwestern Corporation dba Northwestern Energy  
Attn: Kevin Markovitch  
Email: kevin.markovitch@northwestern.com  
Tel: 406-497-3336  
Fax: 406-497-2629

From: Citigroup Energy Inc.  
Attn: Melissa Rodriguez  
Email: CEIConfirms@Citigroup.com  
Tel: 1-713-752-5418  
Fax: 1-646-291-3383

Re: Physical Power Transaction

*NorthWestern Energy agrees only to the commercial terms identified in section 3 of this confirm. All other contractual terms will be subject to the ISDA agreement that is currently being negotiated.*

Transaction Reference Number: 1955965

The purpose of this communication is to set forth the terms and conditions of the above-referenced transaction entered into on the Trade Date specified below (the "Transaction") between Citigroup Energy Inc. ("Citi"), and Northwestern Corporation dba Northwestern Energy ("Counterparty"). This communication constitutes a "Confirmation" as referred to in the Agreement specified below.

U.S. Federal law requires Citi to obtain, verify and record customer identification information.

This Confirmation evidences a complete and binding agreement between the Parties as to the terms of the Transaction to which this Confirmation relates. Until we execute and deliver the Agreement (as defined in Section 2 hereof), this Confirmation shall be deemed to incorporate in their entirety (except as hereinafter modified or amended) the pre-printed form of the 2002 ISDA Master Agreement (the "ISDA Form") and the pre-printed North American Power Annex to the ISDA Form ("Power Annex"). This document constitutes a "Confirmation" as referred to in the ISDA Form and the transaction described above constitutes a "Transaction" as referred to in the ISDA Form.

The 2000 ISDA Definitions ("Definitions"), as published by the International Swaps and Derivatives Association, Inc. ("ISDA") are incorporated herein and made a part hereof for all purposes. The definitions and provisions contained in the 2005 ISDA Commodity Definitions as published by ISDA, and otherwise as amended, supplemented or modified from time to time (the "Commodity Definitions") are also incorporated herein and made a part hereof for all purposes. Additionally, the parties agree that the definitions and provisions contained in Annexes 1 to 16 and Section 6 of the 2002 Master Agreement Protocol published by ISDA are incorporated herein and made a part hereof.

1. Each Party will make each payment specified in this Confirmation as being payable by it, not later than the due date for value on that date in the place of the account specified below or otherwise specified in writing, in freely transferable funds and in the manner customary for payments in the required currency.
2. The Parties agree to negotiate and finalize an agreement in the form of the ISDA Form and, as applicable, a CSA (as hereinafter defined), and Power Annex with such modifications as the Parties will in good faith agree (collectively, the "Agreement") and, upon the execution by the Parties of the Agreement, the Parties agree that this Confirmation will supplement, form part of, and be subject to the Agreement. All provisions



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77058



contained in, or incorporated by reference in the Agreement upon its execution will govern this Confirmation except as expressly modified herein. If CEI and the Counterparty fail to execute and deliver or to negotiate in good faith the Agreement on or before January 31, 2009, unless such time is otherwise extended by the mutual agreement of the Parties, an Additional Termination Event shall have occurred and be deemed to be continuing with respect to both CEI and Counterparty, in which event each of CEI and Counterparty will be deemed to be an Affected Party.

3. The terms of the particular Transaction to which this Confirmation relates are as follows:

Trade Date: October 24, 2008 ✓  
Buyer: Northwestern Corporation dba Northwestern Energy ✓  
Seller: Citigroup Energy Inc. ✓  
Commodity/Product: Firm Energy with Liquidated Damages ✓  
Quantity: 25 MW per hour ✓  
Total Quantity: 2,191,800 MWH ✓  
Term: July 01, 2010 to and including June 30, 2020 ✓  
Delivery Period: All deliveries are made during the defined hour periods, Hour Ending (HE) 0100 through (HE) 2400 (24 hours each day), Monday through Sunday and NERC Holidays, Pacific Prevailing Time (PPT). ✓  
Contract Price: USD 62.40 per MWH ✓  
Delivery Point: Mid Columbia ✓  
Calculation Agent: Citigroup Energy Inc.  
Scheduling: All scheduling will be completed on or before the time specified by either rule or convention applicable to the market at the delivery point.

4. Credit Provisions.

(a) The "Cross Default" provisions of Section 5(a)(vi) of the ISDA will apply to CEI and will apply and Counterparty.

(1) Section 5(a)(vi) is amended by deleting in the seventh line thereof ", or becoming capable at such time of being declared,".

(2) Section 5(a)(vi) is amended by inserting the following at the end thereof: "provided, however, that notwithstanding the foregoing, an Event of Default shall not occur under either (1) or (2) above if (a) the event or condition referred to in (1) or the failure to pay



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77066



referred to in (2) is a failure to pay caused by an error or omission of an administrative or operational nature; (b) funds were available to such party to enable it to make the relevant payment when due; and (c) such relevant payment is made within three Business Days following the error or failure being discovered."

(3) "Specified Indebtedness" shall have the meaning set forth in Section 14 of this Agreement; *provided, however*, that such term shall include any Specified Transaction.

(4) "Threshold Amount" means:

- (i) with respect to Party A, 2% of the stockholders' equity of Party A's Credit Support Provider; and
- (ii) with respect to Counterparty, \$50,000,000.

Threshold Amount includes the U.S. Dollar equivalent on the date of any default, event of default or other similar condition or event of any obligation stated in any other currency.

For purposes of the above, stockholders' equity shall be determined by reference to the relevant party's most recent consolidated (quarterly, in the case of a U.S. incorporated party) balance sheet and shall include, in the case of a U.S. incorporated party, legal capital, paid-in capital, retained earnings and cumulative translation adjustments. Such balance sheet shall be prepared in accordance with accounting principles that are generally accepted in such party's country of organization.

(b) Credit Support Provider: The Credit Support Provider of Party A shall be Citigroup Inc., which shall provide, within five (5) Business Days of the trade date herewith, an unconditional guarantee of the obligations of Party A hereunder in a form acceptable to Party B, which guarantee shall be in the amount of U.S. \$30,000,000.

(c) Credit Support Annex Provisions.

The terms and provisions of the ISDA Credit Support Annex as published by the International Swaps and Derivatives Association, Inc., is incorporated herein for all purposes (the "CSA"). For purposes of the CSA and Paragraph 13 thereto, the following shall be applicable:

"Threshold" shall mean, with respect to Party A, the lesser of (1) the amount set forth below opposite the lower of the Credit Ratings in effect on any Valuation Date for Party A's Credit Support Provider or (2) zero if on any Valuation Date an Event of Default or Potential Event of Default with respect to such party has occurred and is continuing.

<u>Threshold</u>	<u>S&amp;P Credit Rating</u>	<u>Moody's Credit Rating</u>
U.S. \$20,000,000	AA- and above	Aa3 and above
U.S. \$15,000,000	A+ and A	A1 and A2
U.S. \$ 5,000,000	A-, BBB+ and BBB	A3, Baa1 and Baa2



Citigroup Energy Inc.  
 2800 Post Oak Blvd.  
 Suite 800  
 Houston, TX 77056



Zero

Below BBB

Below Baa2

"Threshold" shall mean, with respect to Party B, the lesser of (1) the amount set forth below opposite the lower of the Credit Ratings in effect on any Valuation Date for Party B or (2) zero if on any Valuation Date an Event of Default or Potential Event of Default with respect to such party has occurred and is continuing.

<u>Threshold</u>	<u>S&amp;P Credit Rating</u>	<u>Moody's Credit Rating</u>
U.S. \$30,000,000	AA- and above	Aa3 and above
U.S. \$25,000,000	A- to A+	A3 to A1
U.S. \$20,000,000	BBB+	Baa1
U.S. \$15,000,000	BBB and BBB-	Baa2 and Baa3
Zero	Below BBB-	Below Baa3

- (d) "Minimum Transfer Amount" as of any date shall mean US \$100,000.
- (e) Rounding. The Delivery Amounts will be rounded up and Return Amounts will be rounded down to the nearest integral multiple of US \$100,000.
- (f) "Eligible Collateral" shall mean a Letter of Credit, and/or cash in the form of United States Dollars ("Cash").
- (g) "Letters of Credit" shall mean a letter of credit issued by a major commercial US bank or the U.S. branch office of a foreign bank, with a capital surplus of no less than USD 10 billion and a senior unsecured debt rating of at least "A-" or better as specified by S&P and "A3" or better as specified by Moody's, which Letter of Credit shall be substantially similar to the form Letter of Credit attached to this Confirmation as Exhibit A.
- (h) "Letter of Credit Valuation" shall be 100% unless a Letter of Credit Default shall have occurred with respect to such Letter of Credit, in which case the Valuation Percentage shall be Zero (0).
- (i) "Letter of Credit Default" means with respect to a Letter of Credit, the occurrence of any of the following events: (a) the issuer of such Letter of Credit shall fail to maintain a Credit Rating of at least (i) "A-" by S&P and "A3" by Moody's, if such issuer is rated by both S&P and Moody's, (ii) "A-" by S&P, if such issuer is rated only by S&P, or (iii) "A3" by Moody's, if such issuer is rated only by Moody's; (b) the issuer of the Letter of Credit shall fail to comply with or perform its obligations under such Letter of Credit; (c) the issuer of such Letter of Credit shall disaffirm, disclaim, repudiate or reject, in whole or in part, or challenge the validity of, such Letter of Credit; (d) twenty (20) or fewer Business Days remain prior to the expiration of such Letter of Credit and the issuer of such Letter of Credit has indicated its intention not to renew such Letter of Credit or Party B has failed to provide a replacement Letter of Credit to Party A; (e) such Letter of Credit shall expire or terminate, or shall fail or cease to be in full force and effect at any time during the term of the Agreement, in any such case without replacement; or (f) a Bankruptcy with respect to the issuer of such Letter of Credit has occurred.



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



- (j) "Notification Time" means 1:00 p.m. (New York time) on any Valuation Date.
- (k) "Valuation Date" means, each Local Business Day.
- (l) "Valuation Time" means, the close of business on the Local Business Day immediately preceding the Valuation Date.
- (m) "The "Interest Rate" will be the overnight ask rate in effect for such day, as set forth opposite the caption "O/N" under the heading "USD" on Telerate Page 4659 or any successor page thereto on or about 11:00 a.m., New York time, on such day and if no successor page is quoted, as agreed by the parties."

5. Additional Provisions:

- (a) The parties make the following elections with respect to Clause (j) of the Power Annex:

(c)(i) and (c)(ii)  Accelerated Payment Damages.

(d)(ii) Timeliness of Payment

Option A

Option B

(h)(i) Wholesale Power Tariffs:

CEI Electric Tariff, Tariff/Date/Docket: FERC/12-19-03/ER04-208-000

Counterparty Electric Tariff, Tariff/Date/Docket:

(h)(iii)  Applicability of FERC Standard of Review and Certain Covenants and Waivers

- (b) **Additional Representations.** In connection with this Confirmation, the Transaction to which this Confirmation relates and any other documentation relating to the Agreement, each party to this Confirmation represents and acknowledges to the other party that:

- (i) it is not relying on any advice, statements or recommendations (whether written or oral) of the other party regarding such Transaction, other than the written representations expressly made by that other party in the Agreement and in this Confirmation in respect of such Transaction;
- (ii) it has the capacity to evaluate (internally or through independent professional advice) such Transaction (including decisions regarding the appropriateness or suitability of such Transaction) and has made its own decision to enter into such Transaction;
- (iii) it understands the terms, conditions and risks of such Transaction and is willing to accept those terms and conditions and to assume (financially and otherwise) those risks;
- (iv) it is entering into such Transaction as principal and not as an agent for any other party;



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



- (v) It acknowledges and agrees that the other party is not acting as a fiduciary or advisor to it in connection with such Transaction; and
- (vi) In the case of Counterparty only, it is entering into such Transaction for the purposes of managing its borrowings or investments, hedging its underlying assets or liabilities or in connection with a line of business, and not for purposes of speculation.
- (c) **Tax Representations.** The following provisions shall be applicable to Sections 3(e) and 3(f) of the ISDA Form:
- (i) **Payer Representations.** For the purpose of Section 3(e) of the ISDA Form, Party A will make the following representation and Party B will make the following representation:
- It is not required by any applicable law, as modified by the practice of any relevant governmental revenue authority, of any Relevant Jurisdiction to make any deduction or withholding for or on account of any Tax from any payment (other than interest under Section 9(h) of the ISDA Form) to be made by it to the other party under this Agreement. In making this representation, it may rely on (i) the accuracy of any representations made by the other party pursuant to Section 3(f) of the ISDA Form, (ii) the satisfaction of the agreement contained in Section 4(a)(i) or 4(a)(iii) of the ISDA Form and the accuracy and effectiveness of any document provided by the other party pursuant to Section 4(a)(i) or 4(a)(iii) of the ISDA Form and (iii) the satisfaction of the agreement of the other party contained in Section 4(d) of the ISDA Form, except that it will not be a breach of this representation where reliance is placed on clause (ii) above and the other party does not deliver a form or documents under Section 4(a)(iii) of the ISDA Form by reason of material prejudice to its legal or commercial position.
- (ii) **Payee Representations.** For the purpose of Section 3(f) of the ISDA Form, CEI and Counterparty make the representations specified below, if any:
- The following representation will apply to CEI:
- It is a corporation organized under the laws of the State of Delaware and its U.S. taxpayer identification number is 27-0069874. It is "exempt" within the meaning of Treasury Regulation sections 1.6041-3(p) and 1.6049-4(c) from information reporting on Form 1099 and backup withholding.
- The following representation will apply to Counterparty:
- It is a corporation created or organized in the United States or under the laws of the United States and its U.S. taxpayer identification number is \_\_\_\_\_. It is "exempt" within the meaning of Treasury Regulation sections 1.6041-3(p) and 1.6049-4(c) from information reporting on Form 1099 and backup withholding.
- (d) **Waiver of Right to Trial by Jury.** Each party hereby irrevocably waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in respect of any suit, action or proceeding relating to this Agreement.
- (e) **Netting of Payments.** For Scheduled Settlement Dates, with regard to payments due on that date, Multiple Transaction Payment Netting will apply to the following groups of Transactions, each of which shall be treated separately for purposes of payment netting: Power Transactions (other



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



than options on physical power); Gas Transactions (other than options on physical Gas); options on physical power; options on physical gas; and financially-settled Transactions in Commodities (to the extent operationally feasible). If a party wishes to net payments across any of these groups of Transactions and/or payments with respect to other types of Transactions on a particular date, either party may notify the other in writing, not less than one Local Business Day in advance of one or more Scheduled Settlement Dates, that with regard to payments due on that date, Multiple Transaction Payment Netting will apply. Except to the extent that such advance written notice shall have been given, Multiple Transaction Payment Netting will not apply for purposes of Section 2(c) of this Agreement with respect to such other Transactions.

(f) **Set-Off.** Section 6 of the Agreement is amended by the deletion of paragraph (f) in its entirety and the addition of the following:

(f) **Set-Off.** Without affecting the provisions of this Agreement requiring the calculation of certain net payment amounts, all payments under this Agreement will be made without set-off or counterclaim; provided, however, that upon the designation of any Early Termination Date, in addition to and not in limitation of any other right or remedy (including right to set off, counterclaim or otherwise withhold payment or any recourse to any Credit Support Document) under applicable law, the Non-defaulting Party or non-Affected Party (in either case, "X") may without prior notice to any person set off any sum or obligation (whether or not arising under this Agreement and whether matured or unmatured, whether or not contingent and irrespective of the currency, place of payment or booking office of the sum or obligation) owed by the Defaulting Party or Affected Party (in either case, "Y") to X or any Affiliate of X against any sum or obligation (whether or not arising under this Agreement, whether matured or unmatured, whether or not contingent and irrespective of the currency, place of payment or booking office of the sum or obligation) owed by X or any Affiliate of X to Y and, for this purpose, may convert one currency into another at a market rate determined by X; If any sum or obligation is unascertained, X may in good faith estimate that obligation and set off in respect of the estimate, subject to X or Y, as the case may be, accounting to the other when the obligation is ascertained

(g) **Severability.** Except as otherwise provided in Sections 5(b)(I) or 5(b)(II) of the ISDA Form in the event that any one or more of the provisions contained in this Confirmation should be held invalid, illegal, or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby. The parties shall endeavor, in good faith negotiations, to replace the invalid, illegal or unenforceable provisions with valid provisions, the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provisions.

(h) **Limitation of Liability.** No party shall be required to pay or be liable to the other party for any consequential, indirect or punitive damages, opportunity costs or lost profits.

(i) **Governing Law.** THIS CONFIRMATION AND THE TRANSACTION ENTERED INTO HEREUNDER WILL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK. THE PARTIES HERETO IRREVOCABLY SUBMIT TO THE EXCLUSIVE JURISDICTION OF THE COURTS OF THE STATE OF NEW YORK AND THE UNITED STATES COURT FOR THE SOUTHERN DISTRICT OF NEW YORK IN CONNECTION WITH ALL MATTERS RELATING HERETO AND WAIVE ANY OBJECTION TO THE LAYING OF VENUE IN, AND ANY CLAIM OF INVCONVENIENT FORMUM WITH RESPECT TO THESE COURTS. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS PROVISION SHALL PROHIBIT A PARTY FROM BRINGING AN ACTION TO ENFORCE A MONEY JUDGEMENT IN ANY OTHER JURISDICTION.



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



- (j) **Survival.** Notwithstanding the termination or expiration of the Transaction provided for under this Confirmation, all terms and conditions of this Confirmation shall survive any such termination or expiration and remain in full force and effect as to each and every Confirmation and Transaction entered into hereunder.
- (k) **Capitalized Terms.** Capitalized terms not otherwise defined in this Confirmation shall have the meaning ascribed to them, as applicable, in the ISDA Form, Power Annex, the Commodity Definitions and CSA, as applicable.

6. Account Details:

Payments to CEI:

Account for payments: Acct Name: Citigroup Energy Inc.  
ABA #: 021000089  
Account No.: 30569329  
Reference: CEI Power

Payments to Counterparty: As per settlement invoice

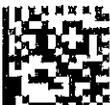
Accepted and confirmed as of the date first written:

Northwestern Corporation dba Northwestern Energy

Citigroup Energy Inc.

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

By: \_\_\_\_\_  
Name: Dale Neuner  
Title: Vice President



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



**EXHIBIT A**  
**to Confirmation**  
**Form of Letter of Credit**

**IRREVOCABLE TRANSFERABLE STANDBY LETTER OF CREDIT**

Letter of Credit No. \_\_\_\_\_ Issue Date: \_\_\_\_\_, 20\_\_

Beneficiary: \_\_\_\_\_ Account Party: \_\_\_\_\_  
[Citigroup Energy inc.] [Name of Account Party]  
[Address] [Address of Account Party]  
Attn: \_\_\_\_\_ Attn: \_\_\_\_\_

Ladies and Gentlemen:

We hereby establish in favor of you, Citigroup Energy Inc. (the "Beneficiary"), at the request and for the account of [name of account party] (the "Account Party"), with respect to the Confirmation dated as of \_\_\_\_\_, 20\_\_, by and between you and the Account Party, as may be amended from time to time, our Irrevocable Transferable Standby Letter of Credit No. \_\_\_\_\_ (the "Credit") whereby we irrevocably authorize you to draw on us, in accordance with the terms and conditions hereinafter set forth, in an amount not to exceed in the aggregate \$ \_\_\_\_\_.

Subject to the terms hereof, funds are available to you hereunder against presentation of a completed certificate (a "Certificate"), dated and signed by your representative, including one of the following statements:

1. An Event of Default (as defined in the Confirmation dated as of \_\_\_\_\_, 20\_\_, by and between you and [name of Account Party], as may be amended from time to time) has occurred and is continuing with respect to the Account Party under the Confirmation. Therefore the Beneficiary does hereby demand payment of the entire undrawn amount of the Credit; or
2. An Early Termination Date (as defined in the Confirmation dated as of \_\_\_\_\_, 20\_\_, by and between you and [name of Account Party], as may be amended from time to time) has occurred as a result of a Termination Event (as defined in such Confirmation) and Account Party has failed to make payments in an aggregate amount of \$ \_\_\_\_\_ due and owing to the Beneficiary in accordance with the terms of the Confirmation. Wherefore the Beneficiary does hereby demand payment of \$ \_\_\_\_\_.

Partial drawings are allowed under this Credit. The amount which may be drawn under this Credit shall be automatically reduced by the amount of any drawings previously paid by us hereunder.

Presentation of your Certificate shall be made on any day which is a New York Banking Day for us at or prior to [5:00 p.m. (New York time)] at our office located at \_\_\_\_\_ Presentation must be made by hand, mail or courier service, to such address, or by tested telex or SWIFT. If your presentation is made at such office, in compliance with the other terms and conditions of this Credit, on or prior to



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



the expiry date hereof, we hereby irrevocably undertake to honor such presentation [by close of business on the next New York Banking Day].

This Credit is effective immediately and expires at our close of business on \_\_\_\_\_, 20\_\_\_\_, [(the "Initial Expiry Date"); provided however, that this Credit shall be automatically extended without amendment for one or more additional one-year periods from the Initial Expiry Date or any subsequent expiry date, unless at least 60 days prior to such date you receive a notice in writing by certified mail, [tested telex or SWIFT] at the above address, that we elect not to extend this Credit for such additional period. Upon your receipt of such a notice of non-extension, you shall be entitled to make immediate demand for payment of the full amount available under this Credit, by presentation of your Certificate.

This Credit shall be subject to the provisions of the International Standby Practices 1998, International Chamber of Commerce Publication No. 590 ("ISP"), and as to matters not addressed by ISP, shall be governed by the laws of the State of New York and applicable U.S. federal laws.

This Credit is transferable, and we hereby consent to such transfer, but otherwise may not be amended, changed or modified without our express written consent and that of the Beneficiary and the Account Party.

Very truly yours,

[ISSUING BANK]



# TRANSACTION REPORT

NOV/04/2008/TUE 06:25 AM

FAX (TX)

#	DATE	START T.	RECEIVER	COM.TIME	PAGE	TYPE/NOTE	FILE
001	NOV/04	06:21AM	916462913383	0:03:53	10	OK	ECM 0731

Citigroup Energy Inc.  
2803 Post Oak Blvd.  
Suite 500  
Houston, TX 77066



## POWER CONFIRMATION

Date: October 24, 2008

To: Northwestern Corporation dba Northwestern Energy  
Attn: Kevin Markovich  
Email: kevin.markovich@northwestern.com  
Tel: 406-497-3336  
Fax: 406-497-2629

From: Citigroup Energy Inc.  
Attn: Melissa Rodriguez  
Email: CEJConfirms@Citigroup.com  
Tel: 1-713-762-5418  
Fax: 1-646-291-3383

*NorthWestern Energy agrees only to the commercial terms identified in section 3 of this confirm. All other contractual terms will be subject to the ISDA agreement that is currently being negotiated.*

Re: Physical Power Transaction

Transaction Reference Number: 1956966

The purpose of this communication is to set forth the terms and conditions of the above-referenced transaction entered into on the Trade Date specified below (the "Transaction") between Citigroup Energy Inc. ("Citi"), and Northwestern Corporation dba Northwestern Energy ("Counterparty"). This communication constitutes a "Confirmation" as referred to in the Agreement specified below.

U.S. Federal law requires Citi to obtain, verify and record customer identification information.

This Confirmation evidences a complete and binding agreement between the Parties as to the terms of the Transaction to which this Confirmation relates. Until we execute and deliver the Agreement (as defined in Section 2 hereof), this Confirmation shall be deemed to incorporate in their entirety (except as hereinafter modified or amended) the pre-printed form of the 2002 ISDA Master Agreement (the "ISDA Form") and the pre-printed North American Power Annex to the ISDA Form ("Power Annex"). This document constitutes a "Confirmation" as referred to in the ISDA Form and the transaction described above constitutes a "Transaction" as referred to in the ISDA Form.

The 2000 ISDA Definitions ("Definitions"), as published by the International Swaps and Derivatives Association, Inc. ("ISDA") are incorporated herein and made a part hereof for all purposes. The definitions and provisions contained in the 2005 ISDA Commodity Definitions as published by ISDA, and otherwise as amended, supplemented or modified from time to time (the "Commodity Definitions") are also incorporated herein and made a part hereof for all purposes. Additionally, the parties agree that the definitions and provisions contained in Annexes 1 to 18 and Section 6 of the 2002 Master Agreement Protocol published by ISDA are incorporated herein and made a part hereof.

1. Each Party will make each payment specified in this Confirmation as being payable by it, not later than the due date for value on that date in the place of the account specified below or otherwise specified in writing, in freely transferable funds and in the manner customary for payments in the required currency.
2. The Parties agree to negotiate and finalize an agreement in the form of the ISDA Form and, as applicable, a CSA (as hereinafter defined), and Power Annex with such modifications as the Parties will in good faith agree (collectively, the "Agreement") and, upon the execution by the Parties of the Agreement, the Parties agree that this Confirmation will supplement, form part of, and be subject to the Agreement. All provisions

FAIRMONT HOT SPRINGS RESORT  
1500 FAIRMONT ROAD  
ANACONDA, MT 59711  
(406) 797-3241  
(406) 797-3337 FAX

DATE 11/6/08

PLEASE DELIVER ACCOMPANYING MATERIAL TO:

NAME MELISSA RODRIGUEZ

FAX NUMBER 646-291-3383

COMPANY CITIGROUP ENERGY

FROM DAWN PETRITZ - NORTHWESTERN ENERGY  
406-497-2525

NOTES OR SPECIAL INSTRUCTIONS

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE 11

\*IF YOU DO NOT RECEIVE ALL DOCUMENTS, PLEASE CALL AS SOON AS POSSIBLE.

Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



POWER CONFIRMATION

Date: October 24, 2008

To: Northwestern Corporation dba Northwestern Energy  
Attn: Kevin Markovloh  
Email: kevin.markovloh@northwestern.com  
Tel: 406-497-3336  
Fax: 406-497-2829

From: Citigroup Energy Inc.  
Attn: Melissa Rodriguez  
Email: OEIConfirms@Citigroup.com  
Tel: 1-713-752-5418  
Fax: 1-646-291-3383

Re: Physical Power Transaction

Transaction Reference Number: 1955965

The purpose of this communication is to set forth the terms and conditions of the above-referenced transaction entered into on the Trade Date specified below (the "Transaction") between Citigroup Energy Inc. ("Citi"), and Northwestern Corporation dba Northwestern Energy ("Counterparty"). This communication constitutes a "Confirmation" as referred to in the Agreement specified below.

U.S. Federal law requires Citi to obtain, verify and record customer identification information.

This Confirmation evidences a complete and binding agreement between the Parties as to the terms of the Transaction to which this Confirmation relates. Until we execute and deliver the Agreement (as defined in Section 2 hereof), this Confirmation shall be deemed to incorporate in their entirety (except as hereinafter modified or amended) the pre-printed form of the 2002 ISDA Master Agreement (the "ISDA Form") and the pre-printed North American Power Annex to the ISDA Form ("Power Annex"). This document constitutes a "Confirmation" as referred to in the ISDA Form and the transaction described above constitutes a "Transaction" as referred to in the ISDA Form.

The 2000 ISDA Definitions ("Definitions"), as published by the International Swaps and Derivatives Association, Inc. ("ISDA") are incorporated herein and made a part hereof for all purposes. The definitions and provisions contained in the 2005 ISDA Commodity Definitions as published by ISDA, and otherwise as amended, supplemented or modified from time to time (the "Commodity Definitions") are also incorporated herein and made a part hereof for all purposes. Additionally, the parties agree that the definitions and provisions contained in Annexes 1 to 16 and Section 6 of the 2002 Master Agreement Protocol published by ISDA are incorporated herein and made a part hereof.

1. Each Party will make each payment specified in this Confirmation as being payable by it, not later than the due date for value on that date in the place of the account specified below or otherwise specified in writing, in freely transferable funds and in the manner customary for payments in the required currency.
2. The Parties agree to negotiate and finalize an agreement in the form of the ISDA Form and, as applicable, a CSA (as hereinafter defined), and Power Annex with such modifications as the Parties will in good faith agree (collectively, the "Agreement") and, upon the execution by the Parties of the Agreement, the Parties agree that this Confirmation will supplement, form part of, and be subject to the Agreement. All provisions



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77058



contained in, or incorporated by reference in, the Agreement upon its execution will govern this Confirmation except as expressly modified herein. If CEI and the Counterparty fail to execute and deliver or to negotiate in good faith the Agreement on or before January 31, 2009, unless such time is otherwise extended by the mutual agreement of the Parties, an Additional Termination Event shall have occurred and be deemed to be continuing with respect to both CEI and Counterparty, in which event each of CEI and Counterparty will be deemed to be an Affected Party.

3. The terms of the particular Transaction to which this Confirmation relates are as follows:

Trade Date: October 24, 2008  
Buyer: Northwestern Corporation dba Northwestern Energy  
Seller: Citigroup Energy Inc.  
Commodity/Product: Firm Energy with Liquidated Damages  
Quantity: 25 MW per hour  
Total Quantity: 2,191,800 MWH  
Term: July 01, 2010 to and including June 30, 2020  
Delivery Period: All deliveries are made during the defined hour periods, Hour Ending (HE) 0100 through (HE) 2400 (24 hours each day), Monday through Sunday and NERC Holidays, Pacific Prevailing Time (PPT).  
Contract Price: USD 62.40 per MWH  
Delivery Point: Mid Columbia  
Calculation Agent: Citigroup Energy Inc.  
Scheduling: All scheduling will be completed on or before the time specified by either rule or convention applicable to the market at the delivery point.

4. Credit Provisions.

(a) The "Cross Default" provisions of Section 5(a)(vi) of the ISDA will apply to CEI and will apply and Counterparty.

- (1) Section 5(a)(vi) is amended by deleting in the seventh line thereof ", or becoming capable at such time of being declared,".
- (2) Section 5(a)(vi) is amended by inserting the following at the end thereof: "provided, however, that notwithstanding the foregoing, an Event of Default shall not occur under either (1) or (2) above if (a) the event or condition referred to in (1) or the failure to pay



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



referred to in (2) is a failure to pay caused by an error or omission of an administrative or operational nature; (b) funds were available to such party to enable it to make the relevant payment when due; and (c) such relevant payment is made within three Business Days following the error or failure being discovered."

(3) "Specified Indebtedness" shall have the meaning set forth in Section 14 of this Agreement; *provided, however*, that such term shall include any Specified Transaction.

(4) "Threshold Amount" means:

- (i) with respect to Party A, 2% of the stockholders' equity of Party A's Credit Support Provider; and
- (ii) with respect to Counterparty, \$50,000,000.

Threshold Amount includes the U.S. Dollar equivalent on the date of any default, event of default or other similar condition or event of any obligation stated in any other currency.

For purposes of the above, stockholders' equity shall be determined by reference to the relevant party's most recent consolidated (quarterly, in the case of a U.S. incorporated party) balance sheet and shall include, in the case of a U.S. incorporated party, legal capital, paid-in capital, retained earnings and cumulative translation adjustments. Such balance sheet shall be prepared in accordance with accounting principles that are generally accepted in such party's country of organization.

(b) Credit Support Provider: The Credit Support Provider of Party A shall be Citigroup Inc., which shall provide, within five (5) Business Days of the trade date herewith, an unconditional guarantee of the obligations of Party A hereunder in a form acceptable to Party B, which guarantee shall be in the amount of U.S. \$30,000,000.

(c) Credit Support Annex Provisions.

The terms and provisions of the ISDA Credit Support Annex as published by the International Swaps and Derivatives Association, Inc., is incorporated herein for all purposes (the "CSA"). For purposes of the CSA and Paragraph 13 thereto, the following shall be applicable:

"Threshold" shall mean, with respect to Party A, the lesser of (1) the amount set forth below opposite the lower of the Credit Ratings in effect on any Valuation Date for Party A's Credit Support Provider or (2) zero if on any Valuation Date an Event of Default or Potential Event of Default with respect to such party has occurred and is continuing.

<u>Threshold</u>	<u>S&amp;P Credit Rating</u>	<u>Moody's Credit Rating</u>
U.S. \$20,000,000	AA- and above	Aa3 and above
U.S. \$15,000,000	A+ and A	A1 and A2
U.S. \$ 5,000,000	A-, BBB+ and BBB	A3, Baa1 and Baa2



Citigroup Energy Inc.  
 2800 Post Oak Blvd.  
 Suite 500  
 Houston, TX 77058



Zero

Below BBB

Below Baa2

"Threshold" shall mean, with respect to Party B, the lesser of (1) the amount set forth below opposite the lower of the Credit Ratings in effect on any Valuation Date for Party B or (2) zero if on any Valuation Date an Event of Default or Potential Event of Default with respect to such party has occurred and is continuing.

<u>Threshold</u>	<u>S&amp;P Credit Rating</u>	<u>Moody's Credit Rating</u>
U.S. \$30,000,000	AA- and above	Aa3 and above
U.S. \$25,000,000	A- to A+	A3 to A1
U.S. \$20,000,000	BBB+	Baa1
U.S. \$15,000,000	BBB and BBB-	Baa2 and Baa3
Zero	Below BBB-	Below Baa3

- (d) "Minimum Transfer Amount" as of any date shall mean US \$100,000.
- (e) Rounding. The Delivery Amounts will be rounded up and Return Amounts will be rounded down to the nearest integral multiple of US \$100,000.
- (f) "Eligible Collateral" shall mean a Letter of Credit, and/or cash in the form of United States Dollars ("Cash").
- (g) "Letters of Credit" shall mean a letter of credit issued by a major commercial US bank or the U.S. branch office of a foreign bank, with a capital surplus of no less than USD 10 billion and a senior unsecured debt rating of at least "A-" or better as specified by S&P and "A3" or better as specified by Moody's, which Letter of Credit shall be substantially similar to the form Letter of Credit attached to this Confirmation as Exhibit A.
- (h) "Letter of Credit Valuation" shall be 100% unless a Letter of Credit Default shall have occurred with respect to such Letter of Credit, in which case the Valuation Percentage shall be Zero (0).
- (i) "Letter of Credit Default" means with respect to a Letter of Credit, the occurrence of any of the following events: (a) the issuer of such Letter of Credit shall fail to maintain a Credit Rating of at least (i) "A-" by S&P and "A3" by Moody's, if such issuer is rated by both S&P and Moody's, (ii) "A-" by S&P, if such issuer is rated only by S&P, or (iii) "A3" by Moody's, if such issuer is rated only by Moody's; (b) the issuer of the Letter of Credit shall fail to comply with or perform its obligations under such Letter of Credit; (c) the issuer of such Letter of Credit shall disaffirm, disclaim, repudiate or reject, in whole or in part, or challenge the validity of, such Letter of Credit; (d) twenty (20) or fewer Business Days remain prior to the expiration of such Letter of Credit and the issuer of such Letter of Credit has indicated its intention not to renew such Letter of Credit or Party B has failed to provide a replacement Letter of Credit to Party A; (e) such Letter of Credit shall expire or terminate, or shall fall or cease to be in full force and effect at any time during the term of the Agreement, in any such case without replacement; or (f) a Bankruptcy with respect to the issuer of such Letter of Credit has occurred.



Oligroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77056



- (j) "Notification Time" means 1:00 p.m. (New York time) on any Valuation Date.
- (k) "Valuation Date" means, each Local Business Day.
- (l) "Valuation Time" means, the close of business on the Local Business Day immediately preceding the Valuation Date.
- (m) "The "Interest Rate" will be the overnight ask rate in effect for such day, as set forth opposite the caption "O/N" under the heading "USD" on Telerate Page 4659 or any successor page thereto on or about 11:00 a.m., New York time, on such day and if no successor page is quoted, as agreed by the parties."

5. Additional Provisions:

- (a) The parties make the following elections with respect to Clause (j) of the Power Annex:

- (c)(i) and (c)(ii)  Accelerated Payment Damages.

- (d)(ii) Timeliness of Payment

- Option A

- Option B

- (h)(i) Wholesale Power Tariffs:

- CEI Electric Tariff, Tariff/Date/Docket: FERC/12-19-03/ER04-208-000

- Counterparty Electric Tariff, Tariff/Date/Docket:

- (h)(iii)  Applicability of FERC Standard of Review and Certain Covenants and Waivers

- (b) **Additional Representations.** In connection with this Confirmation, the Transaction to which this Confirmation relates and any other documentation relating to the Agreement, each party to this Confirmation represents and acknowledges to the other party that:

- (i) it is not relying on any advice, statements or recommendations (whether written or oral) of the other party regarding such Transaction, other than the written representations expressly made by that other party in the Agreement and in this Confirmation in respect of such Transaction;
  - (ii) it has the capacity to evaluate (internally or through independent professional advice) such Transaction (including decisions regarding the appropriateness or suitability of such Transaction) and has made its own decision to enter into such Transaction;
  - (iii) it understands the terms, conditions and risks of such Transaction and is willing to accept those terms and conditions and to assume (financially and otherwise) those risks;
  - (iv) it is entering into such Transaction as principal and not as an agent for any other party;



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



- (v) It acknowledges and agrees that the other party is not acting as a fiduciary or advisor to it in connection with such Transaction; and
- (vi) In the case of Counterparty only, it is entering into such Transaction for the purposes of managing its borrowings or investments, hedging its underlying assets or liabilities or in connection with a line of business, and not for purposes of speculation.
- (c) **Tax Representations.** The following provisions shall be applicable to Sections 3(e) and 3(f) of the ISDA Form:
- (i) **Payer Representations.** For the purpose of Section 3(e) of the ISDA Form, Party A will make the following representation and Party B will make the following representation:
- It is not required, by any applicable law, as modified by the practice of any relevant governmental revenue authority, of any Relevant Jurisdiction to make any deduction or withholding for or on account of any Tax from any payment (other than interest under Section 9(h) of the ISDA Form) to be made by it to the other party under this Agreement. In making this representation, it may rely on (i) the accuracy of any representations made by the other party pursuant to Section 3(f) of the ISDA Form, (ii) the satisfaction of the agreement contained in Section 4(a)(i) or 4(a)(iii) of the ISDA Form and the accuracy and effectiveness of any document provided by the other party pursuant to Section 4(a)(i) or 4(a)(iii) of the ISDA Form and (iii) the satisfaction of the agreement of the other party contained in Section 4(d) of the ISDA Form, except that it will not be a breach of this representation where reliance is placed on clause (i) above and the other party does not deliver a form or documents under Section 4(a)(iii) of the ISDA Form by reason of material prejudice to its legal or commercial position.
- (ii) **Payee Representations.** For the purpose of Section 3(f) of the ISDA Form, CEI and Counterparty make the representations specified below, if any:
- The following representation will apply to CEI:
- It is a corporation organized under the laws of the State of Delaware and its U.S. taxpayer identification number is 27-0069674. It is "exempt" within the meaning of Treasury Regulation sections 1.6041-3(p) and 1.6049-4(c) from information reporting on Form 1099 and backup withholding.
- The following representation will apply to Counterparty:
- It is a corporation created or organized in the United States or under the laws of the United States and its U.S. taxpayer identification number is \_\_\_\_\_. It is "exempt" within the meaning of Treasury Regulation sections 1.6041-3(p) and 1.6049-4(c) from information reporting on Form 1099 and backup withholding.
- (d) **Waiver of Right to Trial by Jury.** Each party hereby irrevocably waives, to the fullest extent permitted by applicable law, any right it may have to a trial by jury in respect of any suit, action or proceeding relating to this Agreement.
- (e) **Netting of Payments.** For Scheduled Settlement Dates, with regard to payments due on that date, Multiple Transaction Payment Netting will apply to the following groups of Transactions, each of which shall be treated separately for purposes of payment netting: Power Transactions (other



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



than options on physical power); Gas Transactions (other than options on physical Gas); options on physical power; options on physical gas; and financially-settled Transactions in Commodities (to the extent operationally feasible). If a party wishes to net payments across any of these groups of Transactions and/or payments with respect to other types of Transactions on a particular date, either party may notify the other in writing, not less than one Local Business Day in advance of one or more Scheduled Settlement Dates, that with regard to payments due on that date, Multiple Transaction Payment Netting will apply. Except to the extent that such advance written notice shall have been given, Multiple Transaction Payment Netting will not apply for purposes of Section 2(c) of this Agreement with respect to such other Transactions.

- (f) **Set-Off.** Section 6 of the Agreement is amended by the deletion of paragraph (f) in its entirety and the addition of the following:

(f) **Set-Off.** Without affecting the provisions of this Agreement requiring the calculation of certain net payment amounts, all payments under this Agreement will be made without set-off or counterclaim; provided, however, that upon the designation of any Early Termination Date, in addition to and not in limitation of any other right or remedy (including right to set off, counterclaim or otherwise withhold payment or any recourse to any Credit Support Document) under applicable law, the Non-defaulting Party or non-Affected Party (in either case, "X") may without prior notice to any person set off any sum or obligation (whether or not arising under this Agreement and whether matured or unmatured, whether or not contingent and irrespective of the currency, place of payment or booking office of the sum or obligation) owed by the Defaulting Party or Affected Party (in either case, "Y") to X or any Affiliate of X against any sum or obligation (whether or not arising under this Agreement, whether matured or unmatured, whether or not contingent and irrespective of the currency, place of payment or booking office of the sum or obligation) owed by X or any Affiliate of X to Y and, for this purpose, may convert one currency into another at a market rate determined by X. If any sum or obligation is unascertained, X may in good faith estimate that obligation and set off in respect of the estimate, subject to X or Y, as the case may be, accounting to the other when the obligation is ascertained.

- (g) **Severability.** Except as otherwise provided in Sections 5(b)(i) or 5(b)(ii) of the ISDA Form in the event that any one or more of the provisions contained in this Confirmation should be held invalid, illegal, or unenforceable in any jurisdiction, the validity, legality and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired thereby. The parties shall endeavor, in good faith negotiations, to replace the invalid, illegal or unenforceable provisions with valid provisions, the economic effect of which comes as close as possible to that of the invalid, illegal or unenforceable provisions.

- (h) **Limitation of Liability.** No party shall be required to pay or be liable to the other party for any consequential, indirect or punitive damages, opportunity costs or lost profits.

- (i) **Governing Law.** THIS CONFIRMATION AND THE TRANSACTION ENTERED INTO HEREUNDER WILL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK. THE PARTIES HERETO IRREVOCABLY SUBMIT TO THE EXCLUSIVE JURISDICTION OF THE COURTS OF THE STATE OF NEW YORK AND THE UNITED STATES COURT FOR THE SOUTHERN DISTRICT OF NEW YORK IN CONNECTION WITH ALL MATTERS RELATING HERETO AND WAIVE ANY OBJECTION TO THE LAYING OF VENUE IN, AND ANY CLAIM OF INCONVENIENT FORUM WITH RESPECT TO THESE COURTS. NOTWITHSTANDING THE FOREGOING, NOTHING IN THIS PROVISION SHALL PROHIBIT A PARTY FROM BRINGING AN ACTION TO ENFORCE A MONEY JUDGEMENT IN ANY OTHER JURISDICTION.



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77056



- (j) **Survival.** Notwithstanding the termination or expiration of the Transaction provided for under this Confirmation, all terms and conditions of this Confirmation shall survive any such termination or expiration and remain in full force and effect as to each and every Confirmation and Transaction entered into hereunder.
- (k) **Capitalized Terms.** Capitalized terms not otherwise defined in this Confirmation shall have the meaning ascribed to them, as applicable, in the ISDA Form, Power Annex, the Commodity Definitions and CSA, as applicable.

6. Account Details:

Payments to CEI:

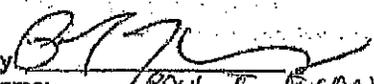
Account for payments: Acct Name: Citigroup Energy Inc.  
ABA #: 021000089  
Account No.: 30569329  
Reference: CEI Power

Payments to Counterparty: As per settlement invoice.

Accepted and confirmed as of the date first written:

Northwestern Corporation dba Northwestern Energy

Citigroup Energy Inc.

By:   
Name: PAUL J. EVANS  
Title: TREASURER

By:   
Name: Dale Neuner  
Title: Vice President



Citigroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 600  
Houston, TX 77066



**EXHIBIT A  
to Confirmation**

**Form of Letter of Credit**

**IRREVOCABLE TRANSFERABLE STANDBY LETTER OF CREDIT**

Letter of Credit No. \_\_\_\_\_ Issue Date: \_\_\_\_\_, 20\_\_

Beneficiary:

Account Party:

[Citigroup Energy Inc.]  
[Address]  
Attn: \_\_\_\_\_

[Name of Account Party]  
[Address of Account Party]  
Attn: \_\_\_\_\_

Ladies and Gentlemen:

We hereby establish in favor of you, **Citigroup Energy Inc.** (the "Beneficiary"), at the request and for the account of [name of account party] (the "Account Party"), with respect to the Confirmation dated as of \_\_\_\_\_, 20\_\_, by and between you and the Account Party, as may be amended from time to time, our Irrevocable Transferable Standby Letter of Credit No. \_\_\_\_\_ (the "Credit") whereby we irrevocably authorize you to draw on us, in accordance with the terms and conditions hereinafter set forth, in an amount not to exceed in the aggregate \$ \_\_\_\_\_.

Subject to the terms hereof, funds are available to you hereunder against presentation of a completed certificate (a "Certificate"), dated and signed by your representative, including one of the following statements:

1. An Event of Default (as defined in the Confirmation dated as of \_\_\_\_\_, 20\_\_, by and between you and [name of Account Party], as may be amended from time to time) has occurred and is continuing with respect to the Account Party under the Confirmation. Therefore the Beneficiary does hereby demand payment of the entire undrawn amount of the Credit; or
2. An Early Termination Date (as defined in the Confirmation dated as of \_\_\_\_\_, 20\_\_, by and between you and [name of Account Party], as may be amended from time to time) has occurred as a result of a Termination Event (as defined in such Confirmation) and Account Party has failed to make payments in an aggregate amount of \$ \_\_\_\_\_ due and owing to the Beneficiary in accordance with the terms of the Confirmation. Wherefore the Beneficiary does hereby demand payment of \$ \_\_\_\_\_.

Partial drawings are allowed under this Credit. The amount which may be drawn under this Credit shall be automatically reduced by the amount of any drawings previously paid by us hereunder.

Presentation of your Certificate shall be made on any day which is a New York Banking Day for us at or prior to [5:00 p.m. (New York time)] at our office located at \_\_\_\_\_ Presentation must be made by hand, mail or courier service, to such address, or by telex or SWIFT. If your presentation is made at such office, in compliance with the other terms and conditions of this Credit, on or prior to



Clifgroup Energy Inc.  
2800 Post Oak Blvd.  
Suite 500  
Houston, TX 77058



the expiry date hereof, we hereby irrevocably undertake to honor such presentation [by close of business on the next New York Banking Day].

This Credit is effective immediately and expires at our close of business on \_\_\_\_\_, 20\_\_\_\_, [(the "Initial Expiry Date"); provided however, that this Credit shall be automatically extended without amendment for one or more additional one-year periods from the Initial Expiry Date or any subsequent expiry date, unless at least 60 days prior to such date you receive a notice in writing by certified mail, [telex or SWIFT] at the above address, that we elect not to extend this Credit for such additional period. Upon your receipt of such a notice of non-extension, you shall be entitled to make immediate demand for payment of the full amount available under this Credit, by presentation of your Certificate.

This Credit shall be subject to the provisions of the International Standby Practices 1998, International Chamber of Commerce Publication No. 590 ("ISP"), and as to matters not addressed by ISP, shall be governed by the laws of the State of New York and applicable U.S. federal laws.

This Credit is transferable, and we hereby consent to such transfer, but otherwise may not be amended, changed or modified without our express written consent and that of the Beneficiary and the Account Party.

Very truly yours,

[ISSUING BANK]



\* \* \* Transmission Result Report (MemoryTX) ( Nov. 6. 2008 4:36PM ) \* \* \*

1) fairmont hot springs resort  
2)

Date/Time: Nov. 6. 2008 4:32PM

File No. Mode	Destination	Pg(s)	Result	Page Not Sent
6915 Memory TX	916462913383	P. 11	OK	

Reason for error  
E. 1) Hang up or line fall  
E. 3) No answer

E. 2) Busy  
E. 4) No facsimile connection

FAIRMONT HOT SPRINGS RESORT  
1504 FAIRMONT ROAD  
ANACONDA, MT 59711  
(406) 797-3244  
(406) 797-3897 FAX

DATE 11/6/08

PLEASE DELIVER ACCOMPANYING MATERIAL TO:

NAME MELISSA RODRIGUEZ

FAX NUMBER 406-291-3383

COMPANY CATLERUP ENERGY

FROM DANJ PERLITZ - NORTHWESTERN ENERGY

406-497-2525

NOTES OR SPECIAL INSTRUCTIONS

TOTAL NUMBER OF PAGES INCLUDING COVER PAGE 11

IF YOU DO NOT RECEIVE ALL DOCUMENTS, PLEASE CALL AS SOON AS POSSIBLE

- Page 1 of 3 -



5 The North Colonnade  
Canary Wharf  
London E14 4BB  
United Kingdom  
Tel +44 (0)20 7623 2323

**To:** Northwestern Corporation  
125 South Dakota Avenue  
Sioux Falls  
United States

**Attention:**

**Facsimile Number:** 001 651 305 8138

**Date:** 24 September, 2010

**Reference:** 23706371

**Power Transaction (Fixed Price)**

**CONFIRMATION**

The purpose of this facsimile (this "Confirmation") is to confirm the terms and conditions of the Transaction described below, entered into between Barclays Bank PLC (London Head Office) ("Barclays") and Northwestern Corporation (the "Counterparty") on the date Trade Date specified below (the "Transaction").

This Confirmation supersedes any previous Confirmation or other written communication with respect to the Transaction described below and evidences a complete binding agreement between you and us as to the terms of the Transaction described below. This Confirmation constitutes a "Confirmation" as referred to in the Agreement specified below.

This Confirmation supplements, forms a part of, and is subject to the ISDA Master Agreement dated as of 17 September, 2009, as amended and supplemented from time to time (the "Agreement") between you and us. All provisions contained in the Agreement govern this Confirmation except as expressly modified below.

In the event of any inconsistency between this Confirmation and any other relevant governing document, this Confirmation will govern for purposes of the Transaction. Capitalized terms used in this Confirmation and not defined in this Confirmation shall have the respective meanings assigned in the Agreement.

- Page 2 of 3 -

Each party represents to the other party that (absent a written agreement between the parties that expressly imposes affirmative obligations to the contrary):

- (a) **Purpose.** It is entering into the Transaction for the purposes of hedging its assets or liabilities or in connection with a line of business.

The terms of the particular Transaction to which this Confirmation relates are as follows:

Trade Date: 21 September, 2010

Seller: Barclays

Buyer: Counterparty

Product: Mid Columbia, Firm Energy (LD)

Contract Quantity: "Contract Quantity" shall mean in respect of the Delivery Period, the product of the Quantity and the total number of hours in such Delivery Period, expressed in MWh. For the purposes of this Transaction, this amount will be 614,000.00 MWh.

Quantity: 25.00 MW per hour

Delivery Point: Mid - Columbia

Contract Price: USD 30,178,100.00

Energy Price: "Energy Price" shall mean a price expressed in USD per MW. For the purposes of this Transaction, such price will be USD 49.15 per MW.

Delivery Period: In respect of each Calculation Period, and further in respect of each Monday to Saturday inclusive therein, from 01 July, 2012 to and including 30 June, 2017, but excluding North American Electric Reliability Council ("NERC") holidays, each of the sixteen (16) "peakload" hours during such day, beginning at and including the hour ending 07:00 hours Pacific Prevailing time and ending at and including the hour ending 22:00 hours Pacific Prevailing time on such day.

Other Charges: Not applicable

Special Conditions: Not applicable

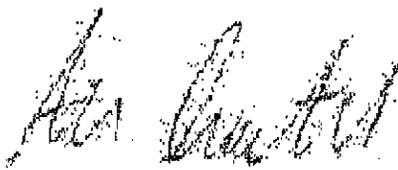
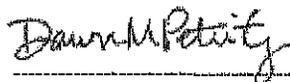
Scheduling: Toll free 24-hour no.: +1 (0) 866-861-0478 (Real Time)  
+1 (0) 866-304-2113 (Day Ahead)

The time of dealing will be confirmed by Barclays Bank PLC upon written request.

Please confirm that the foregoing correctly sets forth all the terms and conditions of our agreement with respect to the Transaction by responding within two (2) Business Days by promptly signing in the space provided below and faxing the signed copy to Barclays, Commodities Transaction Documentation & Management Group, toll-free facsimile number 1-866-871-3834, or alternatively to standard facsimile number +44 (0)20-7516-7484 / +44 (0)20-7773-6494, telephone +44 (0)20-7773-0172 / 5490 / 6472. Your failure to respond within such period shall not affect the validity or enforceability of the Transaction as against you. This facsimile shall be the only Confirmation documentation in respect of this Transaction and accordingly no hard copy versions of this Confirmation for this Transaction shall be provided unless the Counterparty requests.

For and on behalf of  
BARCLAYS BANK PLC

For and on behalf of  
NORTHWESTERN CORPORATION

  
Alex Instrail

-----  
NAME: Alex Instrail  
Authorised Signatory  
Date: 24 September 2010

-----  
NAME:  
Authorised Signatory  
Date: 10/04/10

CREDIT SUISSE

CREDIT SUISSE ENERGY LLC

11 Madison Avenue Telephone 212-825-2000  
New York, NY 10010 [www.credit-suisse.com](http://www.credit-suisse.com)

11 December 2008

NorthWestern Corporation  
125 South Dakota Avenue  
Sioux Falls, SD 57104  
United States

Reference ID: 1856327 - 1

1. This confirmation letter shall confirm the Transaction agreed to on 10 December 2008 (Trade Date) between Credit Suisse Energy, LLC ("CSE") and NorthWestern Corporation ("Counterparty") regarding the sale/purchase of the Product under the terms and conditions as follows:

Physical Power Exchange Fee Payer ("Fee Payer");	CSE
Physical Power Exchange Fee Receiver ("Fee Receiver");	Counterparty
Product:	<b>Physical Power Exchange</b> where Physical Power Exchange shall mean the Fee Payer shall receive Contract Quantity from Exchange Fee Receiver at CSE Point of Receipt and simultaneously the Exchange Fee Payer shall deliver Contract Quantity at to Exchange Fee Receiver at CSE Point of Delivery.
Physical Power Exchange Fee:	The Fee Payer shall pay the Fee Receiver USD 3.00 per MWH
Delivery Period: Begin Date:	1 July 2010
End Date:	30 June 2015
Schedule:	Hour Ending (HE) 0100 through (HE) 2400 (24 hours each day), Monday through Sunday, Pacific Prevailing Time (PPT)



# CREDIT SUISSE

Contract Quantity: 25 MW per hour

Total Contract Quantity: 1,095,600 MWH

CSE Point of Receipt: Mid - C

CSE Point of Delivery: NWE System: where NWE System means any available interconnection point on the NorthWestern Energy transmission system where Counterparty can take delivery pursuant to its existing Network Transmission Agreement

Service Type: WSPP Schedule C with Liquidated Damages

NERC Holiday: North American Electricity Reliability Council (NERC) as reflected from time to time on its website currently located at <http://www.nerc.com/~oc/offpeaks.html>, or any successor thereto.

Bookout Clause: CSE has the right to "Bookout" this Transaction with NWE in accordance with the "Bookout Notification Parameters" and the "Bookout Fee" as defined below.

Where,

Bookout means the Parties agree to be relieved of all obligations under this Transaction as of the Bookout Effective Date.

Bookout Notification Parameters means CSE must provide written notification to NWE at least 30 days prior to the date upon which the Bookout becomes effective, the "Bookout Effective Date".

Bookout Fee means the amount CSE shall pay to NWE as the sole remedy for the termination of the Transaction. The Bookout Fee shall be calculated by multiplying \$4/MWH by all remaining MWH in the contract as of the Bookout Effective Date.

2. This transaction is governed by definitions and provisions of the WSPP Agreement, as such agreement may be amended from time to time. In the event of any inconsistency between the WSPP Agreement and this Confirmation, this Confirmation will prevail.



**CREDIT SUISSE**

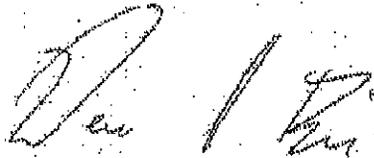
3. Contact Information:

Ricardo A. Harewood 212-325-8678  
Dean Brier 212-325-8648  
Fax: 212-951-8823  
Email: energy.confirms@credit-suisse.com

Please execute and return this Confirmation to us, or provide notice of a dispute of any terms, or request a correction of any error via fax at (212) 951-8823 or via email to energy.confirms@credit-suisse.com herein within five (5) Local Business Days of the date written above. Your failure to respond within such period shall not affect the enforceability of the Transaction as against you.

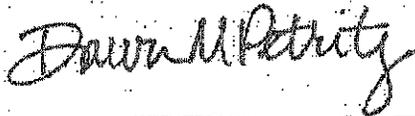
Yours faithfully,

Credit Suisse Energy LLC



By: \_\_\_\_\_  
Name: Dean Brier  
Title: Vice President

Confirmed as of the date first written above:  
NorthWestern Corporation



By: \_\_\_\_\_  
Name:  
Title:



## Morgan Stanley

Morgan Stanley Capital Group Inc.  
2000 Westchester Avenue  
Purchase, New York 10577  
September 24, 2010

NORTHWESTERN CORPORATION  
125 S DAKOTA AVE 1100  
SIOUX FALLS, SD 57104-6403

USA  
Kevin Markovich  
TEL: 406-497-2332  
FAX: 16513058138

From:  
Morgan Stanley Capital Group Inc.  
2000 Westchester Avenue  
Purchase, New York 10577  
Contact: Commodity Confirms  
Phone: 914-225-4300  
Fax: 914-750-0445

MS Reference: 2757430 1.1  
Trade Date: September 21, 2010

This Confirmation confirms the terms of Morgan Stanley Capital Group Inc. ("MSCGI") agreement regarding the purchase or sale of firm energy (the "Transaction") from / to NORTHWESTERN CORPORATION ("NorthwestCorp"). Morgan Stanley Capital Group Inc. and NORTHWESTERN CORPORATION are sometimes referred to individually as a "Party" or collectively as the "Parties". The terms are as follows:

Purchaser: Morgan Stanley Capital Group Inc.  
Seller: NORTHWESTERN CORPORATION  
Term: July 1, 2012 to June 30, 2017  
Delivery Hours: Monday through Saturday, Exclude NERC holidays, HE 0700 through 2200 (16 hours)  
Pacific Prevailing Time (PPT)  
Contract Quantity: 25 MWh of firm Energy per hour. (Total 614,000.00 MWh)  
Delivery Point: Mid Columbia  
Energy Price: \$Electricity - Mid C Peak - ICE/10x Daily - Power/MWh  
Scheduling: Pre-schedule in accordance with WECC Guidelines.

Morgan Stanley Real-Time Communications and Scheduling:

Option Exercise Line: 914-225-1501  
Western Prescheduling: 914-225-1496  
Eastern Prescheduling: 914-225-1509  
Real Time (24 hour): 914-225-1500

This confirmation letter is provided pursuant to and in accordance with the ISDA dated March 3, 2006 and as amended from time to time, the ("Agreement") between NORTHWESTERN CORPORATION and MSCGI, and constitutes part of and is subject to all the terms and provisions of such agreement. Terms used but not defined herein shall have the meaning ascribed to them in the agreement. Please confirm that terms stated herein accurately reflect the agreement reached between NORTHWESTERN CORPORATION and MSCGI by returning an executed copy of this Confirmation Letter. (Fax: 914-750-0445)

Morgan Stanley Capital Group Inc.

NORTHWESTERN CORPORATION

*Deborah A. Hart*

Deborah Hart  
Vice President

Name: *Dawn M. Petting*  
Title: Director-Energy Risk Management

08/02/2011



## POWER CONFIRMATION

## Buyer:

Attn: Confirmation Department  
NORTHWESTERN CORPORATION D-B-A NW ENERGY  
Fax #: (651)305-8138

## Seller:

Rep: Chris Stelzer  
BP ENERGY COMPANY  
201 Hellos Way  
Houston, TX 77079

<b>Trade Date:</b>	08/02/2011
<b>Trade Sequence:</b>	1785245
<b>Buyer:</b>	NORTHWESTERN CORPORATION D-B-A NW ENERGY
<b>Seller:</b>	BP ENERGY COMPANY
<b>Quantity:</b>	25 MW
<b>Total Quantity:</b>	122,800 MWh
<b>Period of Delivery:</b>	01/01/2012 through 12/31/2012, Monday through Saturday, excluding NERC holidays, HE 0700 through HE 2200
<b>Contract Price:</b>	36.75 / MWh
<b>Delivery Point(s):</b>	Mid-Columbia
<b>Service:</b>	WSPP Schedule C Firm-LD Energy Only
<b>Broker:</b>	Tullett Prebon Energy Inc.
<b>Agreement Number:</b>	165650
<b>Agreement Date:</b>	04/01/2003

## GENERAL TERMS AND CONDITIONS:

Western Systems Power Pool Agreement, referenced above, which the Parties are signatories to, and which agreement, being the version in effect at the time this Transaction was entered into, is incorporated herein by reference. In the event that the parties have not yet executed a Master Agreement, this transaction shall be subject to the Master Power Purchase & Sale Agreement (Edison Electric Institute Version 2.1 -- modified 4/25/00) (default elections applying), and upon the execution of a Master Agreement between the parties, this transaction shall be merged into and governed by such executed Master Agreement. Please confirm that the foregoing correctly sets forth the terms of our agreement with respect to this Transaction by signing this confirmation in the space provided below and returning a copy of the executed confirmation within five (5) business days of receipt by faxing to us at (713) 323-1693. Failure to respond by providing a signed copy of this Transaction Confirmation or an objection to any specific terms to which the counterparty does not agree will be deemed acceptance of the terms hereof.

If you have any questions, please contact the Confirmation Department at 713-323-1666.

BP ENERGY COMPANY

NORTHWESTERN CORPORATION D-B-A NW ENERGY

*C. Stelzer*  
Name: Chris Stelzer

Date: 08/02/2011

Name: *Dawn M. Petry*

Date: 8/03/11

-Page 2 of 3-

Trade Date: 12 October, 2011

Seller: Barclays

Buyer: Counterparty

Product: Mid Columbia, Firm Energy (LD)

Contract Quantity: "Contract Quantity" shall mean in respect of the Delivery Period, the product of the Quantity and the total number of hours in such Delivery Period, expressed in MWh. For the purposes of this Transaction, this amount will be 245,600.00 MWh.

Quantity: 25.00 MW per hour

Delivery Point: Mid Columbia

Contract Price: USD 40.7500 per MW

Delivery Period: In respect of each Monday to Saturday inclusive therein, from and including 01 January, 2013 to and including 31 December, 2014, each of the sixteen (16) "peakload" hours during such day, beginning at and including the hour ending 07:00 hours Pacific Prevailing time and ending at and including the hour ending 22:00 hours Pacific Prevailing time on such day.

Other Charges: Not applicable

Special Conditions: Not applicable

Scheduling: Toll free 24-hour no.: +1 (0) 866-861-0478 (Real Time)  
+1 (0) 866-304-2113 (Day Ahead)

The time of dealing will be confirmed by Barclays Bank PLC upon written request.



Please confirm that the foregoing correctly sets forth all the terms and conditions of our agreement with respect to the Transaction by responding within two (2) Business Days by promptly signing in the space provided below and faxing the signed copy to Barclays, Commodities Documentation Group, America - toll-free facsimile number (from USA) 1 877 354 8065, contact Mechelle Stevens, telephone 001 713 401 6750, email uspowergasconfirms@barcap.com / gtdmista@barcap.com / uscommoditiesderivs@barcap.com, Asia Pac - facsimile number 0065 6308 7890, EMEA - facsimile number 0044 (0)207 516 7484. Your failure to respond within such period shall not affect the validity or enforceability of the Transaction as against you. This facsimile shall be the only Confirmation documentation in respect of this Transaction and accordingly no hard copy versions of this Confirmation for this Transaction shall be provided unless the Counterparty requests.

For and on behalf of  
BARCLAYS BANK PLC

For and on behalf of  
NORTHWESTERN CORPORATION

Nicole Richard

Dawn M. Petritz  
Director Energy Risk Management  
10/13/11

NAME: Nicole Richard  
Authorised Signatory  
Date: 13 October 2011

NAME:  
Authorised Signatory  
Date:





5 The North Colonnade  
Canary Wharf  
London E14 4BB  
United Kingdom  
Tel +44 (0)20 7623 2323

**To:** Northwestern Corporation  
125 South Dakota Avenue  
Sioux Falls  
United States  
SD 57104-6403

**Attention:**  
**Facsimile Number:** 0016513058138  
**Email Address:**  
**Date:** 11 August, 2011  
**Reference:** 26996960

**Power Transaction (Fixed Price)**

**CONFIRMATION**

The purpose of this facsimile (this "Confirmation") is to confirm the terms and conditions of the Transaction described below, entered into between Barclays Bank PLC (London Head Office) ("Barclays") and Northwestern Corporation (the "Counterparty") on the date ("Trade Date") specified below (the "Transaction").

This Confirmation supersedes any previous Confirmation or other written communication with respect to the Transaction described below and evidences a complete binding agreement between you and us as to the terms of the Transaction described below. This Confirmation constitutes a "Confirmation" as referred to in the Agreement specified below.

This Confirmation supplements, forms a part of, and is subject to the ISDA Master Agreement dated as of 17 September, 2009, as amended and supplemented from time to time (the "Agreement") between you and us. All provisions contained in the Agreement govern this Confirmation except as expressly modified below.

In the event of any inconsistency between this Confirmation and any other relevant governing document, this Confirmation will govern for purposes of the Transaction. Capitalized terms used in this Confirmation and not defined in this Confirmation shall have the respective meanings assigned in the Agreement.

Each party represents to the other party that (absent a written agreement between the parties that expressly imposes affirmative obligations to the contrary):

- (a) **Non-Reliance.** It is acting for its own account, and it has made its own independent decisions to enter into the Transaction and as to whether the Transaction is appropriate or proper based upon its own judgement and upon advice from such advisers as it has deemed necessary. It is not relying on any communication (written or oral) of the other party as investment advice or as a recommendation to enter into the Transaction; it being understood that information and explanations related to the terms and conditions of the Transaction shall not be considered investment advice or a recommendation to enter into the Transaction. No communication (written or oral) received from the other party shall be deemed to be an assurance or guarantee as to the expected results of the Transaction.
- (b) **Assessment and Understanding.** It is capable of assessing the merits of and understanding (on its own behalf or through independent professional advice), and understands and accepts, the terms, conditions and risks of the Transaction. It is also capable of assuming, and assumes, the risks of the Transaction.
- (c) **Status of Parties.** The other party is not acting as a fiduciary for or an adviser to it in respect of the Transaction.
- (d) **No Agency.** It is entering into the Transaction as principal and not as agent of any person.
- (e) **Purpose.** It is entering into the Transaction for the purposes of hedging its assets or liabilities or in connection with a line of business.

The terms of the particular Transaction to which this Confirmation relates are as follows:

Trade Date: 08 August, 2011

Broker: Tullett Liberty Brokerage Inc

Seller: Barclays

Buyer: Counterparty

Product: Mid Columbia, Firm Energy (LD)

Contract Quantity: "Contract Quantity" shall mean in respect of the Delivery Period, the product of the Quantity and the total number of hours in such Delivery Period, expressed in MWh. For the purposes of this Transaction, this amount will be 122,800.00 MWh.

Quantity: 25,00 MW per hour

Delivery Point: Mid Columbia

Contract Price: USD 35.10 per MW

**Delivery Period:** In respect of each Monday to Saturday inclusive therein, from and including 01 January, 2012 to and including 31 December, 2012, each of the sixteen (16) "peakload" hours during such day, beginning at and including the hour ending 07:00 hours Pacific Prevailing time and ending at and including the hour ending 22:00 hours Pacific Prevailing time on such day.

**Other Charges:** Not applicable

**Special Conditions:** Not applicable

**Scheduling:** Toll free 24-hour no.: +1 (0) 866-861-0478 (Real Time)  
+1 (0) 866-304-2113 (Day Ahead)

The time of dealing will be confirmed by Barclays Bank PLC upon written request.

Please confirm that the foregoing correctly sets forth all the terms and conditions of our agreement with respect to the Transaction by responding within two (2) Business Days by promptly signing in the space provided below and faxing the signed copy to Barclays, Commodities Documentation Group, America - toll-free facsimile number (from USA) 1 877 354 8065, contact Mechele Stevens, telephone 001 713 401 6750, email uspowergasconfirms@barcap.com / gtdmisa@barcap.com / uscommoditiesderivs@barcap.com, Asia Pac - facsimile number 0065 6308 7890, EMEA - facsimile number 0044 (0)207 516 7484. Your failure to respond within such period shall not affect the validity or enforceability of the Transaction as against you. This facsimile shall be the only Confirmation documentation in respect of this Transaction and accordingly no hard copy versions of this Confirmation for this Transaction shall be provided unless the Counterparty requests.

For and on behalf of  
BARCLAYS BANK PLC

For and on behalf of  
NORTHWESTERN CORPORATION

Nicole Richard

NAME: Dawn M. Petritz  
Authorised Signatory  
Date: 8/29/11

NAME: Nicole Richard  
Authorised Signatory  
Date: 12 August 2011

Oct 13 2011 11:17:10 16464612381 ->

- Deutsche Bank

Trade No. 14610067

DB Energy Trading LLC



13-Oct-2011

NorthWestern Corporation

Attention: Confirmations

Phone: (406) 497-3336

Fax Number: 651-305-8138

### Confirmation Letter

This letter is to serve as a written confirmation of the understanding reached on 12-Oct-2011, between representatives of DB Energy Trading LLC and NorthWestern Corporation (also referred to individually as "Party" or collectively as "Parties") regarding the sale and purchase of electric energy pursuant to the EEI dated 28-Dec-2005 under the terms and conditions that follow.

The terms of the Transaction to which this Confirmation relates are as follows:

**General Terms:**

Trade Date:	12-Oct-2011
Seller:	DB Energy Trading LLC
Buyer:	NorthWestern Corporation
Commodity:	Electricity
Schedule:	On-Peak (Monday - Saturday excluding NERC holidays HE 7:00 - HE 22:00 PPT)
Location:	Mid-Columbia
Product Type:	Firm Electricity with liquidated damages
Delivery Period:	01-Jan-2013 through 31-Dec-2014, inclusive
Quantity:	25 MWH; Total 245,600 MWH
Fixed Price:	USD 41.0000. per MWH
Payments Date(s):	20 Calendar Days after the last calendar day of the current month subject to adjustment in accordance with the Modified Following Business Day Convention

**SPECIAL TERMS:**

Scheduling: (713) 653-5170

Please confirm that the transaction terms stated herein accurately reflect the agreement reached between Parties, by returning an executed copy of this letter by facsimile to (646) 461-2381. If you have any comments or questions, please call (713) 653-6910. We will consider this Confirmation as being fully executed within 2 NERC Business Days from the date it was sent, unless we hear from you to the contrary.

Sincerely,  
DB Energy Trading LLC

Accepted:  
NorthWestern Corporation

Name: Erick Yiu  
Title: Authorized Signatory

Name: George Patterson  
Title: Authorized Signatory

Dawn M. Petritz  
Director Energy Risk Management



CONFIRMATION AGREEMENT

Date: October 21, 2011  
Buyer: NorthWestern Corporation  
Seller: Cargill Power Markets, LLC  
Agreement: WSPP Agreement and Service Schedule C  
Trade Date: October 12, 2011

This confirmation agreement is provided to confirm the oral agreement entered into on the above referenced trade date pursuant to the following terms and conditions:

Start Date: 01/01/2013  
End Date: 12/31/2014  
Delivery Hours: HE 0100 - HE 0600 and HE 2300 - HE 2400, Monday through Saturday, excluding NERC holidays; and HE 0100 - HE 2400 Sundays and NERC holidays

Hourly Volume: 50 MWh/Hr  
Total Volume: 384,800 MW

Price: \$30.00  
Total Value: \$11,544,000.00

Delivery Point(s): Mid-C

The Seller and Buyer agreed to the above transactions pursuant to and in accordance with the terms and conditions of the WSPP Agreement and Service Schedule C, as amended and effective as of August 19, 2011.

This Confirmation Agreement shall be final and binding, whether or not signed, unless NorthWestern Corporation is notified in writing of any inaccuracy within five (5) business days following the receipt of this Confirmation Agreement.

NorthWestern Corporation

Counterparty

Signed: Dawn M. Petritz

Signed: [Signature]

Name: Dawn M. Petritz

Name: John Huey

Title: Director, Energy Risk Management

Title: Manager, Structured Trading

Date: 10/21/2011

Date: 11/28/11

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-111

Regarding: Hedging Gains and Losses, Risk  
Witness: Markovich

On p.4 of your rebuttal testimony, you state, "Any assets or contracts that NWE has which are fixed price and do not fluctuate based on current market prices are considered hedges, as they eliminate the possibility of future gains or losses to customers and thus reduce risk."

Does this mean a mark-to-market or alternative analysis of price differences is not valid in this case? How would you propose to assess the efficacy of a hedging policy with respect to costs and benefits?

RESPONSE:

Mark-to-market, analysis of price differences, or "hedging gains and losses" is not the proper metric to evaluate the effectiveness of a hedging program. Overall rates, rate volatility, and rate stability are better measures to be used when assessing the effectiveness of a hedging program.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-112

Regarding: 2013 RFP, Hedging  
Witness: Markovich

Regarding the RFP issued by NorthWestern on May 9, 2013, do you consider the requested products to be examples of hedging?

RESPONSE:

Any fixed price products that are purchased in this RFP will be considered price hedges; index purchases will not.

**NorthWestern Energy  
Docket D2012.5.49  
Electric Tracker**

**Montana Public Service Commission (PSC)  
Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-113

Regarding: Hedging  
Witness: Markovich

At page 7 of your rebuttal testimony on lines 3 through 14, you describe hedging provided by the full requirements contract with PPL. Was that buy back contract included in Senate Bill 390?

RESPONSE:

No.

**NorthWestern Energy  
Docket D2012.5.49  
Electric Tracker**

**Montana Public Service Commission (PSC)  
Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-114

Regarding: Hedging  
Witness: Markovich

At page 4 of your rebuttal testimony you state, "NWE has many different hedges, both on-system and at the Mid C market, including Colstrip 4, Judith Gap, Spion Kop, Turnbull Hydro, the PPL Montana, LLC supply contract, and fixed price hedges entered into at the Mid C market as described in the Donkin Direct Testimony."

Please provide a schedule from July 2011 through June 2013 showing each of the hedges described in your testimony including the cost of each hedge. Indicate whether the hedges produced a gain or loss compared to simply buying electricity in the market.

RESPONSE:

See Attachment for information from July 2011 through April 2013, the most recent month available.

PSC-114

	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	
<b>On-Peak</b>																							
Colstrip 4	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37
Judith Gap	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61
Spion Kop																							
Turnbull Hydro	\$ 65.25	\$ 65.25	\$ 65.25	\$ 65.25							\$ 65.25	\$ 65.25	\$ 65.25	\$ 65.25	\$ 65.25								
PPL 7 Year Contract	\$ 51.85	\$ 51.85	\$ 51.85	\$ 51.75	\$ 51.75	\$ 51.75	\$ 52.15	\$ 52.15	\$ 52.15	\$ 52.55	\$ 52.55	\$ 52.55	\$ 52.60	\$ 52.60	\$ 52.60	\$ 52.65	\$ 52.65	\$ 52.65					
Mid-C Hedges	\$ 38.53	\$ 42.56	\$ 55.20	\$ 55.20	\$ 55.20	\$ 41.72	\$ 37.85	\$ 44.75	\$ 44.75	\$ 44.75	\$ 44.75	\$ 44.75	\$ 32.76	\$ 35.08	\$ 45.85	\$ 45.85	\$ 45.85	\$ 42.58	\$ 45.83	\$ 45.83	\$ 45.83	\$ 45.83	\$ 45.83
<i>ICE Mid-C Index Price</i>	\$ 31.41	\$ 34.11	\$ 33.80	\$ 26.87	\$ 33.46	\$ 32.14	\$ 26.05	\$ 24.49	\$ 18.54	\$ 15.03	\$ 10.73	\$ 9.04	\$ 22.28	\$ 31.01	\$ 25.71	\$ 32.52	\$ 28.90	\$ 26.21	\$ 28.96	\$ 28.82	\$ 32.56	\$ 31.07	
<b>Off-Peak</b>																							
Colstrip 4	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37	\$ 62.37
Judith Gap	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61	\$ 35.61
Spion Kop																							
Turnbull Hydro	\$ 65.25	\$ 65.25	\$ 65.25	\$ 65.25							\$ 65.25	\$ 65.25	\$ 63.25	\$ 65.25	\$ 65.25		\$ 50.39	\$ 50.39	\$ 50.39	\$ 50.39	\$ 50.39	\$ 50.39	\$ 50.39
PPL 7 Year Contract	\$ 51.85	\$ 51.85	\$ 51.85	\$ 51.75	\$ 51.75	\$ 51.75																	
Mid-C Hedges	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 62.40	\$ 36.64	\$ 36.64	\$ 36.64	\$ 36.64	\$ 36.64
<i>ICE Mid-C Index Price</i>	\$ 8.40	\$ 20.77	\$ 28.77	\$ 25.10	\$ 27.94	\$ 28.96	\$ 24.09	\$ 22.36	\$ 13.88	\$ 2.47	\$ 0.42	\$ (0.81)	\$ 1.69	\$ 17.34	\$ 23.24	\$ 27.99	\$ 26.71	\$ 22.34	\$ 25.67	\$ 28.06	\$ 30.42	\$ 19.32	

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-115

Regarding: PWPS FT-8 SWIFTPACK Units  
Witness: Rhoads

At page 7 of your rebuttal testimony you describe the three FT-8 SWIFTPACK units which were selected for use in constructing the Dave Gates Generating Station which was built for the purpose of providing regulation service for NorthWestern. You state that "This is a proven technology that meets the requirements for availability, reliability, ramp rate, minimum operating level, emissions and constructability."

- a. Are you aware of any other facilities in the utility industry that use the SWIFTPACK aero derivative gas turbine generators for the purpose of providing regulation service?
- b. If you are not aware of any other utilities using this technology to provide regulation service, please explain how you arrive at the conclusion that "this is a proven technology" when used to provide regulation service?

RESPONSE:

- a. No.
- b. The technology requirements cited in the question including availability, reliability, ramp rate, minimum operating level, emissions, and constructability were those attributes needed to achieve success as a regulating plant. Those attributes have proven to be true, as witnessed in the success of the plant in its first year of operation, and since recovery from the outage. The performance of the plant has indeed proven that those attributes that were selected during the technology review were in fact the correct attributes to use in the selection of the technology. That *proven technology* was applied to a unique *application*.

In addition, after the technology and suppliers were identified in 2008, NWE hired an independent engineering firm to review the technology selection and the supplier. The independent consultant, whose report was provided as an exhibit in the original application for approval of the DGGS [fka Mill Creek Generating Station], stated: "The result of the technology assessment which indicates that aero derivative combustion turbines is the preferred technology for the CPS regulation is a reasonable conclusion."

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-116

Regarding: Operation of DGGS  
Witness: Rhoads

- a. At page 8, line 6 of your rebuttal testimony you note, "Overall the operation of DGGS has been excellent." In the months of February, March and April 2012 how do you evaluate the operation of DGGS with respect to design and function of the original turbines?
- b. Given that the three turbines developed mechanical problems after just 13 months of operation, what is your conclusion as to adequacy of the original design of the turbines for use in providing regulation service?
- c. Did the original PWPS design properly account for the operating temperatures inside the turbines while performing the ramping associated with the provision of regulation service?
- d. Did the original PWPS design properly secure the bolts which were part of the mechanical problems experienced with the turbines?

RESPONSE:

- a. *Overall*, since commercial operation began, the operation has been excellent. The operation of the plant uncovered a problem that when fixed will result in a plant that operates even better than before. Also as part of that evaluation is the assessment of the ability to recover from a significant outage in a timely manner. A test of a company's performance is not how it responds when things are going right, but how it responds in the face of adversity. The recovery effort demonstrated by both PWPS and NWE was excellent. This also demonstrates the solid business relationship our two companies have.
- b. Having the benefit of a year of trouble free operation and experiencing the outage, my conclusion about the adequacy of the original design is that we have learned more about the operation of the units than we knew before. The original design and control software will be improved based upon our experience and will incorporate an evolution of design - a process common to most things we use on a daily basis.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-116 cont'd

- c. The answer to this question is extremely technical and NWE does not have the information to answer to the level of detail needed for a complete response. What NWE knows about operating temperatures and ramping related to the outage is contained in the response to previous data requests within this set. NWE purchased a product that met our design specifications and PWPS backed it up with a warranty.
  
- d. The answer to this question is extremely technical and NWE does not have the information to answer to the level of detail needed for a complete response. What NWE knows about the bolts related to this outage is contained in the data requests within this set. NWE purchased a product that met our design specifications and PWPS backed it up with a warranty.

**NorthWestern Energy**  
**Docket D2012.5.49**  
**Electric Tracker**

**Montana Public Service Commission (PSC)**  
**Set 8 (100-117)**

Data Requests received May 17, 2013

PSC-117

Regarding: Failure Of Power Plant Components  
Witness: Rhoads

- a. At page 15 of your rebuttal testimony you discuss the failure of power plant components. In your professional experience have you had experience where a power plant had a mechanical outage after its first thirteen months of operation?
- b. Has the mechanical problem which resulted in a three-month outage for the DGGS caused NorthWestern to reevaluate for the future the need for a warranty which provides that the vendor will pay for part or all of replacement power due to an outage during the original plant warranty?

RESPONSE:

- a. Yes, I have experience with power plants that had mechanical outages after the first thirteen months of operation.
- b. No. In the future, NWE can inquire about a provision for replacement power due to an outage during the original plant warranty. However, as stated in my testimony and in the Prefiled Rebuttal Testimony of Fred Lyon, manufacturers do not offer this type of warranty.