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Public Service Company of New Hampshire
Docket No. DE 11-250

Data Request OCA-01
Dated: 12/30/2011
Q-OCA-001
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Ex. 8

ORIGINAL	
N.H.P.S.C. Case No.	DE 11-250
Exhibit No.	#8
Witness	Panel'
DO NOT REMOVE FROM FILE	

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

Question:

Please reference Attachment 2, Joint Testimony of Baumann/Smagula, dated 10/14/2011. At page 1, line 15, through page 2, line 2, Messrs. Baumann and Smagula testify: "As of [September 28, 2011] the project became used and useful in the provision of service to customers as it began providing significant reductions to the emissions at Merrimack station."

- a. Please identify and quantify each type of emission reduction; and
- b. Please provide documentation of reductions.

See OCA 1-24, DE 11-215.

Response:

- a. The operation of the wet flue gas desulfurization technology is providing significant reductions to the emissions at Merrimack Station. A wet scrubber is a multiple emission reduction system and it reduces many emissions from coal fired power plants including both EPA identified Criteria Pollutants and Hazardous Air Pollutants. Specifically, this technology has proven to reduce Particulate Matter, SO₂, lead, mercury, hydrochloric acid (HCl), hydrofluoric acid (HF), arsenic, beryllium, cadmium, chromium, and manganese, from the flue gas.

With the exception of a few of the compounds mentioned above, quantifying the emission reductions can prove to be very challenging for a number of reasons, such as the low concentration of a particular compound or limited technology and testing standards. For these reasons the use of surrogate monitoring is used to demonstrate reductions. For example, monitoring particulate matter will provide an indication as to the quantity of non-mercury metals and monitoring SO₂ or HCL is an indicator as to the concentration of acid gases in the flue gas.

Currently at Merrimack Station no performance tests have been completed but continuous emissions monitoring systems (CEMS) for sulfur dioxide (SO₂) emissions have been installed and certified on both MK#1 and MK#2. This monitoring is confirming sulfur dioxide emission reductions over 90% (up to 96%), equivalent to between 20,000 to 30,000 tons of SO₂ per year.

Mercury CEMS technology, as noted in RSA 125-O:15, does not currently exist to provide reliable continuous monitoring of mercury emissions. However, mercury emission reductions will be calculated utilizing federally approved stack testing methods to determine early reduction credits as defined in RSA 125-O. Results from this testing are expected in the latter part of January. This mercury emission reduction will be monitored consistent with the Temporary Air Permit in preparation for compliance with the July 1, 2013 annual mercury cap requirement.

- b. Attached is an example of sulfur dioxide reductions from January 6, 2012. Mercury reduction data is expected to be available by the end of January 2012.

Trend2 - Live 24 hours

Date/Time	SO2-RED-PCT.UNIT0@OVATION
1/6/2012 5:02:24 PM	96.786
1/6/2012 5:00:00 PM	96.842
1/6/2012 4:57:36 PM	96.715
1/6/2012 4:55:12 PM	96.674
1/6/2012 4:52:48 PM	96.709
1/6/2012 4:50:24 PM	96.528
1/6/2012 4:48:00 PM	96.490
1/6/2012 4:45:36 PM	96.572
1/6/2012 4:43:12 PM	96.651
1/6/2012 4:40:48 PM	96.468
1/6/2012 4:38:24 PM	96.474
1/6/2012 4:36:00 PM	96.576
1/6/2012 4:33:36 PM	96.648
1/6/2012 4:31:12 PM	96.597
1/6/2012 4:28:48 PM	96.487
1/6/2012 4:26:24 PM	96.201
1/6/2012 4:24:00 PM	96.224
1/6/2012 4:21:36 PM	96.367
1/6/2012 4:19:12 PM	96.065
1/6/2012 4:16:48 PM	95.975
1/6/2012 4:14:24 PM	96.224
1/6/2012 4:12:00 PM	95.928
1/6/2012 4:09:36 PM	93.959
1/6/2012 4:07:12 PM	95.946
1/6/2012 4:04:48 PM	95.822
1/6/2012 4:02:24 PM	96.032
1/6/2012 4:00:00 PM	96.011
1/6/2012 3:57:36 PM	95.946
1/6/2012 3:55:12 PM	95.944
1/6/2012 3:52:48 PM	96.214
1/6/2012 3:50:24 PM	96.235
1/6/2012 3:48:00 PM	96.045
1/6/2012 3:45:36 PM	96.259
1/6/2012 3:43:12 PM	96.014
1/6/2012 3:40:48 PM	96.032
1/6/2012 3:38:24 PM	96.132
1/6/2012 3:36:00 PM	96.094
1/6/2012 3:33:36 PM	96.045
1/6/2012 3:31:12 PM	95.978
1/6/2012 3:28:48 PM	95.958
1/6/2012 3:26:24 PM	96.210
1/6/2012 3:24:00 PM	87.441
1/6/2012 3:21:36 PM	96.177
1/6/2012 3:19:12 PM	96.231
1/6/2012 3:16:48 PM	96.181

1/6/2012 5:02:31 PM

Trend2 - Live 24 hours

Date/Time	SO2-RED-PCT.UNIT0@OVATION
1/6/2012 3:14:24 PM	96.217
1/6/2012 3:12:00 PM	96.166
1/6/2012 3:09:36 PM	96.050
1/6/2012 3:07:12 PM	95.987
1/6/2012 3:04:48 PM	96.053
1/6/2012 3:02:24 PM	95.976
1/6/2012 3:00:00 PM	95.987
1/6/2012 2:57:36 PM	96.015
1/6/2012 2:55:12 PM	95.731
1/6/2012 2:52:48 PM	95.673
1/6/2012 2:50:24 PM	95.546
1/6/2012 2:48:00 PM	95.646
1/6/2012 2:45:36 PM	95.734
1/6/2012 2:43:12 PM	95.788
1/6/2012 2:40:48 PM	95.457
1/6/2012 2:38:24 PM	95.642
1/6/2012 2:36:00 PM	95.454
1/6/2012 2:33:36 PM	95.539
1/6/2012 2:31:12 PM	95.419
1/6/2012 2:28:48 PM	95.413
1/6/2012 2:26:24 PM	95.162
1/6/2012 2:24:00 PM	95.399
1/6/2012 2:21:36 PM	96.869
1/6/2012 2:19:12 PM	96.845
1/6/2012 2:16:48 PM	96.881
1/6/2012 2:14:24 PM	96.722
1/6/2012 2:12:00 PM	96.547
1/6/2012 2:09:36 PM	95.434
1/6/2012 2:07:12 PM	96.665
1/6/2012 2:04:48 PM	96.263
1/6/2012 2:02:24 PM	96.428
1/6/2012 2:00:00 PM	96.484
1/6/2012 1:57:36 PM	96.313
1/6/2012 1:55:12 PM	96.161
1/6/2012 1:52:48 PM	95.965
1/6/2012 1:50:24 PM	96.059
1/6/2012 1:48:00 PM	96.077
1/6/2012 1:45:36 PM	95.972
1/6/2012 1:43:12 PM	95.780
1/6/2012 1:40:48 PM	95.693
1/6/2012 1:38:24 PM	95.788
1/6/2012 1:36:00 PM	95.793
1/6/2012 1:33:36 PM	95.556
1/6/2012 1:31:12 PM	95.637
1/6/2012 1:28:48 PM	95.384

1/6/2012 5:02:31 PM