Docket No. DE 11-
Exhibit No. 3

STATE OF NEW HAMPSHIRE
BEFORE THE
NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
DIRECT TESTIMONY OF
WILLIAM H. SMAGULA

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
RECONCILIATION OF ENERGY SERVICE AND STRANDED COSTS FOR
CALENDAR YEAR 2010

I. Introduction

Q. Please state your name, position, employer and address.

A. My name is William H. Smagula. I am Director of Generation for Public Service Company of New Hampshire, (PSNH), a subsidiary of Northeast Utilities (NU). My business address is 780 North Commercial Street, P.O. Box 330, Manchester, New Hampshire 03105.

Q. Please provide a brief summary of your background.

A. I received a Bachelor of Science in Mechanical Engineering from the University of New Hampshire and a Master of Science in Mechanical Engineering from Northeastern University. I have worked for Public Service Company of New Hampshire and then Northeast Utilities since 1978. I am a Registered Professional Engineer in the states of New Hampshire, Connecticut and Massachusetts. My

duties have included Manager of Generation Training for the PSNH system, Station Manager - Merrimack Station, Steam Production Manager - PSNH, Director Fossil Generation - The Connecticut Light and Power Company, and Director, Manage and Operate Services - Northeast Generation Services Company. In June 2001, I assumed the responsibilities of Director - PSNH Generation in New Hampshire.

Q. Have you ever testified before this Commission?

A. Yes. I have provided similar testimony in many previous Commission proceedings regarding the operation of PSNH's fossil-fired and hydroelectric generating plants.

Q. Please describe your responsibilities as Director - PSNH Generation.

A. In my present position, as Director - PSNH Generation, I am responsible for the operation and maintenance of PSNH's generating stations. I have responsibility for three fossil-fired, steam electric generating stations, nine hydroelectric generating stations, two remote combustion turbine/diesel generator sites and most recently a new biomass fueled boiler. PSNH Generation maintains a diversified fuel portfolio including gas, oil and coal-fired units as well as hydro and renewable biomass with a total generation capacity of approximately 1150 MW.

Q. What is the purpose of your testimony in this proceeding?

A. The purpose of my testimony is to provide information on all outages that took place at PSNH's fossil-fired, hydroelectric and biomass units and at NextEra Energy Resources, LLC's (formerly FPL Energy) Wyman Station, Unit No. 4 in which PSNH is a small minority owner. This information will be for the period January 1, 2010 through December 31, 2010. I shall also provide information on unit equivalent availability achieved by PSNH's steam generating units, consistent with reporting provided in previous years. Unit availability including planned outages will be calculated consistent with past submittals, as well as similar calculations without the influence of planned outages.

II. Generating Unit Operation

Q. Please provide an overview of the performance of PSNH's generating units in 2010.

A. PSNH's generating units provided total generation in 2010 equal to 3,982,584 MWh. The fleet's availability during the 30 highest priced days when customers' exposure to high market prices was the greatest was 93.8%. With the installation of a new, more efficient HP/IP turbine, Merrimack Station's Unit 2 had an increase in summer claimed capacity from 320.00 MW to 338.375 MW. This efficiency improvement allows Merrimack Unit 2 to increase its net output from 320 MW to 332 MW. These output levels have no increase in fuel burn and thus no increase in emissions. Merrimack Station's Units 1 and 2 each completed scheduled outages which were completed accident free, ahead of schedule and with quality results.

Schiller Station's Unit 5 ran for 100 consecutive days before coming off for its scheduled annual outage. This was its second longest run in its history. Schiller Station generated 761,924 MWh. Schiller Unit 5, the biomass unit, contributed 316,906 MWh to the fleet's renewable energy production and passed its one million megawatt-hour mark in January 2010. PSNH's hydroelectric facilities generated 338,700 MWh. Newington Station completed the year with a 96.2% equivalent availability. Overall, PSNH's generating stations' aggregate equivalent availability was 84.4% in 2010.

In 2010, PSNH Generation continued to focus on plant operations and long-term planning to provide benefit to customers through safe, reliable, compliant, and cost-effective operations and management.

Q. Please provide a summary of why PSNH's generating units have continued to operate well, with high reliability and high availability.

A. PSNH Generation continues to focus on four key items important to long-term operational success: the day-in and day-out operation and maintenance of the units; the corrective and preventative maintenance conducted during forced outages; pre-planning and execution of scheduled and planned maintenance outages; and the use of a long-term maintenance outage and capital expenditure planning process. The long-term maintenance plans prioritize reliable plant operations and are founded on equipment history, on-going condition assessment and industry experience. The generating stations maintain a long-standing preventative maintenance program which allows for proactive management of plant equipment problems to best execute quality maintenance and the operations of the units.

PSNH Generation relies on an experienced management team and a skilled work force utilizing sound practices derived from experience within our facilities as well as working with suppliers, contractors, experts and other generating plant peers in the industry. PSNH Generation's budget requests continue to emphasize a proper balance between spending what is necessary in the most critical areas, while being sensitive to the overall cost of production to our customers taking Energy Service, both long term and short term. PSNH Generation works hard to determine how maintenance projects can be most effectively executed and how capital investments can be best applied to achieve a high level of plant performance. PSNH Generation also continues to integrate, into the above management focus, consideration of recommendations by the Commission's consultants.

III. Unit Outages and Availabilities

Q. Please provide a list of all unplanned outages that took place during the period January 1, 2010 through December 31, 2010 for PSNH's fossil, hydro and biomass units and for NextEra's Wyman Station Unit No. 4.

A. Attachment WHS-1 lists these outages. This listing is similar to the information submitted in the past, as a reporting requirement for the fossil hydro "outage information" resulting from discussion with the Staff in Docket No. DR 91-011.

Q. Is there any additional reporting with respect to outages?

A. Yes. PSNH provides outage reports for all unscheduled outages in excess of two days at either Newington Station or at the two units at Merrimack Station, and in excess of four days at the three units at Schiller Station and at Wyman Unit 4. These Outage Reports are included as Attachment WHS-2.

Q. Please provide a chronological listing of the outages for which Outage Reports are provided in the testimony.

A. The table below provides the chronological listing along with the times and dates the units were removed and returned to service, as well as the durations of the outage and the cause of the outage.

Report No.		Outage Start Date Time	Outage End Date Time	Duration Days	Reason
OR-1	MK2	1/1 1450	1/5 0143	3.5	Boiler Tube Leaks
OR-2	MK2	1/29 1756	2/3 0203	4.3	Boiler Tube Leaks
OR-3	MK1	2/19 1729	2/22 0336	2.4	Planned Preventative Maintenance
OR-4	MK2	5/20 1620	5/24 1800	4.1	Boiler Tube Leaks
OR-5	MK1	6/28 2011	7/1 0718	2.5	Boiler Tube Leaks
OR-6	SR5	7/3 2331	7/16 1140	12.5	Boiler Tube Leaks
OR-7	MK2	8/10 1401	8/13 0603	2.7	Planned Preventative Maintenance
OR-8	SR5	9/25 1955	10/2 0040	6.2	Cyclone Pluggage
OR-9	MK1	9/28 1643	10/2 0110	3.4	Planned Preventative Maintenance
OR-10	MK1	10/2 0842	10/6 2037	4.5	Boiler Tube Leaks
OR-11	SR4	11/13 1056	11/18 1939	5.4	Traveling Screens
OR-12	SR5	12/11 2354	12/16 1258	4.5	Cyclone Furnace

Q. Please provide a brief summary of each of the Outage Reports discussed above.

A. A summary of the Outage Reports follows:

OR-2010-01

This Merrimack Unit 2 maintenance outage was 3.5 days long and began on January 1. The unit was removed from service due to excessive water usage caused by tube leaks in the "F" cyclone. A Merrimack Station boiler inspection team inspected the boiler and identified a number of other small boiler leaks which were also repaired.

Once all the tube leaks were repaired, a final boiler pressure test was performed. There were no other waterside leaks found. The staging, sky climbers and all other equipment was removed from the boiler, remaining doors were closed, and the unit was released to operations.

OR-2010-02

Merrimack Unit 2 was taken off line on January 29 for 4.3 days due to excessive water usage. The major repair involved the lower bank of the primary superheater, located near the rear wall. These tube leaks were caused by flyash erosion. Due to the severe weather conditions, elevations 6 1/3 and 6 2/3 needed to have wind shelters constructed, and propane heaters installed.

Due to the location of the failure, a decision was made to cut the bend sections out, pad weld the minor damaged area and fabricate and install new bend sections. Once the tube sections were welded, the pressure check was completed, and the membrane was installed followed by the insulation and lagging.

A boiler inspection was performed and identified other small boiler leaks which were pad weld repaired. Once all the tube leaks were repaired, a final boiler pressure test was performed. There were no other waterside leaks found, and the remaining doors were closed, and the unit was released to operations.

OR-2010-03

This Merrimack Unit 1 outage was 2.4 days long and started on February 19 after running for 79 days. The outage was a typical planned preventative maintenance outage taken to clean the air heater. A boiler inspection was completed and did not reveal any water or steam side tube leaks. An inspection of the upper and lower air heater seals (circumferential and radial) was performed and seals were replaced as necessary. Critical path was the air heater wash with a backlog of jobs being performed by the maintenance department and outside contractors. Following the completion of the air heater wash the unit was released to operations.

OR-2010-04

This Merrimack Unit 2 outage began on May 20 and was 4.1 days long. The unit was removed from service for excessive water usage after 108 days of consecutive operation. A boiler inspection was performed and identified cyclone tube leaks which were caused by erosion, not untypical in this area of the boiler. The cyclone leaks were pad weld repaired.

After the weld repairs and pressure test was completed, new pin studs were welded back on and refractory was installed.

Additionally, during the boiler inspection two other tube leaks were identified, one in the primary superheater and the other in convection pass side wall. These tubes were pad weld repaired.

Once all the tube leaks were repaired, a final boiler pressure test was performed. There were no other waterside leaks found. The unit was released to operations.

OR-2010-05

This Merrimack Unit 1 outage lasted 2.5 days and began on June 28 due to excessive water usage. A boiler inspection revealed two rear water wall tube leaks in the proximity of a sootblower and a smaller wall tube leak on the south wall of the firebox. The leaks in the wall tube were repaired with pad welds.

An air heater wash was also completed. An inspection of the upper and lower air heater seals (circumferential and radial) was performed and all were found in good condition. Critical path was the air heater wash with a backlog being performed by the maintenance department and outside contractors. Once the wash was complete the unit was released to operations.

OR-2010-06

This Schiller Unit 5 outage began on July 3 and lasted 12.5 days long. The unit was removed from service to repair a boiler tube leak. The outage was extended about 6 days to complete bed material transfer and additional bed and tuyere cleaning.

Because of the boiler design, Unit 5 takes a significant time to cool down. Once the unit temperature was safely reduced, the doors were opened to continue and expedite the remaining cooling process. Removal of bed material from the boiler floor was started noting that the material was especially wet and heavy.

When the unit was sufficiently cooled and safe to work on, the boiler makers began rigging and pulling cyclone covers for cleaning and inspection. During the boiler inspection a total of six tube leaks were located. Specifically, an in-bed tube with a pinhole leak was found, which washed four other tubes. Also a wall tube leak was found. Replacement tube materials were on site and repairs began after bed removal in the furnace was complete. Dutchmen and pad-welding were used to complete the tube leak repairs. Following the repairs a pressure test was

completed and no leaks were found. The cyclone cleaning was completed and the cyclone covers installed. The tuyeres were cleaned with compressed air as is typically done during an outage.

The outage was extended when Operations began start-up efforts and the bed material would not transfer from the silo to the furnace. A number of efforts were made to transfer the bed material and obtain proper bed operation. Correction efforts included disassembly and cleaning of the transfer piping, cleaning the pressure sensing taps, and cleaning the tuyeres of extra fine bed material which had washed into the air ports. All items likely due to the significant amount of water from the in-bed tube leaks. After the tuyere cleaning was complete, the bed material was reloaded into the furnace and the unit was released to operations and the unit was successfully returned to service.

OR-2010-07

Merrimack Unit 2 was removed from service on August 10 for planned maintenance repairs after a seventy-eight day run. This maintenance outage was 2.7 days long. The majority of the repairs made were in “F” cyclone. An inspection of the upper furnace, backpass and penthouse indicated no other water or steam side leaks.

All tubes were pad welded repaired, new studs were welded on the cyclone tubes and refractory was installed. A final boiler pressure test was performed, and there were no other waterside leaks found. The unit was released to operations.

OR-2010-08

Schiller Unit 5 was removed from service on September 25 to clear cyclone pluggage, which was causing high cyclone temperatures and low bed temperatures. This outage was 6.2 days long.

During the outage a complete boiler inspection was done by outside vendor. One area of wear was found near a soot blower which was pad welded. The boiler was pressure tested and no leaks were found. All 6 cyclones and the furnace bed were cleaned while the unit was off line. The unit was released to operations.

OR-2010-09

Merrimack Unit 1 was removed from service on September 28 after an 88 day run to perform planned preventative maintenance. This maintenance was 3.4 days long. An air heater inspection indicated that the circumferential and radial seals did not need replacing.

A boiler inspection was completed. One small leak was found and pad weld repaired. Critical path was the high pressure air heater water wash with a backlog of maintenance jobs being performed by the maintenance department and outside contractors. Following the completion of the air heater wash, the unit was released to operations.

OR-2010-10

This Merrimack Unit 1 outage was 4.5 days long and began on October 2, due to a secondary superheater inlet tube failure. The initial visual inspection of the tube failure indicated the possibility of overheating. To insure there were no restrictions in the SSH header, an internal inspection was performed. The penthouse was vacuumed, refractory removed from the penetrations and insulation bags removed from the SSH inlet header to allow access. Replacement tube sections were bent and welded in place. After the welding process was complete, the welds were black lighted for quality assurance. After the black lighting was complete, the tubes were realigned. New refractory was poured in the penthouse and the insulation bags were reinstalled on the secondary superheater (SSH) header. All doors were then closed and the unit was released to operations.

OR-2010-11

This Schiller Unit 4 outage was 5.4 days long and began on November 13. The large drive gear on the traveling screens snapped due to the large amount of leaves deposited on them.

A new sprocket was procured. Additional fitting and machining was performed on site and the installation was completed. The sprocket chain was installed and the assembly was successfully tested and the unit was released to operations.

OR-2010-12

This Schiller Unit 5 outage was 4.5 days long and began on December 11. Unit 5 had been at reduced load due to increasing pluggage in the cyclones. The unit was taken offline to clean the cyclones and perform other necessary maintenance.

In addition to cyclone cleaning, the condenser was cleaned and the boiler was inspected. Bed tubes with wear areas identified in the inspection were plugged. All cyclones were inspected, cleaned, and the refractory repaired, as needed. The cyclone covers were installed, and the unit released to operations.

Q. Were Scheduled Maintenance Outages performed at any of PSNH's fossil and hydro units during the period January 1, 2010 through December 31, 2010?

A. Yes. Attachment WHS-1 contains of a list of outages including scheduled maintenance outages for each of PSNH's fossil, biomass, hydro, and combustion turbine units, as well as the Wyman 4 unit. WHS-3 also summarizes in a table the planned maintenance periods for the fossil units.

Q. Please provide a list of scheduled maintenance outages at the PSNH fossil units during January 1, 2010 through December 31, 2010.

A. The scheduled maintenance outages are listed below.

Unit	Scheduled Maintenance
Schiller Unit 4	2/26 – 4/2
Schiller Unit 5	4/9 – 4/29
Merrimack Unit 1	4/13 – 5/20
Merrimack Unit 2	9/21 – 10/21
Newington Unit 1	10/30 – 11/6

Q. Are these scheduled outages reviewed as part of the Reconciliation of Energy Service and Stranded Costs docket?

A. Yes. A review of the scheduled outages is completed by the PUC Staff utilizing an outside consultant. The outside consultant completes an on-site interview and review process of the planned outages.

Q. Are there any other reporting requirements associated with this filing?

A. In the Settlement Agreement dated January 11, 2011 associated with Docket 10-121, Section III, Settlement Terms, part D. Recommendation Regarding Potential Improvement in Unit Operation, and part E. Recommendations Regarding Stipulated Items in Docket DE 09-091, discussed both new and on-going recommendations made by Accion. PSNH agreed to provide four specific updates in this filing and those updates are provided in Appendix A.

Q. Does this conclude your testimony?

A. Yes, it does.