

8. PSNH should set distribution system protective settings in the future such that local generation is not impacted. In addition, Mr. Cannata recommended that PSNH review existing distribution system settings and do whatever is possible to minimize impacts to local generation.

This effort has been initiated with Distribution Protection and Control Engineering (D-P&CE) reviewing generator voltage and overcurrent settings when it is perceived that 34.5 kV feeder protection system changes or additions may impact the operation of local PSNH generation.

PSNH completed a study in 2009 which checked local generator voltage relaying coordination versus distribution 34.5 kV feeder coordination. The results of this study showed that except for Canaan Hydro, all other sites met coordination margins defined as 0.45 seconds or greater when the undervoltage relays (type ICRs) are set to factory published settings. Canaan hydro's worst case coordination margin was 0.35 seconds which is slightly less than our desired target margin but which is still deemed as acceptable for this unit at this location. PSNH D-P&CE is issuing setting letters to the PSNH Hydro Generation group to allow them to confirm and/or set all type ICR relays to factory settings.

Public Service Company of New
Hampshire
Docket No. DE 09-091

Data Request STAFF-01

Dated: 06/15/2009
Q-STAFF-028
Page 1 of 1

Witness: William H. Smagula
Request from: New Hampshire Public Utilities Commission Staff

Question:

Reference Smagula testimony, page 4. Please provide the specifics for each bullet under each topic.

Response:

Mr. Smagula's testimony reiterated recommendations by Liberty Consulting as listed below and confirmed that PSNH Generation continues to consider, as a whole, these items in the management of the facilities.

Optimizing availability with:

- on-line maintenance
- redundant equipment to shorten forced outage time
- appropriate replacement parts and spare parts inventory
- assessment of inspection scopes and schedules for the equipment at the facilities,
- locating or relocating equipment with high risk of outages for better operation and maintenance
- review of switching locations at the generating stations where there are two systems with different configurations.
-

Specifics of the above include: continued use of vendors like Team, Inc who attempt on-line leak-stop to avoid or delay a forced outage; purchased spare air heater baskets to change out rather than clean baskets and shorten outage durations; continued refurbishment by Generation maintenance of replaced equipment; expanded boiler tube NDE's consistent with aging areas; completed targeted surveys of equipment, i.e. check valves; completed survey to identify any areas where two systems exist with different configurations that result in a concern of mis-operation. Generation has recently completed an electrical relay testing and calibration survey, while continuing its boiler, high-pressure piping and feedwater heater non-destructive examination initiatives.

During planned and forced outages maintaining, as examples:

- effective efforts to ensure that practices, procedures and safety requirements are being followed
- contractor value through effective contractor control
- a rigorous foreign matter exclusion procedure.

PSNH Generation has not only reviewed its own practices, procedures, and safety requirements, but also is collaborating with outside vendors to share process and expand resources. PSNH Generation also continues to work with both its purchasing department and/or its vendors to obtain the most knowledgable companies and their most knowledgable employees, specifically on critical work items in the plants. Two of these items are specifically discussed in the response to STAFF-01, Q-STAFF-027.

Witness: William H. Smagula
Request from: New Hampshire Public Utilities Commission Staff

Question:

Reference Smagula testimony, page 17. With regard to the planned maintenance outage for Merrimack 2 that commenced on 4/1: Please provide the economic analysis that justified the replacement of the HP/IP turbine. Include all assumptions as part of your response. Please provide your calculations of the net economic impact to energy costs of the results of the HP/IP turbine replacement from the beginning of the initial outage on 4/1 through the 2009 planned maintenance outage. In your response, please identify and explain each economic impact. If PSNH has any insurance related to the HP/IP replacement, please describe the coverage and how it applies. Please describe the guarantees PSNH had from Siemens regarding the performance of the new HP/IP turbine compared to the old turbine. Please provide the details and root causes of any investigation performed by PSNH or its suppliers regarding the intrusion of foreign material into the HP/IP turbine. Please include any reports or relevant communications from each. Please describe the foreign material exclusion process at Merrimack station and how it was applied to the installation of the new HP/IP turbine.

Response:

Attached, please find the economic analysis that culminated from a 2+ year inquiry into the replacement of the HP/IP turbine. It was prepared recognizing an approximately 18-month lead time required for design and manufacturing of the turbine. This discussion and analysis summarized early estimates of a variety of items that would provide value to customers.

- HP/IP Turbine Replacement Cost -early estimate of \$9M
- Increased energy efficiency - early estimate of 6 - 10 megawatts
- Avoided maintenance costs during the 2008 outage - \$1.8M
- Avoided maintenance costs in 2013 totaling \$2-4 million, estimate due to a 10- year inspection cycle rather than a 5-year inspection cycle
- No additional outage time when completed during the 2008 major 8-week outage since the replacement would take no longer than the alternative repair approach

This analysis estimated a pay back period of about 18 months assuming:

- an 8 megawatt increase associated with the improved efficiency
- \$81.75/mwhr market price of generation
- 75% capacity factor of the unit
- a capacity value of \$6.37/kw-mo

Economic Impact. PSNH interprets this question to request additional information regarding not only the initial replacement of the HP/IP turbine, but also the subsequent inspection and eventual repair due to the damage to the new HP/IP turbine during the 2008 annual outage start-up. With that, there are 3 outages associated with either the planned HP/IP turbine replacement or subsequent inspection and repair of the HP/IP turbine due to the foreign material that passed through the turbine upon start-up from the April-May annual outage.

First, the Merrimack 2 Annual Outage in April-May 2008 was completed 51 hours ahead of its scheduled ISO window. There were a number of long projects completed during the outage, including the HP/IP turbine replacement, and none of them exceeded the ISO window and thus there was no incremental outage cost (energy costs) to customers associated with the HP/IP replacement.

Second, the inspection outage of Merrimack 2, including the damage to the new HP/IP turbine, and other boiler and balance of plant equipment, required an unplanned outage from June 20 through July 14, 2008. This forced outage has an estimated cost of \$13.2 million. The necessity of this outage was to identify equipment problems and insure safe operations of the turbine.

Third, the damage to the new HP/IP turbine is planned to be repaired during a 2009 outage beginning August 1. It is expected that this repair outage will last 18 weeks to bring the turbine to an as new condition. A 2009 annual outage planned for 4 weeks was originally scheduled to occur in the spring of 2009. This outage work will be shifted to occur during the HP/IP repair outage. The net impact of this repair work is an additional 14 weeks of outage. The estimated cost of this additional 14 weeks of outage is \$5.2 million.

Insurance. Merrimack Station does have insurance coverage which includes boiler and machinery repairs. There is a \$1 million deductible associated with this coverage. Merrimack Station also has replacement power insurance coverage. In this instance, the replacement power coverage has two components: the additional forced outage time associated with the equipment damage, as well as the lost incremental generation associated with the new, more efficient HP/IP turbine. There is a 60-day exclusion period prior to the beginning of the replacement power coverage. There are also daily maximums equal to \$417,000/day for the months of December, January, February, June, July, and August \$316,000/day for the months of March, April, May, September, October and November. Finally, there is a \$31 million dollar total cap. Once the "deductible" period is met, the insurance claim will include both the outage time, described above, and the lost incremental generation. The actual value of the incremental generation will be determined by performance tests that will be completed once the new HP/IP turbine is fully repaired and brought back to an "as-new" condition at the end of the 2009 outage.

Contractual Guarantees. The turbine had a minimum output guarantee equivalent to the original unit output. Secondly, the replaced turbine had a ten-year warranty effective from the time of completion of certain performance tests which would be critical in the determination of additional output. Because the output determinative performance testing has been delayed until December of 2009 (which was done in fairness to a vendor who has a pay-per-performance clause in the contract), the parties agreed that at that time, following the testing on fully repaired turbine, a nine-year warranty will go into effect (the turbine will have been functioning approximately a year and a half by that time).

Investigation. The initial effort was the external review while the unit remained on line. Once the unit was off line and based upon the initial findings, PSNH and Siemens expanded the internal turbine inspection and brought in expert organizations to analyze and identify the foreign material and the root cause of its presence.

Beginning on June 24, 2008, PSNH personnel, Siemens and key vendors inspected steam and meter system equipment and valves for evidence of foreign material contamination, and others provided assistance in chemistry and metallurgy analysis. PSNH was supported by the following firms:

- Siemens Power Corporation
- Thielsch Engineering
- Team Industrial Services
- GE Inspection Technologies
- Baker Testing
- Sheppard T. Powell Associates
- Babcock & Wilcox
- NH Material Laboratory
- Alstom Power

The scope of necessary inspections broadened beyond the originally planned HP-IP turbine inspection. PSNH determined that it was essential to know what equipment and systems contained the foreign material found in the turbine. The material found was commercially available "shot blast" which is small beads of steel used for cleaning metallic surfaces. These inspections would indicate any other damage that occurred, determine requirements for removal of all shot blast material found, and assist in the effort to remove all material and help determine the entry point of this material and the root source. These actions would also assist with ensuring there would be no subsequent damage of a similar nature. The scope expanded into the LP-1 and LP-2 turbines, condensate and feed water systems, boiler headers and tubes, and turbine piping, and other related systems.

Metallurgical analysis of the foreign material was conducted by the three independent laboratories. Those analyses identified an abrasive material that was a chrome-bearing steel alloy, spherical in shape, ranging in diameter from 0.01 - 0.03 inches. The type of material was like that used for a sandblasting process. An investigation as to the source of the material and mode of introduction into the steam system was undertaken.

Preliminary conclusions included the following:

- (1) Significant quantities of foreign material entered and passed through the turbine during the initial hours of operation of the unit startup.
- (2) The hard dense nature of the foreign material led to the observed solid particle erosion damage to the blade path, seals, casing and rotor.
- (3) The observed conditions would be consistent with the operating conditions reported following the return to service on May 22 (high turbine pressure, reduced flow passing capability, decreased turbine efficiency levels, and reduced power output).

On July 11, 2008, PSNH and representatives from Siemens, Babcock & Wilcox and Sheppard T. Powell Associates conducted an "Apollo" root cause review to determine a root cause of the contamination. The Apollo technique focused on the cause and effect of the relationships based upon existing or obtainable evidence and data with each cause identified as being the result of both a cause and an action. A number of possible causes were ruled out during the session while other causes were identified as requiring additional information or further evaluation. Although the analysis to date showed the contamination to be shot blast material, no definitive conclusions were reached by the Apollo analysis as to the source of the material.

Summary Observations

PSNH personnel conducted a root cause analysis to determine the source of the shot blast material found inside the turbine. PSNH personnel reviewed the following information:

- Merrimack Station inspection results
- possible sources for the origination of the shot blast material
- quality assurance measures that were taken at manufacturing facilities during fabrication of the turbine piping and boiler tubes
- quality assurance measures that were taken at Merrimack Station during installation
- report of samples that were sent out for analysis

As summarized in the PSNH Fossil Station Outage Report issued after the completion of the outage and included in the May 1 filing, inspections showed material was contained to the following systems and equipment:

- HP/IP Turbine
- HP/IP Turbine extractions and associated feedwater heating components
- Main Boiler Feed Pump
- LP Turbine
- LP Turbine extractions and associated condensate heating components, Condenser Hotwell, Condensate Pumps, DA Pumps, and Condensate Polisher.

Conclusion - Indeterminate Cause / Single Event (May 22-23, 2008)

PSNH has been unable to reach definitive conclusions for the entry point of the contamination or the source of the material. PSNH concluded it appeared to be from a single event that occurred on May 22-23 during the initial start-up. These conclusions were based upon the following information:

- The unit did not experience a degradation of output over time but rather never reached its design load. There was no further degradation of output over the subsequent 28-day operation.
- Some valves downstream from the turbine experienced malfunction during the start-up indicating that the material traveled through the turbine extraction lines and caused problems with the condensate and feedwater heater level control valves.
- After ramp-up at approximately 130 MW output, scaling data was available and observed. It was noted at this point that the actual performance data did not match the supplied Siemens design curves for the new turbine.
- Unit 2 maintained a constant output and no further degradation after returning to service from this outage although it was less than the designed output.
- PSNH has never purchased the contaminant material for use at Merrimack Station and no other on-site contractors used it on-site.

Foreign Material Exclusion (FME) Policy. The Merrimack Station FME Practice is for all station work and has as a primary focus the systems and equipment associated with the steam-water cycle used to generate electricity. The level of detail as well as the expansiveness of the program is based on the work and the direction set by the Maintenance Manager. Very simply, the FME program requires unattended openings to be covered to prevent material from entering the water/steam side of the process, and new material is inspected, blown out or boroscoped to prevent material from entering the cycle. Individuals are designated as inspectors who have FME as a primary focus, supplementing operators, maintenance personnel, station management and others who all contribute to constant monitoring. Also, contractors who do work are well versed on this program and incorporate necessary practices and inspections as part of their work. Every contractor has a PSNH liaison or sponsor who also has FME oversight responsibility. Specific to the turbine work, Siemens has a long standing FME program that addresses the equipment and turbine and peripherals work scope that is honored by all who are in the turbine vicinity during outages.

The current Merrimack Station FME Practice is attached.

Public Service Company of New
Hampshire
Docket No. DE 09-091

Data Request STAFF-01

Dated: 06/15/2009
Q-STAFF-031
Page 1 of 2

Witness: William H. Smagula
Request from: New Hampshire Public Utilities Commission Staff

Question:
Please supply 2008 budgeted and actual capital and O&M expenditures for Merrimack, Schiller, and Newington stations separately and the hydro units as a group.

Response:
This first table provides the 2008 budgeted and actual capital for Merrimack, Schiller and Newington Stations separately and the hydro units as a group.

GENERATION SUMMARY
YTD December 2008

| | CAPITAL | YTD ACTUALS |
|---------------------------|----------|----------------|
| MERRIMACK STATION* | BUDGET | 31,126.4 |
| | ACTUAL | 34,376.9 |
| | VARIANCE | 3,250.5 |
| SCHILLER STATION | BUDGET | 10,417.4 |
| | ACTUAL | 7,649.4 |
| | VARIANCE | -2,768.0 |
| NEWINGTON STATION | BUDGET | 1,112.9 |
| | ACTUAL | 2,512.4 |
| | VARIANCE | 1,399.6 |
| HYDRO | BUDGET | 5,765.7 |
| | ACTUAL | 3,746.2 |
| | VARIANCE | -2,019.6 |
| PSNH FLEET | BUDGET | 48,422.5 |
| | ACTUAL | 48,284.9 |
| | VARIANCE | -137.5 |

* reflects MK1 and MK2 major planned outages, does not include CAP

This second table provides the 2008 budgeted and actual O&M expenditures for Merrimack, Schiller and Newington Stations separately and the hydro units as a group.

December 2008 O&M

| <u>Station</u> | YEAR-TO-DATE | | | Percent |
|----------------|---|---------------|-------------------------------------|-------------------------------------|
| | <u>Budget (Latest Approved)</u> | <u>Actual</u> | <u>Over/ (Under) Budget</u> | <u>Over/ (Under) Budget</u> |
| Merrimack | 42,993 | 41,577 | (1,416) | -3.3% |
| Schiller | 19,472 | 17,473 | (1,999) | -10.3% |
| Newington | 8,576 | 7,237 | (1,338) | -15.6% |
| Hydro | 6,700 | 6,920 | 220 | 3.3% |

**Public Service Company of New
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Docket No. DE 09-091

Data Request STAFF-01

**Dated: 06/15/2009
Q-STAFF-032
Page 1 of 1**

Witness: William H. Smagula
Request from: New Hampshire Public Utilities Commission Staff

Question:

Please supply summaries of the scheduled maintenance outages that took place at Merrimack, Schiller, and Newington stations in 2008.

Response:

Please see the attached table.

| Unit | Outage Dates | Planned Maintenance Outage |
|--------------|--------------------------|---|
| Merrimack #1 | 9/9 – 11/03 (8 weeks) | <p>This planned outage included major turbine work completed every 5 to 6 years, as well as normal cyclical boiler, turbine auxiliaries and balance of plant mechanical, electrical and instrumental repair and maintenance. The unit was taken off line September 9 and returned to service October 29, 120 hours ahead of the ISO schedule.</p> <p>Major work items included HP and LP turbine work, 18 SSH inlet pendant replacement, partial boiler screen tube replacement, switchgear replacement and replacement of layer 3 of the SCR catalyst. A number of other balance of plant items were inspected, maintained, repaired or replaced, as necessary.</p> |
| Merrimack #2 | 4/1 – 5/22 (8 weeks) | <p>This planned outage included major turbine work completed every 5 years, as well as normal cyclical boiler, turbine auxiliaries and balance of plant mechanical, electrical and instrumental repair and maintenance. The unit was taken off line April 1 and returned to service May 22, 263 hours ahead of the ISO schedule.</p> <p>Capitalized projects included the HP/IP turbine replacement, generator rotor replacement, air heater tube replacement, boiler floor replacement, selective catalytic reducer (SCR) catalyst replacement, and secondary superheater (SSH) inlet bank replacement. An extensive list of work has been included in Docket 08-145, Data Request Set TS-01, Q-Staff-002.</p> |
| Newington #1 | 3/1 – 3/13 (2 weeks) | <p>This planned outage included normal boiler, turbine auxiliaries and balance of plant mechanical, electrical and instrumentation repair and maintenance.</p> <p>Newington Station was taken off line on March 1, 2008 @ 00:00 and returned to service March 13, 2008 @ 01:36 for a total duration of 12.07 days. The ISO-NE scheduled outage window was 3 weeks (23 days). The outage critical path was the inspection of the 6 large (2,000 + hp) motors. The motor inspections, including disassembly and electrical testing, are completed to help ensure their ongoing availability and reliability. In addition to the routine annual testing, inspections, and repairs of plant systems and components, the Turbine/Generator and Main Boiler Feed Pump/Turbine Control System hardware was upgraded during the overhaul. The control system upgrade include replacement of all power supplies, processors, and the Control Room Operator's interface computers.</p> |
| Schiller #4 | 3/25 – 4/10 (2 weeks) | <p>This planned outage included normal boiler, turbine auxiliaries and balance of plant mechanical, electrical and instrumentation repair and maintenance.</p> <p>The unit was scheduled to be removed from service at 22:00 on Tuesday, March 25th and to be returned to service at 07:00 on Friday April 11th (17 day schedule). The unit came off at 21:46 on Tuesday March 25th, and was returned to service at 11:36 April 10th, approximately 19 hours ahead of the original ISO completion date. The critical path work scope was to the ID fan. Boiler work included a thorough inspection of the entire boiler after being staged. Miscellaneous pad welding and shielding of several areas were performed through out the boiler. Refractory was renewed and replaced as was necessary. New Opacity monitors were installed during this shutdown. The main steam line flow orifices were inspected as well as the feedwater flow orifices. Both sets were found to be in good condition. A number of other balance of plant items were inspected, maintained, repaired or replaced, as necessary.</p> |

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 Q-STAFF-032
 Attachment

| | | |
|-------------|------------------------------|---|
| Schiller #5 | 10/17 – 10/27 (1-2 weeks) | <p>This planned outage included boiler, turbine auxiliaries and balance of plant mechanical, electrical and instrumentation repair and maintenance.</p> <p>The unit was scheduled to be removed from service at 22:00 on Friday, October 17th and to be returned to service at 07:00 on, Monday October 27th (10 day schedule). The unit came off at 19:02 on Friday October 17th, and was returned to service at 10:40 October 27th approximately 4 hours behind the original ISO completion date. Turbine over-speed test was successfully performed when the unit was taken off-line. Critical path for the outage was the repair of brick lining material of the six boiler cyclones. Boiler work included a thorough inspection of the entire boiler after being staged; this was performed by United Dynamics Corporation as well as the Authorized inspector. Routine refurbishing of major control valves was performed. Maintenance of wood feed equipment including the feeder screw drives, silo pawls, and wood chutes. A number of other balance of plant items were inspected, maintained, repaired or replaced, as necessary.</p> |
| Schiller #6 | 4/11 – 4/26 (2 weeks) | <p>This planned outage included normal boiler, turbine auxiliaries and balance of plant mechanical, electrical and instrumentation repair and maintenance.</p> <p>Unit 6's outage was re-scheduled to be removed from service at 22:00 on Friday April 11th and returned to service at 07:00 on, Monday April 28th (17 day ISO schedule). The unit came off at 21:45 on Friday April 11th, and was returned to service at 09:43 April 26th, approximately 45 hours ahead of the ISO 17 day planned scheduled. Turbine over-speed test was successfully performed when the unit was taken off-line. Critical path for the outage was the rebuilding of the boiler bottom ash system, including the water-cooled door jackets and associated brick hopper lining. Boiler work included a thorough inspection of the entire boiler after being staged. The authorized inspector was in and performed the annual operating inspection for permitting. A service engineer from Foster-Wheeler was requested in to inspect the boiler as well, minor items were noted and corrected as recommended. A number of other balance of plant items were inspected, maintained, repaired or replaced, as necessary.</p> |

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 Attachment

Public Service Company of New
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Data Request STAFF-02

Dated: 08/14/2009
Q-STAFF-005
Page 1 of 1

Witness: William H. Smagula
Request from: New Hampshire Public Utilities Commission Staff

Question:

Reference response to OCA-01, Q-OCA-021. Please provide details regarding the reference insurance claim and its payment status. The information provided should address such issues as: when it was submitted, description of the coverage, whether PSNH has received any information from the insurance company related to its claim, etc.

Response:

The following provides a summary of the insurance coverage, requested reimbursement amounts, and payment status.

Boiler and Machinery: — deductible \$1M
(i.e. property damage)

Replacement power (specific to MK2):
(RPC)

- 60 day waiting period
- Daily Cap \$417K/daily max Dec-Feb, Jun-Aug
- Daily Cap \$316K/daily max Mar-May, Sept-Nov
- Policy Cap \$31M

COVERAGE

| Replacement Power | Amount | Status |
|--------------------------|---------------|---|
| 2008- June thru October | \$3 million | submitted and paid as part of \$6M advanced payment 1 |
| 2008- November, December | \$1.5 million | submitted Q1 09 |
| 2009- Q1 January-March | \$2.1 million | submitted Q2 09 |
| 2009- Q2 April - Jun | \$1.1 million | submitted Q3 09 |

Property Damage

| | | |
|------------------|---------------|---|
| 2008- May - July | \$3 million | submitted and paid as part of \$6M advanced payment 1 |
| 2008- December | \$2 million | submitted Q1 09 (milestone payment to Siemens) |
| 2009- June | \$1.3 million | submitted Q3 09 (milestone payment to Siemens) |
| 2009- August | \$6.7 million | submitted Q3 09 (milestone payment to Siemens) |

PSNH has provided documentation for all property damage items submitted to date in 2009 and is awaiting reimbursement.

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Data Request OCA-01

Dated: 07/28/2009
Q-OCA-009
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Witness: Richard C. Labrecque
Request from: Office of Consumer Advocate

Question:

Attachment RCL-1 shows the PSNH resource portfolio winter and summer entitlements. The totals don't match these on Att. RCL-5, PSNH capacity resources, so please reconcile the 2 Attachments.

Response:

The table below provides a break-out of the PSNH Capacity Resources column from Attachment RCL-5. The primary difference between RCL-1 and RCL-5 is that RCL-1 lists the seasonal ratings (aka seasonal claimed capabilities or SCC) whereas RCL-5 is based on the monthly unforced capacity ratings (UCAP) assigned to each asset by ISO-NE. Each asset's UCAP rating is essentially the SCC reduced by an outage factor that accounts for the asset's historical average performance. Many of these outage factors change each month; thus the monthly deviation from RCL-1. The other differences are that the Hydro-Quebec Interconnection Credits are only applicable for March through November, and that RCL-5 includes the capacity contribution from three PPAs (Bethlehem, Tamworth, and Lempster) whereas RCL-1 does not.

| Month | PSNH Generation & IPPs | Vermont Yankee | Hydro-Quebec Interconnection Credits | PSNH Capacity Resources (MW) |
|--------|------------------------|----------------|---|------------------------------------|
| Jan | 1,233 | 20 | 0 | 1,253 |
| Feb | 1,236 | 20 | 0 | 1,256 |
| Mar | 1,236 | 20 | 129 | 1,385 |
| Apr | 1,238 | 20 | 129 | 1,387 |
| May | 1,235 | 20 | 129 | 1,383 |
| Jun | 1,190 | 19 | 129 | 1,338 |
| Jul | 1,170 | 19 | 129 | 1,318 |
| Aug | 1,166 | 19 | 129 | 1,314 |
| Sep | 1,164 | 19 | 129 | 1,312 |
| Oct | 1,205 | 20 | 129 | 1,353 |
| Nov | 1,231 | 19 | 129 | 1,379 |
| Dec | 1,256 | 20 | 0 | 1,276 |
| Totals | 14,559 | 234 | 1,160 | 15,953 |

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Data Request OCA-01

**Dated: 07/28/2009
Q-OCA-010
Page 1 of 1**

**Witness: William H. Smagula
Request from: Office of Consumer Advocate**

Question:

The Attachment included with the response to Staff 01-029 is the Merrimack Station Capital Project Justification. Included in that is a section labeled justification. Please update the payback period calculation based on actual costs and energy/capacity values for 2008.

Response:

PSNH has not prepared such an analysis. Moreover, such an analysis would subject the project to a hindsight review, especially if one used 2008 data to estimate future costs. In light of this and in view of the OCA's ability to update the requested project justification on its own, PSNH is not uniquely situated to perform such analysis. As a result, PSNH has no information responsive to this question.

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Data Request OCA-01

Dated: 07/28/2009
Q-OCA-011
Page 1 of 1

Witness: Richard C. Labrecque, Robert A. Baumann
Request from: Office of Consumer Advocate

Question:

Please provide a detailed breakdown of the costs included in this filing for PSNH's supplemental energy sources department. Are there other costs in the filing related to acquiring or selling power? Are there other costs not included in the filing? Please explain.

Response:

PSNH's Supplemental Energy Sources Department O&M charges are recovered through distribution rates; thus, this filing does not include any of those costs. The Northeast Utilities Wholesale Power Contracts (NU WPC) department charges O&M associated with purchasing power to energy service. These costs are included in RAB-4 page 13, line 2 "F/H Operation & Maintenance Costs". During 2008, NU WPC charged \$766,260 to energy service. This includes direct charges, employee costs and company overheads.

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Data Request OCA-01

**Dated: 07/28/2009
Q-OCA-012
Page 1 of 1**

**Witness: Richard C. Labrecque
Request from: Office of Consumer Advocate**

Question:

Following up on Staff 01-010, please explain what services will now be handled by PSNH's Supplemental Energy Sources Department as opposed to the Wholesale Power Contracts Department of NU Service Co. Why has PSNH made this change?

Response:

There has been no change in the services that will be supplied by the two noted departments. A single employee (Richard Labrecque) has accepted a recently vacated position (in Supplemental Energy) and, thus, departed his old position (in Wholesale Power Contracts).

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Data Request OCA-01

**Dated: 07/28/2009
Q-OCA-013
Page 1 of 1**

**Witness: Richard C. Labrecque
Request from: Office of Consumer Advocate**

Question:

On p. 4 lines 23-28 Mr. Labrecque describes when PSNH's supply resources exceeded its needs, and how the company sold those resources in the spot market for \$23.7 million. Did those sales result in additional expense for ES customers, or did they provide a net benefit to customers?

Response:

These surplus sales resulted in a net benefit to customers of approximately \$245,000.

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Docket No. DE 09-091

Data Request OCA-01

Dated: 07/28/2009
Q-OCA-014
Page 1 of 1

Witness: Richard C. Labrecque
Request from: Office of Consumer Advocate

Question:

On page 6 line 9 of Mr. Labrecque's testimony, he points out that in 2008 PSNH was allocated 6.17% of ISO-NE's capacity obligation. Please explain the actions PSNH took to reduce that percentage or its ES Customer Coincident Peak.

Response:

PSNH's Voluntary Interruption Program (Rate VIP or "PeakSmart") was successfully implemented at the time of the ISO-NE system coincident peak during both the summer of 2006 and 2007. The curtailed MW and the associated customer capacity expense savings are detailed below.

| Time of ISO-NE Peak | ISO-NE Peak | PSNH Peak | Rate VIP Curtailment (MW) | Rate VIP as % of ISO-NE Peak | Impact on Settlements |
|-----------------------------|-------------|-----------|---------------------------|------------------------------|-----------------------|
| 2006 Aug 2nd hour end 15:00 | 28,038 | 1,767.24 | 6.23 | 0.022% | Jun '07 - May '08 |
| 2007 Aug 3rd hour end 15:00 | 25,773 | 1,670.65 | 6.73 | 0.026% | Jun '08 - May '09 |

| | Total ISO-NE Capacity Resources (MW) | Rate VIP Savings (%) | Rate VIP Savings (MW) | Transition Period Payment Rate (\$/MW-mo) | Capacity Savings (\$) |
|--------|--------------------------------------|----------------------|-----------------------|---|-----------------------|
| Jan-08 | 35,846 | 0.022% | 7.97 | 3,050 | \$24,301 |
| Feb-08 | 35,925 | 0.022% | 7.99 | 3,050 | \$24,355 |
| Mar-08 | 38,212 | 0.022% | 8.49 | 3,050 | \$25,905 |
| Apr-08 | 38,125 | 0.022% | 8.47 | 3,050 | \$25,846 |
| May-08 | 37,088 | 0.022% | 8.24 | 3,050 | \$25,143 |
| Jun-08 | 34,427 | 0.026% | 8.99 | 3,750 | \$33,717 |
| Jul-08 | 34,586 | 0.026% | 9.03 | 3,750 | \$33,872 |
| Aug-08 | 34,634 | 0.026% | 9.05 | 3,750 | \$33,919 |
| Sep-08 | 34,676 | 0.026% | 9.06 | 3,750 | \$33,960 |
| Oct-08 | 37,941 | 0.026% | 9.91 | 3,750 | \$37,158 |
| Nov-08 | 37,690 | 0.026% | 9.84 | 3,750 | \$36,912 |
| Dec-08 | 36,660 | 0.026% | 9.57 | 3,750 | \$35,904 |
| | | | 106.62 | | \$370,992 |

**Public Service Company of New
Hampshire
Docket No. DE 09-091**

Data Request OCA-01

**Dated: 07/28/2009
Q-OCA-015
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**Witness: Richard C. Labrecque
Request from: Office of Consumer Advocate**

Question:

On page 8 line 18 of Mr. Labrecque's testimony he explains that the 2008 impact of PSNH's participation in the ISO-NE FTR (Financial Transmission Rights) auction process was an increase in ES expense of \$590,153. What was the comparable net gain or losses for all prior years in which PSNH was active in this process?

Response:

See the table below.

| | Net Gain / (Loss) |
|------|-------------------|
| 2003 | 73,574 |
| 2004 | 76,311 |
| 2005 | 119,154 |
| 2006 | (167,414) |
| 2007 | 160,000 |

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Hampshire
Docket No. DE 09-091**

Data Request OCA-01

**Dated: 07/28/2009
Q-OCA-016
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**Witness: Richard C. Labrecque
Request from: Office of Consumer Advocate**

Question:

Besides the \$590,153 noted in the prior question, what additional Administrative costs were charged to ES in 2008 related to the FTR (Financial Transmission Rights) process? Please provide the work papers, and reconcile with the responses to Staff 01-026.

Response:

PSNH's participation in the FTR market is administered via the Northeast Utilities Wholesale Power Contracts department (NU WPC). The O&M charges associated with NU WPC are provided in the response to Q-OCA-011. NU WPC staff do not track hours worked specifically on the administration of FTRs versus other duties related to the provision of energy service. However, a rough estimate would be 5 staff-hours per month, which equates to less than 1% of total time, given the 4.75 Full Time Equivalent staffers from Q-STAFF-026.