

THE STATE OF NEW HAMPSHIRE
before the
PUBLIC UTILITIES COMMISSION

Public Service Company of New Hampshire
Merrimack Station Scrubber Project

Docket Nos. DE 08-103 and DE 11-250

Progress Report

June 28, 2012

Public Service Company of New Hampshire ("PSNH") is pleased to provide this status update regarding the Clean Air Project ("Project") involving the legislatively mandated installation of a Wet Flue Gas Desulfurization ("FGD") System (i.e., "Scrubber" technology) by PSNH at its Merrimack Generating Station. This progress report will provide an update on significant activities that have occurred since our March 22, 2012 update. This report contains:

- I. Scrubber Project construction, equipment installation and start-up and in-service status.
- II. Equipment performance to date.
- III. An update on Project cost.
- IV. A summary of operational and maintenance activities of the Project.
- V. Conclusions.

I. SCRUBBER CONSTRUCTION, EQUIPMENT INSTALLATION, START-UP, AND IN-SERVICE STATUS



Secondary Wastewater Treatment Building

Since our previous report provided in March 2012, progress continued to be made on the Project. As stated previously, the Project's detailed planning and successful construction program has led to trouble free commissioning, start-up, and operation of the Project with an in-service date of the Scrubber system of September 28, 2011.

Since the last Progress Report, the only construction work remaining on the Project has been completed. This consists of the Secondary Wastewater Treatment System (SWWTS). This SWWTS is designed to treat effluent exiting from the Primary Wastewater Treatment System. The SWWTS itself consists of two distinct treatment steps.

The first step or process in the Secondary System, referred to as the First Effect was placed in service on March 24, 2012. The second process in the Secondary System, or Second Effect, was placed in service on June 21, 2012. Both these systems successfully completed construction, commissioning, and operational testing prior to being placed in service.



Equipment Inside SWWT Building

II. EQUIPMENT PERFORMANCE TO DATE

We are pleased to report continued exceptional success regarding the performance of the Scrubber system in meeting its critical performance obligations and guarantees. With operation of both Merrimack units last week, we can report that sulfur dioxide removal from boiler flue-gas with performance essentially the same as previously reported -- well above the 90 percent sulfur dioxide and 80 percent mercury removal objective in Merrimack Station's Temporary Permit issued by the New Hampshire Department of Environmental Services ("NHDES"). This level of sulfur dioxide removal was demonstrated and recorded via the NHDES and EPA approved Continuous Emissions Monitoring Systems (CEMS) which measure sulfur dioxide into and out of the Scrubber absorber vessel.

The treated liquid effluent from the Primary Wastewater Treatment System now is processed in the SWWTS where all liquid is being treated. The results of this process creates clean water which is sent back to the station for reuse and a solid filter cake material which is brought to an appropriate landfill. This is another extremely positive factor illustrating that all equipment performance is fully meeting requirements and that this system has been designed and built properly and is performing with quality.

III. PROJECT COST

Over \$415 Million has been expended to date. About 60 large contracts and purchase orders were issued, which cover approximately 90% of the Project costs, with about 200 smaller services and supplies purchase orders comprising the balance. At present, the great majority of these contracts and purchase orders have been closed with approximately a few dozen remaining to be closed. The following summarizes the cash flow of the Project:

	Thru 2007	2008	2009	2010	2011	2012	2013
Cost By Year		24.8	119.3	149.7	100.4	23.2	1.9
Cumulative Cost	2.7	27.5	146.8	296.5	396.9	420.1	422.0

\$ Million

Original Project Estimate:	\$457 Million
Revised August 2010	- 27 Million
Revised January 2011	<u>-8 Million</u>
Current Project Estimate:	\$422 Million

IV. SUMMARY OF CURRENT OPERATIONAL AND MAINTENANCE ACTIVITIES

There are certain contractual commitments nearing final mechanical completion status as well as punch lists of miscellaneous tasks being completed by suppliers/contractors of systems and equipment used in the Clean Air Project. As mechanical completion occurs, systems are transitioned from the direct operational oversight and control of the supplier to PSNH. This process of transfer of responsibilities has proceeded very smoothly and successfully with only the SWWTS remaining. Additional equipment and system performance tuning activities for the Project will continue during the third quarter of 2012.

V. CONCLUSIONS

PSNH is pleased to report these additional milestones and successes, which allow the Project to provide the public benefits to the State over one year ahead of schedule required by the statute and well under budget. Equipment continues to work well with more elements placed in service. Diligent efforts continue in order to finish all work and punch list tasks and to close out contracts. The Project is considered 99% complete at this time. Most importantly, the Project has clearly demonstrated its success in achieving

significant reductions in mercury and sulfur dioxide emissions reductions – well beyond threshold expectations, and surpassing the requirements of RSA Chapter 125-O.

Since this Project is essentially complete, this report will be the last update filed with the Commission.