



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**

Thomas S. Burack, Commissioner



October 11, 2013

William Smagula  
Vice President-Generation  
Public Service Company of New Hampshire  
PO Box 330  
Manchester, NH 03105

RE: On-Site Full Compliance Evaluation Report

Dear Mr. Smagula:

The New Hampshire Department of Environmental Services, Air Resources Division (“DES”) has completed a Full Compliance Evaluation of Public Service Company of New Hampshire’s Merrimack Station (“PSNH-Merrimack”). The compliance evaluation included an on-site inspection completed on August 13, 2013. This is a copy of the On-Site Full Compliance Evaluation Report for your review and records.

DES identified a deficiency during this compliance evaluation, as detailed in this report.

If you have any questions, please contact Daniel Hrobak at (603) 271-1987 or email at [Daniel.Hrobak@des.nh.gov](mailto:Daniel.Hrobak@des.nh.gov).

Sincerely,

Greg Helve  
Compliance Assessment Section Supervisor  
Air Resources Division

cc: Board of Selectmen, Town of Bow, 10 Grandview Road, Bow, NH 03304

## Abbreviations and Acronyms

AAL	Ambient Air Limit
ASTM	American Society of Testing and Materials
Btu	British thermal units
CAS	Chemical Abstracts Service
CEMS	Continuous Emissions Monitoring System
cfm	Cubic feet per minute
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COMS	Continuous Opacity Monitoring System
DER	Discrete Emission Reduction
DES	New Hampshire Department of Environmental Services
Env-A	New Hampshire Code of Administrative Rules – Air Resources Division
ERC	Emission Reduction Credit
ESP	Electrostatic Precipitator
FGD	Flue Gas Desulphurization
ft	Foot or feet
ft <sup>3</sup>	Cubic feet
gal	Gallon
HAP	Hazardous Air Pollutant
hp	Horsepower
hr	Hour
kW	Kilowatt
lb	Pound
LPG	Liquefied Petroleum Gas
MM	Million
MSDS	Material Safety Data Sheet
MSW	Municipal Solid Waste
MW	Megawatt
N/A	Not applicable
NAAQS	National Ambient Air Quality Standard
NG	Natural Gas
NO <sub>x</sub>	Oxides of Nitrogen
NPV	Notice of Past Violation
NSPS	New Source Performance Standard
PCB	Polychlorinated biphenyl
PM <sub>10</sub>	Particulate Matter < 10 microns
ppm	Parts per million
psi	Pounds per square inch
RACT	Reasonably Available Control Technology
RSA	Revised Statutes Annotated
RTAP	Regulated Toxic Air Pollutant
SCR	Selective Catalytic Reduction
scf	Standard cubic foot
SO <sub>2</sub>	Sulfur Dioxide
TSP	Total Suspended Particulate
tpy	Tons per consecutive 12-month period
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

## **I. Facility Description**

DES conducted an On-Site Full Compliance Evaluation of PSNH-Merrimack and the results are presented herein. The compliance evaluation covers the period of 2011 to August 13, 2013.

PSNH-Merrimack is a fossil fuel-fired electricity generating facility, owned and operated by PSNH, a subsidiary of Northeast Utilities. The facility is comprised of two utility boilers, two combustion turbines operating as load shaving units, an emergency generator, an emergency boiler, and coal handling systems including primary and secondary coal crushers, coal piles, coal conveyor systems, and coal unloading from railcars. The facility operations also include various activities that are classified as insignificant or exempt activities.

The two utility boilers (MK1 and MK2) primarily burn bituminous coal, the two combustion turbines primarily burn No. 1 fuel oil or JP-4, the emergency generator burns No. 2 fuel oil or diesel fuel, and the emergency boiler burns No. 2 fuel oil or diesel fuel. PSNH-Merrimack ignites the utility boilers with No. 2 fuel oil.

Each boiler stack is equipped with CEMS and a COMS. PSNH-Merrimack installed control equipment and implemented operational changes to reduce emissions, including trials of low sulfur coals to control SO<sub>2</sub> emissions, SCR systems to control NO<sub>x</sub> emissions, and ESPs to control PM emissions.

In addition, PSNH-Merrimack installed a FGD system in order to fulfill requirements of RSA 125-O, namely to control mercury emissions, as described in TP-0008. A co-benefit of this FGD system is the removal of SO<sub>2</sub> from the flue gas from MK1 and MK2. As part of the FGD system, PSNH-Merrimack installed a common stack (STMK3), which is the primary exhaust of MK1 and MK2 (either exhausting together or separately). PSNH-Merrimack also has decommissioned the dedicated stack to MK1 (STMK1) and uses the stack previously dedicated to MK2 (STMK2), as a bypass stack only to be used by MK1, up to 840 hours per year.

The FGD system began operation on September 25, 2011, with stable operation achieved as of July 1, 2013. As part of this project, PSNH-Merrimack also installed an emergency cooling pump engine in 2011, with terms and conditions established in TP-0068, to provide cooling water to the FGD system during emergency situations such as a loss of station power or circulating water system failure.

PSNH-Merrimack operates a fly ash re-injection system in each of the two boilers.

Facility name and address	Public Service Company of New Hampshire Merrimack Station 97 River Road Bow, NH 03304-3314
County	Merrimack
Telephone	603-634-2236
AFS#	3301300026
Source Type	Title V
Inspection Date/Time	August 13, 2013 9:30 AM
Inspection Type	On-Site Full Compliance Evaluation
Inspection Period	2011 – August 13, 2013
Weather	70° F., cloudy, wind 0-5 mph
Inspected by	Daniel Hrobak, Senior Compliance Assessment Engineer Padmaja Baru, New Source Review Program Manager
Source Contact(s)	Brad Owens, Station Manager Sheila Burke, Senior Compliance Consultant Leo Quinn, Senior Engineer Richard Faro, Engineer
Last Inspection	October 18, 2011 (Off-site)
Last Inspection Results	
No deficiencies identified.	

Permit Number:	TV-0055	Issued:	September 7, 2011
		Administrative Amendment:	October 31, 2011
		Reporting requirements updated	
		Expires:	September 30, 2016
	TP-0068	Issued:	February 13, 2011
		Expired:	August 31, 2012
	TP-0008	Issued:	March 9, 2009
		Reissued:	August 2, 2010
		Reissued:	July 8, 2011
		Reissued:	July 18, 2012
		Expires:	September 30, 2013

The on-site inspection included an opening meeting to discuss the purpose of the inspection as well as the rules pertaining to claims of confidentiality and facility safety concerns. PSNH-Merrimack agreed to the inspection and authorized access to the facility. Material provided and operations conducted by the facility at the time of the inspection were not claimed as confidential.

## II. Emission Unit Identification and Facility Wide Emissions

Table 1 below, taken from the above permits, lists the permitted emission units. During the inspection, the facility was not operating the emissions units.

<b>Table 1- Significant Activity Identification</b>			
<b>Emission Unit Number</b>	<b>Description of Emission Unit</b>	<b>Maximum Gross Heat Input Rating</b>	<b>Maximum Operating Conditions</b>
MK1	Steam Generating Unit 1 (Installed in 1960) Front wall firing	Bituminous Coal: 1,238 MMBtu/hr	a) Maximum fuel consumption rate of bituminous coal shall be limited to 48.5 tons/hr, not to exceed 425,289 tons during any consecutive 12 month period. b) No. 2 fuel oil consumption shall be limited to 1,656 gallons per hour, not exceed 14.5 million gallons during any consecutive 12 month period.
MK2	Steam Generating Unit 2 (Installed in 1968) Opposed wall firing	Bituminous Coal: 3,473 MMBtu/hr	a) Maximum fuel consumption rate of bituminous coal shall be limited to 136.2 tons/hr, not to exceed 1,193,078 tons during any consecutive 12 month period. b) No. 2 fuel oil consumption shall be limited to 1,656 gallons per hour, not exceed 14.5 million gallons during any consecutive 12 month period.
MKLC1	Limestone Processing and Handling System	Not Applicable	Limestone processing rate of the wet limestone ball mills of less than 25 tons per hour.
MKCT1	Combustion Turbine #1 (Installed in 1968) One-end only firing	No. 1 fuel oil or JP-4: 319 MMBtu/hr	Maximum fuel consumption rate shall not exceed 2,279 gal/hr .
MKCT2	Combustion Turbine #2 (Installed in 1969) One-end only firing	No. 1 fuel oil or JP-4: 319 MMBtu/hr	Maximum fuel consumption rate shall not exceed 2,279 gal/hr .
MKPCC	Primary Coal Crusher System consisting of two crushers that operate in parallel (Installed in 1960)	NA	Maximum operating rate of MKPCC shall be limited to 885 ton/hr coal.
MKSCC	Secondary Coal Crusher System consisting of two crushing systems employing two crushers (for a total of four crushers) operating in parallel (Installed in 1960)	NA	Maximum operating rate of MKSCC shall be limited to 690 ton/hr coal.
MKEG	Emergency Generator (Installed in 1988)	Diesel fuel or No. 2 fuel oil: 3.93 MMBtu/hr	a) Maximum fuel consumption rate of diesel fuel shall not exceed 28.7 gal/hr. b) Maximum fuel consumption rate of No. 2 fuel oil shall not exceed 28.1 gal/hr

**Table 1- Significant Activity Identification**

Emission Unit Number	Description of Emission Unit	Maximum Gross Heat Input Rating	Maximum Operating Conditions
MKEB	Emergency Boiler (Temporary – Each installation)	No. 2 fuel oil (with a maximum sulfur content of 0.4% by weight), or on-road low sulfur diesel oil (with a maximum sulfur content of 0.05% by weight): 96 MMBtu/hr	a) Maximum fuel consumption rate of No. 2 fuel oil shall not exceed 520 gal/hr and 11,760 gal/day; or b) Maximum fuel consumption rate of on-road low sulfur diesel oil shall not exceed 701 gal/hr
MKEC	Emergency Cooling Pump Engine John Deere/Clarke JU6H-UFAD88 2011	1.64 MMBtu/hr Diesel fuel oil	12.0 gal/hr

PSNH-Merrimack has identified the following insignificant activities:

<b>Insignificant Activities</b>	
<b>Device #</b>	<b>Device</b>
1	Solvent Cold Cleaning Station 1
2	Solvent Cold Cleaning Station 2
3	Solvent Cold Cleaning Station 3
4	Solvent Cold Cleaning Station 4
5	Solvent Cold Cleaning Temporary Units (3 Units < 60 days each unit)
6	Slag Tank Warm-up Lines MK1 and MK2
7	600 Gallon Gasoline Tank – Vehicle Fueling
8	Shot Hoppers Ash Dumping
9	SCR Economizer Hoppers Ash Dumping
10	SCR Reactor Hoppers Ash Dumping
11	Chemical Lab Hood Vents
12	House Vacuum System with Baghouse
13	Crusher House Propane Heating System
14	Warehouse A Fuel Oil Heating Furnace System (2 propane unit)
15	Yard Services Building #2 Fuel Oil Heating System
16	Diesel/#2 Fuel Oil Storage Tanks (2 Tanks at 8,000 gallons each)
17	Jet Fuel Storage Tanks (4 Tanks at 40,000 gallons each tank)
18	Fly Ash Disposal Tank
19	Fly Ash Silo Dust Collectors (2 Silos)
20	Limestone Silo Dust Collector
21	Vermiculite Silo Dust Collector
22	PAC Silo Dust Collector
23	Ammonia Storage and Distribution Systems
24	Fly Ash Tank Unloading (Two unloading stations)
25	Coal Handling and Unloading Systems

DES observed the devices identified above and the facility added the following device, as described in a letter to DES on May 11, 2011. This device is considered an insignificant activity and the facility reports emissions from this device and pays the associated emission-based fees.

<b>Non-Permitted Emergency Generator Information</b>	
Manufacturer	Kohler
Model #	100 RE2G
Serial #	2309295
Power Rating	164 hp 2.32 MMBtu/hr
Fuel	Propane
Manufactured Date/ Installation Date	Mfg.: 2010 Install: 2011

The table below lists the facility-wide reported annual emissions for the review period.

Facility-Wide Emissions (tons)						
	TSP	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOCs	HAPs/RTAPs
Permitted Limits	—	—	—	—	—	—
2012	23.09	1,004.46	1,834.61	117.42	25.84	1.35
2011	277.20	2,2391.74	2,953.41	190.20	41.84	2.22

### III. Control Equipment

Table 2, below, taken from TP-0008, lists the relevant required control equipment for the facility’s devices.

Table 2 Pollution Control Equipment Identification		
Pollution Control Equipment Number	Description of Equipment/Method	Emission Unit Number Controlled
MK1-PC1	ESP #1 on MK1	MK1
MK1-PC2	ESP #2 on MK1	MK1
MK1-PC3	SCR deNO <sub>x</sub> System	MK1
MK2-PC4	ESP #1 on MK2	MK2
MK2-PC5	ESP #2 on MK2	MK2
MK2-PC6	SCR deNO <sub>x</sub> System	MK2
MK2-PC7	FGD System	MK1 and MK2

### IV. Stack Criteria

Table 3 below, taken from TV-0055 and TP-0008, lists the permitted stack requirements for the facility’s devices.

During the inspection, DES observed the stacks to be vertical with no modifications noted by the facility.

Table 3 – Stack Criteria				
Stack Number	Emission Unit Number	Emission Unit Description	Minimum Stack Height (Feet) Above Ground Level	Maximum Inside Stack Diameter (Feet)
STMK2 (Bypass Stack)	MK1	Steam Generating Unit No. 1	317	14.5

Table 3 – Stack Criteria				
Stack Number	Emission Unit Number	Emission Unit Description	Minimum Stack Height (Feet) Above Ground Level	Maximum Inside Stack Diameter (Feet)
STMK3	MK1 and/or MK2 with MK2-PC7	Steam Generating Units No. 1 and/or No. 2 with FGD System	445	21.5
STMKCT1	MKCT1	Combustion Turbine #1	20	10.5 x 14
STMKCT2	MKCT2	Combustion Turbine #2	20	10.5 x 14
STMKEG	MKEG	Emergency Generator	12	0.5
STMKEB	MKEB	Emergency Boiler	22.33	4.0

Section VII of the Title V permit (TV-0055) specifies that alternating operating scenarios, which are included as follows:

A. Trial Test Burns with Other Fuels (Temporary Permits FP-T-0054 & TP-B-0462)

Prior to the use of any fuel other than bituminous coal, No. 2 fuel oil or other fuels previously reviewed and approved by DES, PSNH – Merrimack shall submit a proposal to DES, which includes information specified in permit TV-0055.

***Findings: During the inspection period, PSNH Merrimack has not used additional fuels that were not previously reviewed and approved by DES.***

B. Fly Ash Re-injection (Temporary Permits. FP-T-0054, TP-B-0462):

PSNH-Merrimack is authorized to re-inject fly ash into the boilers as part of normal operation and can cease at its discretion.

***Findings: During the inspection period, PSNH-Merrimack periodically re-injected fly ash.***

C. Early Mercury Emission Reduction Methods (RSA 125-O:13, III)

Prior to July 1, 2013, PSNH is authorized to test and implement mercury reduction control technologies or methods, including sorbent injection, to achieve early reductions in mercury emissions below the baseline mercury emissions, as an alternative operating scenario.

***Findings: During the inspection period, PSNH began operating the FGD, which was designed to reduce mercury emissions, on September 25, 2011. .***

**V. Compliance with Operating and Emission Limitations**

Table 4 below, taken from TV-0055, lists the relevant state-only enforceable operating and emission limitations for the facility and any deficiencies noted during the evaluation.

<b>Table 4- State-only Enforceable Operating and Emission Limitations</b>				
<b>Item #</b>	<b>Regulatory Citation</b>	<b>Applicable Emission Unit</b>	<b>Applicable Requirement</b>	<b>Compliant</b>
1.	Env-A 1403	All devices subject to RSA 125-I and Env-A 1400	All devices or processes, subject to RSA 125-I and Env-A 1400, shall comply with Env-A 1400 ( <i>Regulated Toxic Air Pollutants</i> ).	<b>Yes</b>
2.	Env-A 1403.01(d)	All devices subject to RSA 125-I and Env-A 1400	Documentation for the demonstration of compliance shall be retained at the facility and shall be made available to DES for inspection upon request.	<b>Yes</b>
3.	Env-A 1404.01	All devices subject to RSA 125-I and Env-A 1400	a) The owner of a new or modified device or process requiring a permit under this chapter shall submit an application for a temporary permit in accordance with Env-A 607.03. b) Pursuant to RSA 125-I:5,I, the owner shall not operate the device or process until a temporary permit is issued.	<b>Yes</b>
4.	Env-A 1405.01	All devices subject to RSA 125-I and Env-A 1400	The owner of any device or process that emits an RTAP shall determine compliance with the AAL by using one of the methods provided in Env-A 1405. Upon request, the owner of any device or process that emits an RTAP shall provide documentation of compliance with the AAL to DES.	<b>Yes</b>
5.	Env-A 1405.02	MK1 & MK2	Ammonia slip stream emissions from the SCR units shall not exceed 10 ppm <sub>dv</sub> at 3% oxygen (dry basis), as measured at the stack outlet.	<b>Yes</b>
<b><i>Finding: Compliance with ammonia slip emissions is determined through stack testing, which is required to be conducted once every five years (see Table 7, Item #38). PSNH-Merrimack last conducted ammonia slip testing on MK1 and MK2 on May 28, 2009 for MK2 and on June 24, 2009 for MK1. DES reviewed the reports associated with these tests and the facility is in compliance with the above-referenced emission limit.</i></b>				
6.	Env-A 1002.04 Fugitive Dust	Facility wide	The Permittee shall prevent, abate, and control fugitive dust emissions, including fugitive coal dust using best management practices such as wetting, covering, shielding, or vacuuming.	<b>Yes</b>
7.	RSA 125-O:13,I. Compliance	MK1 & MK2	The owner shall install and have operational scrubber technology to control mercury emissions at Merrimack Units 1 and 2 no later than July 1, 2013.	<b>Yes</b>
<b><i>Finding: PSNH installed the FGD system to control mercury emissions and it was operational on July 1, 2013.</i></b>				

<b>Table 4- State-only Enforceable Operating and Emission Limitations</b>				
<b>Item #</b>	<b>Regulatory Citation</b>	<b>Applicable Emission Unit</b>	<b>Applicable Requirement</b>	<b>Compliant</b>
8.	RSA 125-O:13,II. Compliance	Affected sources as defined in RSA 125-O:12, namely MK1, MK2, SR4, & SR6	Beginning on July 1, 2013, total mercury emissions from the affected sources shall be at least 80 percent less on an annual basis than the baseline mercury input, as defined in RSA 125-O:12,III.	<b>Unknown</b>
<b><i>Finding: Because the total mercury emissions from the affected sources need to be reduced by 80% on an annual basis then the baseline mercury input compliance cannot be determined until mercury emissions are quantified for one year following the effective date of July 1, 2013.</i></b>				
9.	RSA 125-O:13,III. Compliance	MK1 & MK2	Prior to July 1, 2013, the owner shall test and implement, as practicable, mercury reduction control technologies or methods to achieve early reductions in mercury emissions below the baseline mercury emissions. The owner shall report the results of any testing to the DES and shall submit a plan for DES approval before commencing implementation of mercury reduction control technologies or methods.	<b>Yes</b>
<b><i>Finding: See Section IV.C. Early Mercury Emission Reduction Methods (RSA 125-O:13, III), above.</i></b>				
10.	RSA 125-O:13,V. Compliance	MK1 & MK2	Mercury reductions (achieved by the scrubber technology) that are greater than 80 percent, shall be sustained in so far as the proven operational capability of the system, as installed allows. DES in consultation with the owner shall determine the maximum sustainable rate of mercury emission reductions for each of the boilers and incorporate such emission reductions rate as a permit condition of operational permits issued by DES for units MK1 & MK2.	<b>Unknown</b>
<b><i>Finding: Because mercury emission reductions are determined on an annual basis, and the initial compliance date is July 1, 2013, the maximum sustainable rate of reductions is unknown at this time.</i></b>				
11.	RSA 125-O:13,VI. Compliance	MK1 & MK2	The purchase of mercury emissions allowances or credits from any established emissions allowance or credit program shall not be allowed for compliance with the mercury reduction requirements of RSA 125-O:16,II.	<b>Yes</b>
<b><i>Finding: PSNH-Merrimack has not purchased mercury emissions allowances or credits for compliance with the mercury reduction requirements.</i></b>				

<b>Table 4- State-only Enforceable Operating and Emission Limitations</b>				
<b>Item #</b>	<b>Regulatory Citation</b>	<b>Applicable Emission Unit</b>	<b>Applicable Requirement</b>	<b>Compliant</b>
12.	RSA 125-O:13,VII. Compliance	MK1 & MK2	If the mercury reduction requirement of RSA 125-O:13,II. is not achieved in any year after the July 1, 2013 implementation date, and after full operation of the scrubber technology, then the owner may utilize early emissions reduction credits or over-compliance credits, or both, to make up any shortfall, and thereby be in compliance.	<b>Unknown</b>
<b><i>Finding: Compliance with mercury reduction requirements is unknown until one year after the compliance date of July 1, 2013.</i></b>				
13.	RSA 125-O:13,VIII. Compliance	MK1 & MK2	If the mercury reduction requirement of RSA 125-O:13,II. is not achieved in any year after the July 1, 2013 implementation date despite the owner's installation and full operation of scrubber technology, consistent with good operational practice, and the owner's exhaustion of any available early emissions reduction or over-compliance credits, then the owner shall be deemed in violation of this section unless it submits a plan to the DES, within 30 days of such non-compliance, and subsequently obtains approval of that plan for achieving compliance within one year from the date of such non-compliance. The DES may impose conditions for approval of such plan.	<b>Unknown</b>
<b><i>Finding: Compliance with mercury reduction requirements is unknown until one year after the compliance date of July 1, 2013.</i></b>				
14.	RSA 125-O:16,I. Economic Performance Incentives	MK1 & MK2	a) DES shall issue to the owner early emissions reduction credits in the form of credits or fractions thereof for each pound of mercury or fraction thereof reduced below the baseline mercury emissions, on an annual basis, in the period prior to July 1, 2013. b) Ratios of early reduction credits to pounds of mercury reduced shall be as follows: (i) 1.5 credits per pound reduced prior to July 1, 2008; (ii) 1.25 credits per pound for reductions between July 1, 2008 and December 31, 2010; and (iii) 1.1 credits per pound for reductions between January 1, 2011 and July 1, 2013. c) Reductions shall be calculated based upon the results of stack tests conducted, measurement by continuous emission monitoring, or other methodology approved by the DES to confirm emissions during the time of operation of mercury reduction technology.	<b>Not Applicable</b>

Table 4- State-only Enforceable Operating and Emission Limitations				
Item #	Regulatory Citation	Applicable Emission Unit	Applicable Requirement	Compliant
			d) Early emissions reduction credits may be banked by the owner or utilized after July 1, 2013 to meet the reduction requirement of RSA 125-O:13,II. as allowed under RSA 125-O:13,VII. e) Early emissions reduction credits are not sellable or transferable to non-affected sources; however, upon the July 1, 2013 compliance date, the owner may request a one-for-one conversion of early emissions reduction credits to over-compliance credits. f) Should a federal rule applicable to mercury emissions at one or more of the affected sources be enacted with an implementation date prior to July 1, 2013, then early reduction credits may only be earned for emissions reductions that exceed the level required by the federal rule of the affected sources in aggregate or the baseline mercury emissions level, whichever is lower, at the same ratios listed in B), above. g) Early emissions reduction credits shall not be used for compliance with the requirement of RSA 125-O:13,II. prior to the installation of scrubber technology, and shall not be used as a means to delay the installation of the scrubber technology.	
<b><i>Finding: PSNH-Merrimack has not applied for early emission reduction credits.</i></b>				
15.	RSA 125-O:16,II. Economic Performance Incentives	MK1 & MK2	a) DES shall issue to the owner over-compliance credits in the form of credits or fractions thereof for each pound of mercury or fraction thereof reduced in excess of the emissions reduction requirement of RSA 125-O:13,II., on an annual basis, following the compliance date of July 1, 2013. b) The ratios of over-compliance credits to excess pounds of mercury reduced shall be as follows: (i) 0.5 credits per pound reduced for reductions between 80 and 85 percent; (ii) 1 credit per pound reduced for reductions between 85 and 90 percent reduction; and (iii) 1.5 credits per pound reduced for reductions of 90 percent or greater. c) Over-compliance credits may be banked for future use. The requirements of RSA 125-O:13,V. shall not alter the emissions levels at which over-compliance credits are earned.	<b>Unknown</b>

<b>Table 4- State-only Enforceable Operating and Emission Limitations</b>				
<b>Item #</b>	<b>Regulatory Citation</b>	<b>Applicable Emission Unit</b>	<b>Applicable Requirement</b>	<b>Compliant</b>
			<p>d) Should a federal rule applicable to mercury emissions at one or more of the affected sources be enacted, then over-compliance credits may only be earned for emissions reductions that exceed the level required by the federal rule of the affected sources in aggregate or the requirement of RSA 125-O:13,II., whichever is lower, at the same ratios listed in B), above.</p> <p>e) At the request of the owner of an affected source, over-compliance credits may be surrendered by the owner to the DES and SO<sub>2</sub> allowances shall be transferred to the owner at a rate of 55 tons SO<sub>2</sub> allowances for every one over-compliance credit. Transfer shall be limited to a maximum of 20,000 total tons SO<sub>2</sub> allowances transferred in a given year, defined as the sum of all SO<sub>2</sub> allowances received by the affected sources under RSA 125-O:4,IV(a)(2) and IV(a)(3), and under this subparagraph. SO<sub>2</sub> allowances shall be credited to the affected sources' accounts in the following year in accordance with RSA 125-O:4,IV(a)(4).</p>	
<p><b><i>Finding Because the over-compliance credits are determined on an annual basis following the initial compliance date of July 1, 2013, PSNH is not able to receive over-compliance credits at this time.</i></b></p>				
16	Temporary Permit FP-T-0054 & Temporary Permit TP-B-0462	MK1 & MK2	No. 2 fuel oil is used to light off fires in MK1 and MK2 before establishing the main coal fires.	<b>Yes</b>
17	Temporary Permit FP-T-0054 MK1-Maximum Fuel Consumption Rates	MK1	<p>a) Coal: The maximum bituminous coal consumption rate for MK1 shall be limited to 48.5 tons per hour and shall not exceed 425,289 tons during any consecutive 12 month period.</p> <p>b) No. 2 Fuel Oil: The maximum No. 2 fuel oil consumption rate to MK1 shall be limited to 1,656 gallons per hour and shall not to exceed 14.5 million gallons during any consecutive 12 month period.</p>	<b>Yes</b>

**Table 4- State-only Enforceable Operating and Emission Limitations**

Item #	Regulatory Citation	Applicable Emission Unit	Applicable Requirement	Compliant
18	Temporary Permit TP-B-0462 MK2-Maximum Fuel Consumption Rates	MK2	a) Coal: The maximum bituminous coal consumption rate for MK2 shall be limited to 136.2 tons per hour and shall not exceed 1,193,078 tons during any consecutive 12 month period. b) No. 2 Fuel Oil: The maximum No. 2 fuel oil consumption rate to MK2 shall be limited to 1,656 gallons per hour and shall not to exceed 14.5 million gallons during any consecutive 12 month period.	Yes
19	Temporary Permit FP-T-0054 MK1-ESP Operation	MK1	a) All available sections of each ESP on Unit #1 (MK1-PC1 and MK1-PC2) shall be in service at greater than 35 MW load. No more than a total of 7 sections in the two ESP units shall be out of service at greater than 35 MW load. If more than 7 sections are out of service at greater than 35 MW load, the owner or operator must notify (e.g., call or e-mail) DES within 24 hours of discovery unless the DES offices are closed then the next DES business day. At DES' request, PSNH shall be required to conduct particulate matter testing if more than 7 sections are out of service. During startup and when Unit #1 is below 35 MW of generation, 16 of 22 fields in MK1-PC1 must be in service and 4 of 10 fields in MK1-PC2 must be in service. b) PSNH –Merrimack Station shall continuously operate and maintain the ESP systems to minimize particulate matter emissions to meet permit conditions and to maintain compliance with Env-A 2000. The operation and maintenance shall include normal rounds by a qualified operator for checking and cleaning of the hoppers and transport lines. PSNH – Merrimack Station shall inspect and perform necessary maintenance on the ESP during each planned outage. All critical maintenance activities performed and corrective actions taken on the ESP systems shall be recorded and shall be made available for review at the request of DES.	Yes
20	Temporary Permit TP-B-0462 MK2-ESP Operation	MK2	a) All available sections of each ESP on Unit #2 (MK2-PC4 and MK2-PC5) shall be in service at greater than 120 MW of generation. If more than 8 sections are out of service at greater than 120 MW load, the owner or operator must	Yes

**Table 4- State-only Enforceable Operating and Emission Limitations**

Item #	Regulatory Citation	Applicable Emission Unit	Applicable Requirement	Compliant
			<p>notify (e.g., call or e-mail) DES within 24 hours of discovery unless the DES offices are closed then the next DES business day. At DES' request, PSNH shall be required to conduct particulate matter testing if more than 8 sections are out of service. During startup and when Unit #2 is below 120 MW of generation, 4 of 12 fields in MK2-PC4 must be in service and 12 of 24 fields in MK2-PC5 must be in service.</p> <p>b) PSNH –Merrimack Station shall continuously operate and maintain the ESP systems to minimize particulate matter emissions to meet permit conditions and to maintain compliance with Env-A 2000. The operation and maintenance shall include normal rounds by a qualified operator for checking and cleaning of the hoppers and transport lines. PSNH – Merrimack Station shall inspect and perform necessary maintenance on the ESP during each planned outage. All maintenance activities performed and corrective actions taken on the ESP systems shall be recorded and shall be made available for review at the request of DES.</p>	
21	Temporary Permits FP-T-0054 & TP-B-0462 MK1 & MK2 Opacity Limits	MK1 & MK2	In accordance with Env-A 2002.01, during normal operation, the average opacity shall not exceed 40% for any continuous 6-minute period, except under the following conditions. In accordance with Env-A 2002.04(b), the average opacity may exceed 40% during periods of startup, shutdown, malfunction, soot blowing, grate cleaning, and cleaning of fires, for a non-overlapping set or sets of time up to 60 minutes in any 8-hour period. The hourly average opacity may not exceed 30% opacity except during the eight hours preceding the generator being phased on-line (boiler startup) or the eight hours after the generator being tripped off-line (boiler shutdown).	<b>Yes</b>
22	Env-A 404.01 State Acid Rain Deposition Control Program & Temporary Permits FP-T-0054 and TB-B-0462	MK1 & MK2	The total sulfur dioxide emissions from PSNH - Merrimack Station (MK1 & MK2), Newington Station (Unit 1), and Schiller Station (Units 4, 5, & 6) shall not exceed 55,150 tons per calendar year.	<b>Yes</b>

<b>Table 4- State-only Enforceable Operating and Emission Limitations</b>				
<b>Item #</b>	<b>Regulatory Citation</b>	<b>Applicable Emission Unit</b>	<b>Applicable Requirement</b>	<b>Compliant</b>
23	State Permits to Operate PO-BP-2416 & PO-BP-2417	MKPCC & MKSCC	Based on the maximum coal usage allowed in MK1 and MK2, the maximum annual coal throughput shall be limited to 1,618,367 tons during any consecutive 12-month period.	<b>Yes</b>
24	State Permits to Operate PO-BP-2416 & PO-BP-2417	MKPCC & MKSCC	The primary crusher is located underground beneath the rail car track hopper and is fully enclosed to reduce fugitive emissions. The secondary coal crushers are fully enclosed in an aboveground building to reduce fugitive emissions. The coal crusher systems shall be inspected and maintained regularly. Any failures of these enclosures to prevent fugitive emissions shall be repaired, as necessary.	<b>Yes</b>
25	Env-A 2002.04(d), (e), (f)	MKEB	<p>a) Pursuant to Env-A 2002.04 (d), (e), and (f), exceedances of the opacity standard in Env-A 2002 shall not be considered violations if the Owner or Operator demonstrates to DES that such exceedances:</p> <ul style="list-style-type: none"> <li>(i) Were the result of the adherence to good boiler operating practices which, in the long term, result in the most efficient or safe operation of the boiler;</li> <li>(ii) Occurred during periods of cold startup of a boiler over a continuous period of time resulting in efficient heat-up and stabilization of its operation and the expeditious achievement of normal operation of the unit;</li> <li>(iii) Occurred during periods of continuous soot blowing of the entire boiler tube section over regular time intervals as determined by the operator and in conformance with good boiler operating practice; or</li> <li>(iv) Were the result of the occurrence of an unplanned incident in which the opacity exceedance was beyond the control of the operator and in response to such incident, the operator took appropriate steps in conformance with good boiler operating practice to eliminate the excess opacity as quickly as possible.</li> </ul>	<b>Yes</b>

Table 5 below, taken from TV-0055, lists the relevant federally enforceable operating and emission limitations for the facility and any deficiencies noted during the evaluation.

Table 5- Federally Enforceable Operational and Emission Limitations				
Item #	Regulatory Cite	Applicable Emission Unit	Applicable Requirement	Compliant
1.	Env-A 1606.01(a) (formerly Env-A 402.04(a) and (b)) Coal Sulfur Limits	MK1 & MK2	For coal-burning devices placed in operation before April 15, 1970: a) The sulfur content of coal fired in MK1 and MK2 shall not exceed 2.0 lb/MMBtu averaged over any consecutive 3-month period; and b) The sulfur content of coal fired in MK1 and MK2 shall not exceed 2.8 lb/MMBtu.	Yes
2.	Env-A 1604.01(a) (formerly Env-A 402.02(a)) & 40 CFR 60 Subpart Dc §60.42c(d) Sulfur Content Limits for Liquid Fuels	MKEB & Facility Wide	The maximum sulfur content of No. 2 fuel oil and JP-4 aviation fuel shall not exceed 0.40% sulfur by weight.	Yes
3.	Env-A 2002.06 (formerly Env-A 1202.05(b)) and Temporary Permit FP-T-0054 MK1 TSP Emission Limit	MK1	a) The maximum allowable total suspended particulate matter (TSP) emission rate from MK1, including emissions rates experienced during periods of flyash re-injection, shall be limited to 0.27 lb/MMBtu. The maximum TSP emission rate is obtained from use of the equation below: $E = 0.880 * I^{0.166}$ Where: E = maximum allowable particulate matter emission rate in lb/MMBtu; and I = maximum gross heat input rate in MMBtu/hr. b) Maximum TSP emissions from MK1 shall not exceed 1,463.1 tons during any consecutive 12 month period.	Yes
4.	Env-A 2003.06 (formerly Env-A 1202.05(b)) and Temporary Permit TP-B-0462 MK2 TSP Emission Limit	MK2	a) The maximum allowable total suspended particulate matter (TSP) emission rate from MK2, including emissions rates experienced during periods of flyash re-injection, shall be limited to 0.227 lb/MMBtu. The maximum TSP emission rate is obtained from use of the equation below: $E = 0.880 * I^{0.166}$ Where: E = maximum allowable particulate matter emission rate in lb/MMBtu; and I = maximum gross heat input rate in MMBtu/hr. b) Maximum TSP emissions from MK2 shall not exceed 3,458.6 tons during any consecutive 12 month period.	Yes
5.	40 CFR §76.6(a)(2), Env-A 1211.03(d)(1), RACT Order ARD-97-001 Condition D.1.a.ii, and Env-A 1211.18	MK2	The maximum NO <sub>x</sub> emissions from MK2 shall not exceed the following: a) 0.86 lb NO <sub>x</sub> /MMBtu heat input on an annual average basis pursuant to 40 CFR 76.6(a)(2); b) 15.4 tons per 24-hr calendar day pursuant to 1211.03(d)(1); and c) 29.1 tons per calendar day pursuant to RACT Order ARD-97-001 Condition D.1.a.ii issued in accordance with Env-A 1211.18 when combined with MK1 (See Condition VIII, E.1.).	Yes

**Table 5- Federally Enforceable Operational and Emission Limitations**

Item #	Regulatory Cite	Applicable Emission Unit	Applicable Requirement	Compliant
6.	RACT Order ARD-97-001 Condition D.1.c, Condition D.1.b, and Condition D.1.a.ii issued in accordance with Env-A 1211.18	MK1	The maximum NO <sub>x</sub> emissions from MK1 shall not exceed the following: a) 1.22 lb NO <sub>x</sub> /MMBtu heat input on a 7-calendar day average basis pursuant to RACT Order ARD-97-001 Condition D.1.c issued in accordance with Env-A 1211.18; b) 18.1 tons per 24-hour calendar day when MK2 is not in full operation pursuant to RACT Order ARD-97-001 Condition D.1.b issued in accordance with Env-A 1211.18 (See Condition VIII, E.2.); and c) 29.1 tons per calendar day when combined with MK2 pursuant to RACT Order ARD-97-001 Condition D.1.a.ii issued in accordance with Env-A 1211.18 (See Condition VIII, E.1.1).	Yes
7.	State Permits to Operate PO-B-0034 & PO-B-0035	MKCT1 & MKCT2	Maximum fuel consumption rate of No.1 fuel oil or JP-4 shall not exceed 2,279 gal/hr and 19.96 million gallons during any consecutive 12-month period for each CT.	Yes
8.	Env-A 2002.01 (formerly Env-A 1202.01)	MKCT1 & MKCT2	Average opacity from the CTs shall not be in excess of 40% for any continuous 6 minute period.	Yes
9.	State Permit to Operate PO-B-1788	MKEG	Maximum fuel consumption rate of No. 2 fuel oil shall not exceed 28.7 gal/hr and 14,350 gallons during any consecutive 12 month period.	Yes
10.	Env-A 1211.02(j) (formerly Env-A 1211.01(j))	MKEG	Each emergency generator shall be limited to a maximum of 500 hours of operation during any consecutive 12-month period. The combined theoretical potential NO <sub>x</sub> emissions of all emergency generators at PSNH – Merrimack Station are limited to less than 25 tons for any consecutive 12-month period. If either of these conditions is exceeded, all such emergency generators become immediately subject to Env-A 1211.11.	Yes
11.	Env-A 2002.02	MKEG	Average opacity from the MKEG shall not be in excess of 20% for any continuous 6 minute period.	Yes
12.	Env-A 2002.02, Env-A 2002.04, & 40 CFR 60 Subpart Dc Section 60.43c(c) and (d)	MKEB	a) Pursuant to Env-A 2002.02, the owner or operator shall not cause or allow average opacity in excess of 20% for any continuous 6-minute period except as specified in Condition C) below. b) Pursuant to 40 CFR 60.43c (c) and (d), no owner or operator shall cause to be discharged into the atmosphere any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. This opacity standard applies at all times, except during periods of startup, shutdown or malfunction. c) Pursuant to Env-A 2002.04 (a), for steam generating units subject to 40 CFR 60, no more than one of the following two exemptions shall be taken: (i) During periods of startup, shutdown and malfunction, average opacity shall be allowed to be in excess of 20% for one period of 6 continuous minutes in any 60-minute period; or (ii) During periods of normal operation, soot blowing, grate cleaning, and cleaning of fires, average opacity shall be allowed to be in excess of 20% but not more than 27% for one period of 6 continuous minutes in any 60-minute period.	Yes

**Table 5- Federally Enforceable Operational and Emission Limitations**

Item #	Regulatory Cite	Applicable Emission Unit	Applicable Requirement	Compliant
13.	Env-A 2002.08 (formerly Env-A 1202.07)	MKEG	The TSP emission rate shall not exceed 0.30 lb/MMBtu	<b>Unknown</b>
<b>Finding: Compliance with particulate matter standards can only be determined through stack testing, which has not been required for this device, to date.</b>				
14.	Env-A 2103.02 (formerly Env-A 1203.05)	MKPCC & MKSCC	Visible fugitive emissions or visible stack emissions shall not exceed an average of 20% opacity for any continuous 6 minute period, except one period of 6 continuous minutes in any 60-minute period during startup, shutdown, or malfunction.	<b>Yes</b>
15.	40 CFR 72, 73, 75, 76, and 77.	MK1 & MK2	PSNH – Merrimack Station shall comply with the applicable Federal Acid Rain Program provisions.	<b>No</b>
<b>Findings: See Section IX: Permit Deviations</b>				
16	40 CFR 68 and 1990 CAA Section 112(r)(1) Accidental Release Program Requirements	Facility wide	<p>The facility is subject to the Purpose and General Duty clause of the 1990 Clean Air Act, Section 112(r)(1). General Duty includes the following responsibilities:</p> <ul style="list-style-type: none"> <li>a) Identify potential hazards that may result from such releases using appropriate hazard assessment techniques;</li> <li>b) Design and maintain a safe facility;</li> <li>c) Take steps necessary to prevent releases; and</li> <li>d) Minimize the consequences of accidental releases that do occur.</li> </ul> <p>The facility stores quantities of ammonia above the threshold level and has submitted a risk management plan to the Part 68 implementing agency as required by the 1990 Clean Air Act, Section 112(r)(7)(ii). Administrative controls will be established by PSNH – Merrimack Station in order to monitor that inventories of regulated substances (except for ammonia) are maintained below the specified threshold quantities.</p> <p>If, in the future, PSNH – Merrimack Station wishes to store quantities of other regulated substances above the threshold levels, a risk management plan shall be submitted to the Part 68 implementing agency in a timely manner, prior to exceeding threshold quantity levels.</p>	<b>Yes</b>
17	Temporary Permit TP-B-0490	MKEB	The maximum gross heat input rate of the Emergency Boiler is limited to less than or equal to 96.0 MMBtu/hr.	<b>Yes</b>
18	RSA 125-C:6, RSA 125-C:11, Env-A 606.04, & Temporary Permit TP-B-0490	MKEB	<ul style="list-style-type: none"> <li>a) Pursuant to Env-A 606.04, the owner or operator shall limit the maximum fuel consumption rate of MKEB to the following:                             <ul style="list-style-type: none"> <li>(i) For No. 2 fuel oil, 520 gal/hr and 11,760 gal/day; or</li> <li>(ii) For on-road low sulfur diesel oil, 701 gal/hr.</li> </ul> </li> <li>b) To avoid NSR/PSD, the owner or operator shall limit the maximum fuel consumption rate of MKEB to the following:                             <ul style="list-style-type: none"> <li>(i) For No. 2 fuel oil, 1,405,000 gallons per consecutive 12-month period; or</li> <li>(ii) For on-road low sulfur diesel oil, 2,490,000 gallons per consecutive 12-month period; or</li> <li>(iii) For any combination of the above fuels, fuel consumption rates such that the emissions do not exceed the significance levels contained in Table 5, Item 33.</li> </ul> </li> </ul>	<b>Yes</b>

**Table 5- Federally Enforceable Operational and Emission Limitations**

Item #	Regulatory Cite	Applicable Emission Unit	Applicable Requirement	Compliant												
19	RSA 125-C:6, RSA 125-C:11, Env-A 606.04, & Temporary Permit TP-B-0490	MKEB	a) The Emergency Boiler is allowed to operate for training purposes or performance testing with MK1 or MK2 in operation. b) The Emergency Boiler is allowed to operate with either or both Combustion Turbines #1 & #2 in operation and the Emergency Generator in operation.	Yes												
20	40 CFR 60 Subpart Dc § 60.42c(i)	MKEB	The fuel oil sulfur limits apply at all times, including periods of startup, shutdown, and malfunction.	Yes												
21	Env-A 606.04 & 40 CFR 60 Subpart Dc § 60.42c(d)	MKEB	The sulfur content of on-road low sulfur diesel oil shall not exceed 0.05 percent sulfur by weight.	Yes												
22	Env-A 606.04 and Temporary Permit TP-B-0490	MKEB	Pursuant to Env-A 606.04, the owner or operator shall limit the hourly emissions from MKEB as provided in the Table below: <table border="1" data-bbox="641 762 1209 955"> <thead> <tr> <th>Pollutant</th> <th>Short-term limit (lb/hr)</th> </tr> </thead> <tbody> <tr> <td>NO<sub>x</sub></td> <td>13.72</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>38.96</td> </tr> <tr> <td>CO</td> <td>3.43</td> </tr> <tr> <td>PM<sub>10</sub></td> <td>2.26</td> </tr> <tr> <td>VOC</td> <td>0.14</td> </tr> </tbody> </table>	Pollutant	Short-term limit (lb/hr)	NO <sub>x</sub>	13.72	SO <sub>2</sub>	38.96	CO	3.43	PM <sub>10</sub>	2.26	VOC	0.14	Yes
Pollutant	Short-term limit (lb/hr)															
NO <sub>x</sub>	13.72															
SO <sub>2</sub>	38.96															
CO	3.43															
PM <sub>10</sub>	2.26															
VOC	0.14															
23	Temporary Permit TP-B-0490 (PSD/NSR Avoidance)	MKEB	To avoid NSR/PSD, the owner or operator shall limit the consecutive 12-month emissions from MKEB as provided in the Table below: <table border="1" data-bbox="641 1024 1372 1218"> <thead> <tr> <th>Pollutant</th> <th>Tons per consecutive 12-month period</th> </tr> </thead> <tbody> <tr> <td>NO<sub>x</sub></td> <td>25.0</td> </tr> <tr> <td>SO<sub>2</sub></td> <td>40.0</td> </tr> <tr> <td>CO</td> <td>100.0</td> </tr> <tr> <td>PM<sub>10</sub></td> <td>15.0</td> </tr> <tr> <td>VOC</td> <td>25.0</td> </tr> </tbody> </table>	Pollutant	Tons per consecutive 12-month period	NO <sub>x</sub>	25.0	SO <sub>2</sub>	40.0	CO	100.0	PM <sub>10</sub>	15.0	VOC	25.0	Yes
Pollutant	Tons per consecutive 12-month period															
NO <sub>x</sub>	25.0															
SO <sub>2</sub>	40.0															
CO	100.0															
PM <sub>10</sub>	15.0															
VOC	25.0															
24	40 CFR 61 Subpart M, Env-A 504.01(e) and Env-A 1800 Asbestos Management and Control	Facility wide	PSNH – Merrimack Station shall comply with the asbestos requirements of Env-A 1800 and 40 CFR 61.145 during demolition and/or renovation.	Yes												
25	40 CFR 63 Subpart YYY MACT for Stationary Combustion Turbines	MKCT1 & MKCT2	The MACT is applicable to the combustion turbines, but no emission limitations, operating requirements or monitoring, recordkeeping, or reporting requirements are specified for existing units.	Yes												
26	Env-A 2002.08 (formerly Env-A 1202.07)	MKCT1 & MKCT2	The maximum allowable total suspended particulate matter (TSP) emission rate from each device shall be limited to 0.34 lb/MMBtu. The maximum TSP emission rate is obtained from use of the equation below: $E = 0.880 * I^{-0.166}$ Where: E = maximum allowable particulate matter emission rate in lb/MMBtu; and I = maximum gross heat input rate in MMBtu/hr.	Unknown												

**Finding: Compliance with particulate matter standards can only be determined through stack testing, which, to date, has not been required for these devices.**

Table 5- Federally Enforceable Operational and Emission Limitations				
Item #	Regulatory Cite	Applicable Emission Unit	Applicable Requirement	Compliant
27	Env-A 2002.08 (formerly Env-A 1202.07)	MKEB	The TSP emission rate from MKEB shall not exceed 0.30 lb/MMBtu.	Unknown
<i>Finding: Compliance with particulate matter standards can only be determined through stack testing, which, to date, has not been required for this emission unit.</i>				
28	Env-A 1211.12 NO <sub>x</sub> RACT	MKEB	The maximum NO <sub>x</sub> emission rate from MKEB shall not exceed 0.20 lb/MMBtu based on a 24-hour calendar day average.	Unknown
<i>Finding: Compliance with NO<sub>x</sub> emission standards can only be determined through stack testing, which, to date, has not been required for this emission unit.</i>				

Table 5a below, lists the additional operating and emission limitations for the facility from TP-0008, and any deficiencies noted during the inspection.

Table 5a- Operating and Emission Limitations from TP-0008				
Item #	Requirement	Applicable Emission Unit	Regulatory Basis	Compliant
7	Beginning on July 1, 2013, the Owner shall not operate MK2 unless MK2-PC7 is in operation.	MK2	40 CFR 51.308(e)(1)	Yes
8	<p>a) Beginning on July 1, 2013, when MK2-PC7 (FGD system) is in operation, SO<sub>2</sub> emissions shall be controlled to 10 percent of the uncontrolled SO<sub>2</sub> emission rate (90 percent SO<sub>2</sub> removal). Compliance with this percent reduction shall be determined on a calendar month average by comparing the SO<sub>2</sub> emission rates as measured by CEMS on the inlet and outlet of the FGD system.</p> <p>b) The Owner shall submit a report no later than December 31, 2014 that includes the calendar month average SO<sub>2</sub> emission rates at the inlet and outlet of the FGD and the corresponding calendar month average emissions reductions during the preceding 12 months of operation, excluding the initial startup and commissioning period and any periods when the FGD system is not operating. DES will use this data to establish the maximum sustainable rate of SO<sub>2</sub> emissions reductions for MK1. The maximum sustainable rate is the highest rate of reductions that can be achieved 100 percent of the time.</p> <p>c) DES shall establish the maximum sustainable rate of SO<sub>2</sub> emissions reductions based on a statistical analysis of the data submitted to DES pursuant to paragraph b. above. This established rate shall be incorporated as a permit condition for MK1. Under no circumstances shall the SO<sub>2</sub> removal efficiency for MK1 be less than 90 percent.</p>	MK1	40 CFR 51.308 Regional Haze Plan	Yes

**Table 5a- Operating and Emission Limitations from TP-0008**

Item #	Requirement	Applicable Emission Unit	Regulatory Basis	Compliant
<p><b>Finding: The FGD system has been under stable operation since July 1, 2013. Therefore, DES verified that for the calendar month of July, 2013, the SO<sub>2</sub> emissions were controlled to 10 percent of the uncontrolled SO<sub>2</sub> emission rate as measured by CEMS on the inlet and outlet of the FGD system. The report, as specified in Table 5a, Item #8b is not due until December 31, 2014, so compliance was not determined for this requirement. Therefore, as of the date of this inspection report, the maximum sustainable rate of SO<sub>2</sub> emissions reductions has not been determined.</b></p>				
9	Beginning on July 1, 2013, the Owner shall not operate MK1 through STMK2 (bypass stack) if MK2-PC7 is capable of stable operation.	MK1	40 CFR 51.308	Yes
10	Beginning on July 1, 2013, the Owner shall not operate MK1 through STMK2 (bypass stack) for more than 840 hours in any consecutive 12-month period.	MK1	40 CFR 51.308	Unknown
<p><b>Finding: A consecutive 12-month period has not occurred since July 1, 2013. However, at the time of the inspection, the facility had not operated MK1 through STMK2 since prior to July 1, 2013.</b></p>				
19	<p>Variations from mercury emissions reduction requirements:</p> <p>a) The Owner may request a variance from the mercury emissions reduction requirements of this permit and RSA 125-O:13, by submitting a written request to DES. The request shall provide sufficient information concerning the conditions or special circumstances on which the variance request is based to demonstrate to the satisfaction of DES that variance from the applicable requirements is necessary.</p> <p>b) Where an alternative schedule is sought, the Owner shall submit a proposed schedule which demonstrates reasonable further progress and contains a date for final compliance as soon as practicable. If DES deems such a delay is reasonable under the cited circumstances, it shall grant the requested variance.</p> <p>c) Where an alternative reduction requirement is sought, the Owner shall submit information to substantiate an energy supply crisis, a major fuel disruption, an unanticipated or unavoidable disruption in the operations of the affected sources, or technological or economic infeasibility. DES, after consultation with the New Hampshire Public Utilities Commission, shall grant or deny the requested variance. If requested by the Owner, DES shall provide the owner with an opportunity for a hearing on the request.</p>	MK1 & MK2	RSA 125-O:17	Not Applicable
<p><b>Finding: At the time of the inspection, the facility has not requested any variances from the mercury emissions reductions requirements.</b></p>				
22	The limestone processing rate of the wet limestone ball mills shall not exceed 25 tons per hour.	MKLC1	Env-A 604.02	Yes

Table 5b, below, lists the initial compliance demonstration requirements for the facility from TP-0008 and any deficiencies noted during the inspection. As specified in this permit, the facility shall demonstrate compliance with the emission limitations specified in Table 5a for the parameters specified in Table 5b within 60 days after achieving stable FGD system operation with both MK1 and MK2 exhausting through stack STMK3. Because the facility achieved stable FGD system operation with MK1 and MK2 on July 1, 2013, DES could not verify compliance with these permit conditions during the inspection.

Table 5b Initial Compliance Demonstration Requirements from TP-0008						
Item No.	Applicable Emission Unit	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
1.	MK1 & MK2 with MK2-PC7	Performance tests for mercury	a) The Owner shall conduct initial performance tests for mercury to demonstrate compliance with the respective mercury emissions limitation in Table 4, Item 13 of TP-0008. b) Testing shall be conducted and the results reported in accordance with 40 CFR 60, Sections 60.8(a), (b), (d), (e), and (f), and Appendix A. The following test methods or DES approved alternatives shall be used for the pollutants specified: (i) Method 1 or 2 to determine exit velocity of stack gases; (ii) Method 3 or 3A to determine carbon dioxide, oxygen, excess air, and molecular weight (dry basis) of stack gases; (iii) Method 4 to determine moisture content (volume fraction of water vapor)	Within 60 days after achieving stable FGD operation with both MK1 and MK2 exhausting through stack STMK3	Env-A 802 & 40 CFR 60.8 (a), (b), (d)-(f)	<b>Unknown</b>

Table 5b Initial Compliance Demonstration Requirements from TP-0008						
Item No.	Applicable Emission Unit	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
			of stack gases; (iv) For mercury, in accordance with the mercury monitoring requirement of RSA 125-O: 15 and Table 6, Item 3 of TP-0008.			
<b>Finding: The facility conducted performance testing for mercury on July 16, 2013. A test report was received on September 9, 2013 and is currently under review.</b>						
2.	MK1 & MK2	Performance Test for SO <sub>2</sub>	a) The Owner shall conduct an initial performance test for SO <sub>2</sub> to demonstrate compliance with the respective SO <sub>2</sub> emissions limitation in Table 4, Items 6 and 8 of TP-0008. b) Testing shall be conducted and the results reported in accordance with 40 CFR 60, Sections 60.8(a), (b), (d), (e), and (f), and Appendix A. The following test methods or DES approved alternatives shall be used for the pollutants specified: (i) Use of certified CEMS monitors. With the use of CEMS monitors, compliance will be determined based on a monthly average of CEMS data.	Within 60 days after achieving stable FGD operation with both MK1 and MK2 exhausting through stack STMK3	Env-A 802 & 40 CFR 60.8 (a), (b), (d)-(f)	Yes
<b>Finding: The FGD system has been under stable operation since July 1, 2013. Therefore, DES verified that for the calendar month of July, 2013, the SO<sub>2</sub> emissions shall be controlled to 10 percent of the uncontrolled SO<sub>2</sub> emission rate as measured by CEMS on the inlet and outlet of the FGD system.</b>						
3.	MK1 & MK2	General Stack Testing Requirements	Compliance testing shall be planned and carried out in accordance with the following schedule: a) At the request of	Initial performance test and subsequent testing	Env-A 802.03, 802.04, 802.05, & 802.11	Unknown

Table 5b Initial Compliance Demonstration Requirements from TP-0008						
Item No.	Applicable Emission Unit	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
			DES, submit to DES a pretest protocol at least 30 days prior to the commencement of testing which includes the following information: (i) Calibration methods and sample data sheets; (ii) Descriptions of the test methods to be used; (iii) Pre-test preparation procedures; (iv) Sample collection and analysis procedures; (v) Process data to be collected; and (vi) Complete test program description. b) At the request of DES, participate in a pretest conference with a DES representative at least 15 days prior to the test date. c) Emission testing shall be carried out under the observation of a DES representative. d) Within 60 days after completion of testing or within 15 days of receipt of test report, submit a copy of the test report to DES.			
<p><b>Finding:</b> The facility conducted performance testing for mercury on July 16, 2013. A test report was received on September 9, 2013 and is currently under review.</p>						

Table 5b Initial Compliance Demonstration Requirements from TP-0008						
Item No.	Applicable Emission Unit	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
4.	MK1 & MK2	General Stack Testing Requirements	<p><u>Operating Conditions During a Stack Emissions Test</u>                      A compliance test shall be conducted under one of the following operating conditions:</p> <p>a) Between 90 and 100 % of maximum operating capacity;                      b) A production rate at which maximum emissions occur; or                      c) At such operating conditions agreed upon during a pre-test meeting conducted pursuant to Env-A 802.05.</p>	Initial performance test and subsequent tests	Env-A 802.10	<b>Unknown</b>
<p><b>Finding: The facility conducted performance testing for mercury on July 16, 2013. A test report was received on September 9, 2013 and is currently under review.</b></p>						

Table 5c below, lists the additional operating and emission limitations for the facility from TP-0068, and any deficiencies noted during the inspection.

Table 5c- Operating and Emission Limitations from TP-0068				
Item #	Requirement	Applicable Emission Unit	Regulatory Basis	Compliant
1	<p><u>Emergency Operation</u>                      MKEC shall only operate to provide mechanical or electrical power source when the primary power source for a facility is not available during an emergency such as a power outage, or during the normal maintenance and testing procedures.</p>	MKEC	Env-A 101.66.1	<b>Yes</b>
2	<p><u>Hours of Operation</u>                      Operation of MKEC shall be limited to 500 hours of total (emergency, maintenance and testing) operation during any consecutive 12-month period.</p>	MKEC	Env-A 1211.01(j)(1)	<b>Yes</b>
3	<p><u>Annual NO<sub>x</sub> Emissions Limit</u>                      Emissions of NO<sub>x</sub> from MKEC and MKEG combined shall be limited to less than 25 tpy.</p>	MKEC & MKEG (PO-B-1788)	Env-A 1211.01(j)(2)	<b>Yes</b>

Table 5c- Operating and Emission Limitations from TP-0068				
Item #	Requirement	Applicable Emission Unit	Regulatory Basis	Compliant
4	<u>Maintenance and Readiness Testing</u> Operation of MKEC for maintenance checks and readiness testing shall be limited to 100 hours of operation during any consecutive 12-month period.	MKEC	40 CFR 60.4211(e) (Subpart III) and 40 CFR 63 Subpart ZZZZ	Yes
5	<u>Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970</u> The average opacity from MKEC shall not exceed 20 percent for any continuous 6-minute period.	MKEC	Env-A 2002.02	Yes
6	<u>Activities Exempt from Visible Emission Standards</u> The average opacity shall be allowed to be in excess of the standards specified in Table 2, Item 5, for one period of 6 continuous minutes in any 60-minute period during startup, shutdown, or malfunction.	MKEC	Env-A 2002.04(c)	Yes
7	<u>Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985</u> The total suspended particulate matter emissions from MKEC shall not exceed 0.30 lb/MMBtu.	MKEC	Env-A 2002.08	Unknown
<b>Finding: Compliance with emission standards for particulate matter can only be determined by stack testing, which has not been required for this device, to date.</b>				
8	<u>Fuel Requirements for EGs manufactured after April 1, 2006 and Fire Pumps manufactured after July 1, 2006</u> The sulfur content of liquid fuel burned in MKEC shall not exceed 15 ppm (0.0015% by weight).	MKEC	40 CFR 60.4207 (Subpart III) More stringent than Env-A 1604.01(a, e)	Yes

Section VII of the Title V permit (TV-0055) establishes the following applicable requirements:

C. Annual SO<sub>2</sub> Allowance Programs:

Table 6 below, taken from TV-0055, lists the SO<sub>2</sub> allowances, which in accordance with 40 CFR 73, are allocated pursuant to the Federal Acid Rain Program.

Table 6– Federal Annual SO <sub>2</sub> Allowance Allocations (tons) (40 CFR 73.10 Table 2)		
	2000 - 2009	2010 and Beyond
MK1	4,288	4,296
MK2	9,242	9,257

In accordance with the permit conditions specified in Section VII.C.2, PSNH-Merrimack is required to comply with the SO<sub>2</sub> emission limitations in TV-0055 and obligated to hold sufficient SO<sub>2</sub> allowances (in units of tons) equivalent to the SO<sub>2</sub> emissions during that calendar year.

***Findings: In calendar years 2011 and 2012, PSNH-Merrimack had sufficient allowance allocations to cover emissions from each calendar year.***

#### D. Ozone Season NO<sub>x</sub> Budget Trading Program (Env-A 3200)

PSNH-Merrimack participates in the NO<sub>x</sub> Budget Trading Program. In accordance with Env-A 3216 and the Permit, PSNH-Merrimack is required to submit a NO<sub>x</sub> Budget Program Compliance Certification by November 30 of each year.

***Findings: PSNH-Merrimack is complying with the reporting requirements. The DES Emissions Trading Program Manager also reviews this information as it is received and accounts for it properly. No compliance issues have been observed with this program.***

#### E. Non-Ozone Season NO<sub>x</sub> Allowances and NO<sub>x</sub> RACT Orders

PSNH-Merrimack is subject to NO<sub>x</sub> RACT emission limits and restrictions as contained in the NO<sub>x</sub> RACT Order ARD-97-001, dated April 14, 1997, and the NO<sub>x</sub> RACT Order ARD-09-001, dated July 17, 1998. The requirements of the RACT Orders are incorporated into TV-0055, as described in other sections of this report.

In addition, during the non-ozone season of October 1 to April 30, PSNH's Merrimack, Schiller and Newington Stations have daily and seasonal NO<sub>x</sub> caps, some of which are device specific. PSNH can use DERs for compliance purposes.

***Findings: The DES Emissions Trading Program Manager reviews this information and accounts for it properly. No compliance issues have been observed with this program.***

#### F. Multiple Pollutant Annual Budget Trading and Banking Program (Env-A 2900) [State-only enforceable]

MK1 and MK2 are subject to this chapter, and PSNH-Merrimack receives allowances for SO<sub>2</sub>, CO<sub>2</sub>, and annual NO<sub>x</sub>.

PSNH-Merrimack has purchased sufficient allowances to cover the difference between its allocation and actual emissions. Additionally, PSNH-Merrimack is required to submit an annual compliance certification by January 30 of each year beginning in 2008.

***Findings: A brief review of the requirements of this program, indicate that PSNH-Merrimack has complied with the reporting requirements. The DES Emissions Trading Program Manager also reviews this information as it is received. No compliance issues have been observed with this program.***

G. Discrete Emission Reduction Trading Program (Env-A 3100) (State-only Enforceable)

PSNH - Merrimack Station shall be allowed to bank DERs for PSNH - Merrimack Station’s own future use or trade with others in accordance with Env-A 3100.

H. Carbon Dioxide (CO<sub>2</sub>) Budget Trading Program (Env-A 4600) (State-only Enforceable)

PSNH-Merrimack participates in the CO<sub>2</sub> Budget Trading Program. The initial 3-year control period began on January 1, 2009 and ended on December 31, 2011.

***Findings: PSNH-Merrimack was in compliance for this period. The second control period began on January 1, 2012 and ends on December 31, 2014. Compliance with this control period will be determined in 2015.***

**VI. Compliance with Monitoring and Testing Requirements**

Table 7 below, taken from TV-0055, lists the monitoring and testing requirements for the facility and any deficiencies noted during the inspection.

Table 7 – Monitoring and Testing Requirements						
Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
1.	MK1 & MK2	NO <sub>x</sub> Emissions	For MK1 and MK2, the owner or operator shall install, certify, operate and maintain, a NO <sub>x</sub> -diluent continuous emission monitoring system (consisting of a NO <sub>x</sub> pollutant concentration monitor and an O <sub>2</sub> or CO <sub>2</sub> diluent gas monitor) with an automated data acquisition and handling system for measuring and recording NO <sub>x</sub> concentration (in ppm) averaged on an hourly and 24-hour calendar day basis, O <sub>2</sub> or CO <sub>2</sub> concentration (in percent O <sub>2</sub> or CO <sub>2</sub> ) and NO <sub>x</sub> mass emission rate (in lb/MMBtu) averaged on an hourly, 24-hour calendar day, and annual basis for each unit. The owner or operator shall account for total NO <sub>x</sub> emissions, both NO and NO <sub>2</sub> , either by monitoring for both NO and NO <sub>2</sub>	Continuously	Env-A 808.02 (a) (new) and 40 CFR 75 § 75.10(a)(2), § 75.12, and Env-A 1211.03 (f)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			or by monitoring for NO only and adjusting the emissions data to account for NO <sub>2</sub> . The owner or operator shall calculate hourly, quarterly, and annual NO <sub>x</sub> emission rates (in lb/MMBtu) by combining the NO <sub>x</sub> concentration (in ppm), diluent concentration (in percent CO <sub>2</sub> ), and percent moisture according to the procedures in 40 CFR 75 Appendix F.			
2.	MK1, MK2, MKCT1, & MKCT2	NO <sub>x</sub> Mass Emissions	For MK1, MK2, MKCT1, and MKCT2, the owner or operator shall calculate hourly NO <sub>x</sub> mass emissions (in lbs) by multiplying the hourly NO <sub>x</sub> emission rate (in lbs/MMBtu) by the hourly heat input rate (in MMBtu/hr) and the unit or stack operating time. The owner or operator shall also calculate quarterly and cumulative year-to-date NO <sub>x</sub> mass emissions and (in tons) by summing the hourly NO <sub>x</sub> mass emissions according to the procedures in 40 CFR 75 Appendix F Section 8.	Hourly, quarterly, and cumulative year-to-date	40 CFR 75 §75.71, and §75.72 and Env-A 3212 and Env-A 2910	Yes
3.	MK1, MK2, MKCT1, & MKCT2	Ozone Season NO <sub>x</sub> Emission Rate and NO <sub>x</sub> mass emissions	The owner or operator shall determine the ozone season NO <sub>x</sub> emission rate (in lb/MMBtu) by dividing ozone season NO <sub>x</sub> mass emissions (in lbs) by heat input. The owner or operator shall also calculate cumulative NO <sub>x</sub> mass emissions for the ozone season (in tons) by summing the hourly NO <sub>x</sub> mass emissions according to the procedures in 40 CFR 75 Appendix F Section 8.	Hourly and at the end of the ozone season	Env-A 3212.01 and 40 CFR 75 §75.75(b) and §75.72	Yes
4.	MKCT1 & MKCT2	CO <sub>2</sub> , SO <sub>2</sub> , opacity monitoring, recordkeeping, and reporting	The requirements of 40 CFR 75 Subpart H for CO <sub>2</sub> , SO <sub>2</sub> , opacity monitoring, recordkeeping, and reporting do not apply to units that are subject to a State or	NA	40 CFR 75 §75.70(a)(2)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
		exemptions	Federal NO <sub>x</sub> mass emission reduction program only and are not affected units with an Acid Rain Program emission limitation (i.e., MKCT1 & MKCT2).			
5.	MK1 & MK2	General CEM Requirements	a) Pursuant to 40 CFR 75.5 (b), the Permittee must operate MK1 and MK2 in compliance with the requirements of 40 CFR 75.2 through 75.75 and 40 CFR 75 Appendices A through I. b) Pursuant to 40 CFR 75.5 (d), the Permittee shall account for all emissions of SO <sub>2</sub> , NO <sub>x</sub> , and CO <sub>2</sub> in accordance with 40 CFR 75.10 through 75.19. c) Pursuant to 40 CFR 75.5 (e), the Permittee shall not disrupt the continuous emission monitoring system or other approved emission monitoring method, and thereby not monitor or record SO <sub>2</sub> , NO <sub>x</sub> , and CO <sub>2</sub> , except for periods of recertification, or periods when calibration, quality assurance, or maintenance is performed pursuant to 40 CFR 75.21 and 40 CFR 75 Appendix B. d) The CEMS shall meet the most stringent requirements of 40 CFR 75 and Env-A 808 (new).	Continuously	40 CFR 75 §75.5 and Env-A 808 (new)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
6.	MK1 & MK2	CEMS Performance and Audit Requirements	The Permittee shall ensure that each CEMS meets the following requirements: a) Each CEMS meets equipment, installation, and performance specifications in 40 CFR 75 Appendix A; b) Each CEMS is maintained according to the quality assurance and quality control procedures in 40 CFR 75 Appendix B; and c) Each CEMS shall record SO <sub>2</sub> and NO <sub>x</sub> emissions in the appropriate units of measurement. d) The permittee shall comply with the most stringent CEM audit requirements contained in 40 CFR 75 and Env-A 808.07, <i>General Audit Requirements</i> , Env-A 808.08, <i>Audit Requirements for Gaseous CEM Systems</i> , and Env-A 808.09, <i>Audit Requirements for Opacity CEM Systems</i> .	As specified by regulation	40 CFR 75 §75.10(b) and Env-A 808.07, 808.08, and 808.09 and 40 CFR 75 Appendices A and B	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
7.	MK1 & MK2	Valid Averaging Periods for Gaseous and Opacity CEM Systems	<p>The number of hours of valid CEM data required for determining a valid averaging period for the different emission standard periods shall be:</p> <ul style="list-style-type: none"> <li>a) For a 3-hour emission standard period, 2 hours of valid data;</li> <li>b) For a 4-hour emission standard period, 3 hours of valid data;</li> <li>c) For an 8-hour emission standard period, 6 hours of valid data;</li> <li>d) For a 12-hour emission standard period, 9 hours of valid data, and</li> <li>e) For a 24-hour emission standard period, 18 hours of valid data.</li> </ul>	As applicable	Env-A 808.14 (formerly Env-A 805.09)	<b>Yes</b>
8.	MK1 & MK2	SO <sub>2</sub> Emissions	<p>The owner or operator shall install, certify, operate and maintain, an SO<sub>2</sub> CEMS automated data acquisition and handling system for measuring and recording SO<sub>2</sub> concentration (in ppm) averaged on an hourly and 24-hour calendar day basis, volumetric gas flow (in scfh), and SO<sub>2</sub> mass emissions (in lb/hr averaged over one hour and each 24-hour calendar day, and tons/consecutive 12-month period and tons/calendar year) for each unit. The owner or operator shall also measure and record the SO<sub>2</sub> emission rate (in lb/MMBtu) averaged over each 24-hour calendar day. The owner or operator shall demonstrate compliance with the State Acid Rain Program emission caps by using the CEMS data.</p>	Continuously	Env-A 808.02 (a)(1) (new) and 40 CFR 75 §75.10 (a)(1)	<b>Yes</b>

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
9	MK1 & MK2	CO <sub>2</sub> Emissions	The owner or operator shall install, certify, operate and maintain, a CO <sub>2</sub> CEMS automated data acquisition and handling system. The owner or operator shall measure and record CO <sub>2</sub> emissions in lb/hr over each 24-hour calendar day and CO <sub>2</sub> concentration in percent on an hourly average and over each 24-hour calendar day. The owner or operator shall use applicable procedures specified in 40 CFR 75 Appendix G to calculate CO <sub>2</sub> emissions. Please note that equation G-1 of 40 CFR 75 Appendix G shall not be used to determine CO <sub>2</sub> emissions under Env-A 4609.	Continuously	40 CFR 75 §75.10(a)(3), 40 CFR 75 Appendix G, & Env-A 4609	Yes
10.	MK1 & MK2	Heat input rate measurement	The owner or operator shall determine the heat input rate (in MMBtu/hr) to each unit for every hour or part of an hour any fuel is combusted following the procedures in 40 CFR 75 Appendix F.	Hourly	40 CFR 75 §75.10(c) Federally Enforceable & Env-A 2910.02	Yes
11.	MK1 & MK2	Stack Volumetric Flow Rate	The owner or operator shall install, certify, operate and maintain, a CEMS automated data acquisition and handling system to measure and record stack volumetric flow rate (in kscfm) on an hourly average and over each 24-hour calendar day.	Continuously	40 CFR 75 §75.10(a) & Env-A 2910.02	Yes
12.	MK1 & MK2	Stack Volumetric Flow Measuring Device	The owner or operator shall meet the following requirements for the stack volumetric flow measuring device: a) All differential pressure flow monitors shall have an automatic blow-back purge system installed and in wet conditions, shall have the capability for drainage of the sensing lines; and	Continuously	Env-A 808.03(d)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			b) The stack flow monitoring system shall have the capability for manual calibration of the transducer while the system is on-line and for a zero check.			
13.	MK1 & MK2	Opacity	The owner or operator shall install, certify, operate and maintain, a continuous opacity monitoring system with the automated data acquisition and handling system for measuring and recording the opacity of emissions (in percent opacity) for each 6-minute period for each unit. When the COMS does not meet the minimum operating requirements, then the owner or operator shall also use US EPA Method 9 to estimate opacity.	Continuously	40 CFR 75 §75.10(a)(4) and Env-A 805.02 (old) and Env-A 808.02 (a) (new) and 807.02 (new)	Yes
14.	MK1, MK2, MKCT1, & MKCT2	Net Electrical Output	The owner or operator shall monitor and/or calculate net electrical output as reported to and publicly available from US Department of Energy, Energy Information Agency.	Annually	Env-A 2910.02, Env-A 3207.04, Env-A 3705 and 40 CFR 75.53	Yes
15.	MK1, MK2, MKCT1, & MKCT2	Ozone Season Heat Input	The owner or operator shall calculate ozone season heat input for purposes of providing data needed for determining allocations by summing each unit's hourly heat input determined according to the procedures in 40 CFR 75 for all hours in which the unit operated during the ozone season	Hourly during ozone season	Env-A 3212.01 and 40 CFR 75 §75.75(a)	Yes
16.	MK1 & MK2	CEM Hourly Operating Requirements & Valid Hour of CEM Data	Pursuant to Env-A 808.01, 808.03, and 40 CFR 75.10(d), the Permittee shall ensure that the CEMS and components meet the following hourly operating requirements: a) The Permittee shall ensure	Hourly	40 CFR 75 §75.10(d) and Env-A 808.01(i) and 808.03	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>that each CEM is capable of completing a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute interval pursuant to Env-A 40 CFR 75.10(d) and pursuant to Env-A 808.03(c)(2) for each successive 5-minute period for gaseous emissions, unless a longer time period is approved in accordance with Env-A 809</p> <p>b) The Permittee shall reduce all SO<sub>2</sub> concentrations, volumetric flow, SO<sub>2</sub> mass emissions, CO<sub>2</sub> concentration, CO<sub>2</sub> mass emissions (if applicable), NO<sub>x</sub> concentration, and NO<sub>x</sub> emission rate data collected by the monitors to hourly averages.</p> <p>c) The Permittee shall use all valid measurements or data points collected during an hour to calculate the hourly averages. All data points collected during an hour shall be, to the extent practicable, evenly spaced over the hour.</p> <p>d) Failure of an SO<sub>2</sub> or CO<sub>2</sub> pollutant concentration monitor, NO<sub>x</sub> concentration monitor, flow monitor, or NO<sub>x</sub>-diluent CEMS to acquire the minimum number of data points for calculation of an hourly average shall result in the failure to obtain a valid hour of data and the loss of such component data for the entire hour.</p>			

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>e) For a NO<sub>x</sub>-diluent monitoring system, an hourly average NO<sub>x</sub> emission rate in lb/MMBtu is valid only if the minimum number of data points is acquired by both the NO<sub>x</sub> pollutant concentration monitor and the diluent monitor (CO<sub>2</sub>).</p> <p>f) If a valid hour of data is not obtained, the Permittee shall estimate and record emissions, moisture, or flow data for the missing hour by means of the automated data acquisition and handling system, in accordance with the applicable procedure for missing data.</p> <p>g) Pursuant to Env-A 808.01(i), a valid hour of CEM emissions data means a minimum of 42 minutes of CEM readings taken in any calendar hour, during which the CEM is not in an out of control period and the facility is in operation.</p> <p>h) Pursuant to Env-A 808.03(a), the owner or operator shall average and record the CEM data for gaseous emissions for each calendar hour.</p> <p>i) Pursuant to Env-A 808.03(c)(1), all CEM systems shall include a means to display instantaneous values of percent opacity and gaseous emission concentrations</p>			
17.	MK1 & MK2	COMS Hourly Operating Requirements	Pursuant to 40 CFR 75.10(d), the Permittee shall ensure that each COMS and components meet the following hourly	Sampling for successive 10-second period and recording	40 CFR 75 §75.10(d) and Env-A 808.03(b) and	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			operating requirements: a) The Permittee shall ensure that each continuous opacity monitoring system is capable of completing a minimum of one cycle of sampling and analyzing (and recording pursuant to Env-A 808.03(c)(2) unless a longer time period is approved in accordance with Env-A 809) for each successive 10-second period and one cycle of data recording for each successive 6-minute period. b) The Permittee shall reduce all opacity data to 6-minute averages calculated in accordance with the provisions of 40 CFR 51 Appendix M, except where the SIP or operating permit requires a different averaging period, in which case the State requirement shall satisfy this Acid Rain Program requirement. c) Pursuant to Env-A 808.03(b)(1), the owner or operator shall average the opacity data to result in consecutive, non-overlapping 6-minute averages; and d) Pursuant to Env-A 808.03(b)(2), the COMS must total number of minutes in any 8-hour period where the opacity, as averaged in non-overlapping 6-minute periods, exceeds the applicable opacity standard. e) Pursuant to Env-A 808.03(c)(1), all CEM systems shall include a means to display	for successive 6-minute period	(c)	

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			instantaneous values of percent opacity and gaseous emission concentrations.			
18.	MK1 & MK2	Minimum measurement capability requirement	The Permittee shall ensure that each CEMS is capable of accurately measuring, recording, and reporting data, and shall not incur an exceedance of the full scale range, except as provided in 40 CFR 75 Appendix A Sections 2.1.1.5, 2.1.2.5, and 2.1.4.3.	As specified by regulation	40 CFR 75 §75.10(f)	Yes
19.	MK1 & MK2	Specific provisions for monitoring SO <sub>2</sub> emissions (SO <sub>2</sub> emissions and flow monitors)	The owner or operator shall meet the general operating requirements in 40 CFR 75.10 for an SO <sub>2</sub> continuous emission monitoring system and a flow monitoring system.	As specified by regulation	40 CFR 75 §75.11(a), (b)	Yes
20.	MK1 & MK2	Specific provisions for monitoring NO <sub>x</sub> emissions – Coal-fired Units	<p>a) Pursuant to 40 CFR 75.12, 75.71, and 75.72 and Env-A 3212, the Permittee shall meet the specific provisions for NO<sub>x</sub>-diluent CEMS, including the following:</p> <ul style="list-style-type: none"> <li>(i) Meet general operating requirements in 40 CFR 75.10 for a NO<sub>x</sub> continuous emission monitoring system. The diluent gas monitor in the NO<sub>x</sub> CEMS may measure either O<sub>2</sub> or CO<sub>2</sub> concentration in the flue gases.</li> <li>(ii) Comply with moisture correction procedures according to 40 CFR 75.12(b)</li> <li>(iii) Comply with NO<sub>x</sub> emission rate procedures contained in 40 CFR 75.12(c).</li> </ul> <p>b) The Permittee shall meet the annual and ozone season</p>	Continuously	40 CFR 75 §75.12, 75.71, and 75.72 and Env-A 3212	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			monitoring requirements according to 40 CFR 75.74, as applicable.			
21.	MKCT1 & MKCT2	NO <sub>x</sub> Mass Emissions - Specific Provisions for Monitoring NO <sub>x</sub> Emissions for Alternative Monitoring System	The owner or operator shall meet the requirements of 40 CFR 75.12 including using the procedures of 40 CFR 75 Appendix E for estimating hourly NO <sub>x</sub> emission rate, using the procedures of 40 CFR Appendix D for determining hourly heat input, except for the heat input apportionment provisions of 40 CFR 75 Appendix D Section 2.1.2 to meet the NO <sub>x</sub> mass reporting provisions. If in the years after certification of the monitoring system, a unit's operation exceed a capacity factor of 20 percent in any calendar year or exceed a capacity factor of 10.0 percent averaged over three years, or exceed a capacity factor of 20.0 percent in any ozone season or exceed an ozone season capacity factor of 10.0 percent averaged over three years, the owner or operator shall install, certify, and operate a NO <sub>x</sub> CEMS and also meet the requirements of 40 CFR 75.71(c) no later than December 31 of the following calendar year.	Hourly	40 CFR 75 Appendix E Section 1.1 and 40 CFR 75 §75.12(d)(2) and 75.71(d)	Yes
22.	MK1 & MK2	Specific provisions for monitoring CO <sub>2</sub> emissions	The owner or operator shall comply with the applicable CO <sub>2</sub> monitoring provisions of 40 CFR 75 §75.13(a), (b), and (c) for the CO <sub>2</sub> CEMS and flow monitoring systems.	Continuously	40 CFR 75 §75.13(a)-(c)	Yes
23.	MK1 & MK2	Specific provisions for monitoring opacity	Pursuant to 40 CFR 75.14, the continuous opacity monitoring and recording system shall meet all the design, installation, equipment, and performance	Continuously	40 CFR 75 §75.14 and Env-A 808 (new)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			specifications of 40 CFR 60, Appendix B, Performance Specification 1, and all the operational and quality assurance requirements of Env-A 808 (new).			
24.	MK1 & MK2	Reference Test Methods for Certification or Re-certification of CEMS or COMS	The Permittee shall use the reference test method listed in 40 CFR 75.22 and included in Appendix A to 40 CFR 60 to conduct monitoring system tests for certification or recertification of CEMS and expected monitoring systems under 40 CFR 75 Appendix E and quality assurance and quality control procedures.	During certification and recertification tests	40 CFR 75 §75.22	Yes
25.	MK1 & MK2	Out of control periods	a) Pursuant to 40 CFR 75.21(e)(2), whenever a CEMS or COMS fails a quality assurance audit or any other audit, the system is out-of-control, and the Permittee shall follow the procedures for out-of-control periods in 40 CFR 75.24. b) Pursuant to Env-A 3212.10 and 2910.06, whenever any monitoring system fails to meet the quality assurance requirements of 40 CFR 75 Appendix B, the permittee shall substitute the data using the applicable procedures in 40 CFR 75, Subpart D, Appendix D or E. c) Pursuant to 75.24, if an out-of-control period occurs to a monitor or CEMS, the owner or operator shall take corrective action and repeat the tests applicable to the out of control parameter as	As specified by regulation	40 CFR 75 §75.21(e)(2) and 75.24 and Env-A 3212.10 and 2910.06 and 808.01(g)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>described in 40 CFR 75 Appendix B.</p> <p>(i) For daily calibration error tests, an out of control period occurs when the calibration error of a pollutant concentration monitor exceeds 5.0% based upon the span value, the calibration error of a diluent gas monitor exceeds 1.0% O<sub>2</sub> or CO<sub>2</sub>, or the calibration error of a flow monitor exceeds 6.0% based upon the span value, which is twice the applicable specification in 40 CFR 75 Appendix A.</p> <p>(ii) For quarterly linearity checks, an out of control period occurs when the error in linearity at any of the three gas concentrations (low, mid-range, and high) exceeds the applicable specification in 40 CFR 75 Appendix A.</p> <p>(iii) For relative accuracy test audits (RATAs), cylinder gas audit (CGAs), and relative accuracy audits (RAAs), an out of control period occurs when the sampling is completed and the CEMS fails the accuracy criteria until successful completion of the same audit after corrective action has occurred.</p>			

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>d) Pursuant to Env-A 3212.10, whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any system or component should not have been certified or recertified because it did not meet a particular performance specification or other requirement pursuant to Env-A 800 or the applicable provisions of 40 CFR Part 75, both at the time of the initial certification or recertification application submission and at the time of the audit, the department shall issue a notice of disapproval of the certification status of such system or component.</p> <p>e) For the purposes of this section, an audit shall be either a field audit or an audit of any information submitted to the department or the administrator.</p> <p>f) The data measured and recorded by the system or component shall not be considered valid quality-assured data from the date of issuance of the notification of the disapproval of certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests in accordance with Env-A 3212.07(t).</p> <p>g) The owner or operator shall follow the initial</p>			

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			certification or recertification procedures for each disapproved system.			
26.	MK1 & MK2	Out of Control Periods for Opacity	Out of control period for a CEMS measuring opacity is as follows: a) The time period beginning with the completion of the daily calibration drift (CD) check where the CD exceeds 2% opacity for 5 consecutive days, and ending with the CD check after corrective action has occurred that results in the performance specification drift limits being met; b) The time period beginning with the completion of a daily CD check preceding the daily CD check that results in the CD being greater than 5% opacity and ending with the CD check after corrective action has occurred that results in the performance specification drift limits being met; or c) The time period beginning with the completion of a quarterly opacity audit where the CEMS fails the calibration error test as specified in 40 CFR 60, Appendix B, Specification 1 and ending with successful completion of the same audit where the CEMS passes the calibration error test established after corrective action has occurred.	As specified by regulation	Env-A 808.01(g)(2)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
27.	MK1, MK2, MKCT1 & MKCT2	Data Availability and Missing Data Substitution Procedures	a) The Permittee shall follow the procedures in 40 CFR 75.30 through 75.37, 75.70(f), 75.74, and 40 CFR 75 Appendix E when a valid, quality-assured hour of data is not measured or recorded. b) For MKCT1 & MKCT2, the Permittee shall provide substitute data pursuant to 40 CFR 75.74 and 40 CFR 75 Appendix E Section 2.5, when the QA/QC control parameters are exceeded or missing. c) Pursuant to Env-A 808.02(c)(2), the permittee shall comply with the minimum percentage data availability requirements pursuant to Env-A 808.10(a)-(d) to meet the requirements of Env-A 3200, <i>NO<sub>x</sub> Budget Program</i> . d) Pursuant to Env-A 808.10, if the permittee cannot meet the percentage data availability requirements, the permittee shall also follow the provisions of Env-A 808.10(e) – (g). e) Pursuant to 40 CFR 75.24(e), if COMS is out of control, the permittee shall follow the data availability requirements of Env-A 808.10.	As specified by regulation	40 CFR 75 §75.30 through 75.37 and 75.50(f) and 75.24(e) and 75.74 and 40 CFR 75 Appendix E Section 2.5 & Env-A 808.10 & 808.02(c)(2)	No
<b>Finding: PSNH-Merrimack did not meet the 90% data availability for the SO<sub>2</sub> CEMS for the second quarter of 2013. See Section IX: Permit Deviations.</b>						
28.	MK1, MK2, MKCT1 & MKCT2	NO <sub>x</sub> Mass Emissions - General Provisions	a) Pursuant to Env-A 3200, <i>NO<sub>x</sub> Budget Program</i> , the permittee shall comply with the provisions of 40 CFR 75 Subparts A, C, D, E, F, and G and Appendices A	As specified by regulation	Env-3212.01 and 40 CFR 75 §75.70(a)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>through G applicable to NO<sub>x</sub> concentration, flow rate, NO<sub>x</sub> emission rate and heat input, as set forth and referenced in Subpart H.</p> <p>b) The requirements of Subpart H for CO<sub>2</sub>, SO<sub>2</sub>, opacity monitoring, recordkeeping, and reporting do not apply to units that are subject to a State or federal NO<sub>x</sub> mass emission reduction program only and are not affected units with an Acid Rain Program emission limitation (i.e., MKCT1 &amp; MKCT2).</p>			
29.	MK1, MK2, MKCT1, MKCT2	NO <sub>x</sub> Mass Emissions Provisions - Prohibitions	<p>a) No owner or operator of an affected unit shall use any alternative monitoring system, reference method, or any other alternative for the required CEMS without approval through petition process in § 75.70(h). (MKCT1 and MKCT2 did get approval of use of Appendix E.)</p> <p>b) No owner or operator of an affected unit shall operate the unit so as to discharge NO<sub>x</sub> emissions without accounting for all emissions in accordance with the provisions of Subpart H, except as provided in § 75.74.</p> <p>c) No owner or operator of an affected unit shall disrupt the CEMS or any other approved emission monitoring method, and thereby avoid monitoring and recording NO<sub>x</sub> mass emissions, except for periods of re-certification or periods when calibration,</p>	Continuously	40 CFR 75 §75.70(c) and 40 CFR 75 Appendix E	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>quality assurance testing, or maintenance is performed in accordance with the provisions of Subpart H applicable to the monitoring systems under § 75.71, except as provided in § 75.74.</p> <p>d) No owner or operator of an affected unit shall retire or permanently discontinue use of the CEMS, or any other approved emission monitoring system except under one of the following circumstances:</p> <ul style="list-style-type: none"> <li>(i) During period that the unit is covered by a retired unit exemption that is in effect under the NO<sub>x</sub> mass emission reduction program that adopts the requirements of Subpart H;</li> <li>(ii) The owner or operator is monitoring NO<sub>x</sub> emissions from the affected unit with another certified monitoring system approved, in accordance with the provisions of § 75.70(d); or</li> <li>(iii) The designated representative submits notification of the date of certification testing of a replacement monitoring system in accordance with § 75.61.</li> </ul> <p>e) The owner or operator shall use the alternative monitoring provisions of 40 CFR 75 Appendix E for determining NO<sub>x</sub> emissions for MKCT1 and MKCT2.</p>			

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
30.	MK1, MK2, MKCT1, MKCT2	CEMS and COMS and Alternative Monitoring Certification	Pursuant to 40 CFR 75.20 and 40 CFR 75.70(d) and Env-A 3212.07 and Env-A 3212.10, the Permittee shall recertify the CEMS and COMS and alternative monitoring system whenever the Permittee makes a replacement, modification, or change to the systems or to the facility that could significantly affect the ability of the systems to accurately measure and record the requisite data. The Permittee must submit an application for recertification of the monitoring system to EPA and DES, except pursuant to Env-A 3212.11, notifications for MKCT1 & MKCT2 shall only be sent to DES.	Whenever the Permittee makes a replacement, modification, or change to the systems or to the facility that could significantly affect the ability of the systems to accurately measure and record the requisite data	40 CFR 75 §75.20, 75.70(d), and 40 CFR 75 Appendix E Section 1.2 and Env-A 809, 3212.02, 3212.06, 3212.07, 3212.09, 3212.10 and 2910.04	Yes
31.	MK1 & MK2	QA/QC Requirements	a) Pursuant to 40 CFR 75.21 (a)(1) and 40 CFR 75.70, the Permittee shall operate, maintain, and calibrate each CEMS according to the quality assurance and quality control procedures in 40 CFR 75 Appendix B. b) Pursuant to 40 CFR 75.21(b), the Permittee shall operate, calibrate, and maintain each COMS according to the procedures specified in the SIP, pursuant to 40 CFR 51 Appendix M. c) Pursuant to 40 CFR 75.21(c), the Permittee shall ensure that all calibration gases used to quality assure the operation of the instrumentation shall meet the definition in 40 CFR 72.2. d) Pursuant to 40 CFR 75.21(d) and (e), the	As specified by regulation	40 CFR 75 §75.21, 75.70, and 75.74	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>Permittee shall comply with the provisions concerning consequences of audits and audit decertification.</p> <p>e) Within and prior to the ozone season, the Permittee shall meet the quality assurance requirements contained in 40 CFR 75.74, as applicable.</p>			
32.	MKCT1 & MKCT2	QA/QC Requirements for Alternative Monitoring Systems	The owner or operator shall comply with the QA/QC procedures of 40 CFR 75 Appendix E and 40 CFR 75.74(c), as applicable. Pursuant to 40 CFR 75.74(b), the owner or operator may choose whether to meet the QA/QC requirements on an annual basis or an ozone season basis.	Annually or ozone season basis	40 CFR 75 §75.70(e) and 40 CFR 75 Appendix E and 40 CFR 75 §75.74(b) and (c)	Yes
33.	MKCT1, MKCT2, MK1 & MK2	NO <sub>x</sub> Mass Emissions – Petitions for Alternatives	The owner or operator may submit a petition to DES and EPA requesting an alternative to any requirement of 40 CFR 75 Subpart H. Such a petition shall meet the requirements of § 75.66 and any additional requirements established by Env-A 3200 or other applicable State or Federal NO <sub>x</sub> mass emission reduction program that adopts the requirements of 40 CFR 75 Subpart H. Pursuant to 40 CFR 75.70(h)(3)(i), the owner or operator filed a petition for an alternate monitoring method for MKCT1 and MKCT2 using Appendix E, which was approved by the EPA and DES.	Upon request by permittee	40 CFR 75 §75.70(h) and 40 CFR 75 Subpart E and 40 CFR 75 Appendix E & Env-A 3212.09	Yes
34.	MKCT1, MKCT2	NO <sub>x</sub> Mass Emissions-Alternative Monitoring System	The owner or operator shall comply with the provisions of 40 CFR 75 Appendix E and Env-A 3212.09 as an alternative to continuous emission monitoring system requirements.	During the ozone season	40 CFR 75 Appendix E and Env-A 3212.09	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
35.	MKCT1, MKCT2	NO <sub>x</sub> Mass Emissions – NO <sub>x</sub> Emission Rate and Heat Input– Oil-fired Peaking Units	<p>The owner or operator of an affected unit that qualifies as a peaking unit and as either gas-fired or oil-fired shall either:</p> <ul style="list-style-type: none"> <li>a) Meet the requirements of 40 CFR 75.71(c); or</li> <li>b) Use the procedures in 40 CFR 75 Appendix D for determining hourly heat input and the procedure specified in 40 CFR 75 Appendix E for estimating hourly NO<sub>x</sub> emission rate. The heat input apportionment provisions in Section 2.1.2 of Appendix D shall not be used to meet the NO<sub>x</sub> mass reporting provisions of Subpart H. In addition, if after certification of an excepted monitoring system under Appendix E, the operation of a unit that reports emissions on an annual basis under 40 CFR 75.74(a) exceeds a capacity factor of 20.0 percent in any calendar year or exceeds an annual capacity factor of 10.0 percent averaged over 3 years, or the operation of a unit that reports emissions on an ozone season basis under 40 CFR 75.74(b) exceeds a capacity factor of 20.0 percent in any ozone season or exceeds an ozone season capacity factor of 10.0 percent averaged over three years, the owner or operator shall meet the requirements of 40 CFR 75.71(c) or, if applicable 40 CFR 75.71(e) by no later than December 31 of the following calendar year.</li> </ul>	As specified by regulation	40 CFR 75 §75.71(d)	<b>Yes</b>

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
36.	MK1, MK2, MKCT1, MKCT2	NO <sub>x</sub> Mass Emissions – Annual and Ozone Season Monitoring	The owner or operator shall meet the requirements of 40 CFR 75 Subpart H during the entire calendar year for MK1 and MK2 and on an ozone season basis except as specified for MKCT1 & MKCT2.	During the calendar year for MK1 and MK2 and during the ozone season for MKCT1 & MKCT2	40 CFR 75 §75.74(a) and (b)	Yes
37.	MKCT1 & MKCT2	NO <sub>x</sub> RACT Compliance Testing	The owner or operator shall conduct stack testing using US EPA Method 20 to determine the NO <sub>x</sub> emissions. The owner or operator shall monitor the NO <sub>x</sub> emissions by calculating the NO <sub>x</sub> emission rate in lb/MMBtu on a 24-hour calendar day average, lb/hr on a 24-hour calendar day average, and tons/consecutive 12-month period using the stack test results and operating hours.	Once every 3 years and upon written request by DES and/or EPA	Env-A 1211.13(f) Env-A 803.02(c) (formerly Env-A 1211.21) and 40 CFR 70.6 (a)(3)(i)(B)	Yes
<b>Finding: PSNH-Merrimack conducted NO<sub>x</sub> RACT compliance testing on MKCT1 and MKCT2 on May 28, 2010 and again on May 21, 2013. DES approved the 2010 report. The 2013 testing results were received on July 3, 2013 and approved by DES.</b>						
38.	MK1 & MK2	Ammonia slip testing	The owner or operator shall conduct stack testing at a NO <sub>x</sub> emission rate, in lb/MMBtu, as specified by DES, using a DES-approved method to determine the ammonia slip.	At least once every 5 years or upon request by DES and/or EPA	Env-A 609.05	Yes
<b>Finding: PSNH-Merrimack last conducted ammonia slip testing on MK1 on May 28, 2009 and MK2 on June 24, 2009. DES approved these tests and PSNH-Merrimack is required to conduct this testing again by 2014.</b>						
39.	MK1-PC3 & MK2-PC6	Ammonia Consumption	The owner or operator shall track ammonia consumption daily and monthly using an ammonia flow meter installed with the SCR systems.	Daily and monthly	Temporary Permits FP-T-0054 & TP-B-0462 (State Only)	Yes
40.	MK1-PC1, MK1-PC2, MK2-PC4 & MK2-PC5	# of Fields Out of Service for each ESP unit	The owner or operator shall monitor on a daily basis the total number of fields out of service for each electrostatic precipitator.	Daily	Env-A 609.05	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
41.	MK1-PC1, MK1-PC2, MK2-PC4 & MK2-PC5	Inlet gas temperature to each ESP	The owner or operator shall continuously monitor the outlet gas temperature of the ESP using a DES-approved monitoring system to ensure that the ESP does not exceed the manufacturer's recommended temperature.	Continuously	Env-A 609.05	Yes
42.	Facility Wide	Sulfur Content of Liquid Fuels	PSNH shall conduct testing in accordance with appropriate ASTM test methods or obtain delivery tickets or other documentation from the fuel supplier to demonstrate compliance with the liquid fuel sulfur content limitations.	For each delivery of liquid fuel to the facility	Env-A 806.02, Env-A 806.05, 40 CFR 60 Subpart Dc §60.42c(h)(1), , §60.48c(f)(1), & §60.44c(h)	Yes
43.	MK1 & MK2	Sulfur Content of Bituminous Coal	Documentation from the fuel supplier or testing in accordance with appropriate ASTM test methods that certify the weight-percent of sulfur for each delivery of bituminous coal	Each delivery of fuel	Env-A 806.04	Yes
44.	MKCT1, MKCT2, MKSCC, MKEG, MKEB	Opacity	USEPA Method 22 for visible emissions. If noticeable opacity is observed, USEPA Method 9	Monthly when the device is operating	40 CFR 70.6 (a)(3)(i)(B)	Yes
45.	MKEG	Operating Hours	The owner or operator shall maintain a log of the operating hours of the emergency generator.	Continuously	40 CFR 70.6 (a)(3)(i)(B)	Yes
46.	MKPCC & MKSCC	Coal Throughput	The owner or operator shall maintain records of the monthly coal received and coal burned (coal throughput).	Monthly	40 CFR 70.6 (a)(3)(i)(B) & State Permits to Operate No. PO-BP-2416 & 2417	Yes
47.	MK1 & MK2	Coal Feed Rate - Periodic Monitoring	E Belt scales for MK1 and MK2 shall be verified or calibrated once per year.	Annually	40 CFR 70.6 (a)(3)(i)(B)	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
48.	MK1 & MK2	TSP Testing	The owner or operator shall conduct stack testing using US EPA Methods 1-5 or 1-4 and 17 or other method approved by DES to determine the TSP emissions. The owner or operator shall monitor the TSP emissions by calculating the TSP emission rate in lb/MMBtu on a 24-hour calendar day average and tons/consecutive 12-month period using stack test results and operating hours. The owner or operator may use other EPA-approved emission calculating methods to calculate TSP emissions.	Testing at least once every 5 years and upon request by DES and/or EPA	Env-A 802 & 40 CFR 70.6 (a)(3)(i)(B)	Yes
<p><b>Finding: On June 24, 2009 PSNH-Merrimack conducted TSP testing for MK1 and on May 28, 2009 for MK2. PSNH-Merrimack next conducted TSP testing on the common stack outlet (MK1 and MK2 combined) on February 28, 2012 and again on January 24, 2013. DES approved these tests and PSNH-Merrimack uses the results to calculate the emission rates.</b></p>						
49.	MK1 & MK2	PM <sub>10</sub> Testing	The owner or operator shall conduct stack testing using US EPA Method 201a and 202, or other method approved by DES to determine PM <sub>10</sub> emissions. The owner or operator shall monitor the PM <sub>10</sub> emissions by calculating the PM <sub>10</sub> emission rate in tons/consecutive 12-month period using stack test results and operating hours. The owner or operator may use other EPA-approved emission calculating methods to calculate PM <sub>10</sub> emissions.	Testing at least once every 5 years and upon request by DES and/or EPA	Env-A 802 & 40 CFR 70.6 (a)(3)(i)(B)	Yes
<p><b>Finding: On June 24, 2009, PSNH-Merrimack conducted TSP testing for MK1 and on May 28, 2009 for MK2. PSNH-Merrimack next conducted TSP testing on the common stack outlet (MK1 and MK2 combined) on February 28, 2012 and again on January 24, 2013. To be conservative, it is assumed that all TSP is PM<sub>10</sub>. DES approved these tests and PSNH-Merrimack uses the results to calculate the emission rates.</b></p>						
50.	MKEB	Performance Test	Each time the owner or operator brings an Emergency Boiler into the facility for operation, it is required to conduct an initial performance test as required by	Prior to the removal of Each Emergency Boiler	40 CFR 60 Subpart Dc §60.45c(a) & Env-A 802	Yes

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			40 CFR 60.8 for opacity, within 60 days of achieving maximum production rate or within 180 days of initial startup. Method 9 (6-minute average of 24 observations) shall be used for determining the opacity of stack emissions. Testing will be conducted at the maximum permitted operating rate, 520 gal/hr while firing No. 2 fuel oil, or 701 gal/hr while firing on-road low sulfur diesel fuel.	installed		
<p><b>Finding:</b> During the inspection period, PSNH-Merrimack brought in MKEB twice. PSNH-Merrimack installs the unit on a temporary basis during the winter. PSNH-Merrimack performed a performance test in accordance with 40 CFR 60.8 on February 17 and 21, 2012 and on January 14, 2013. DES reviewed the test results and PSNH-Merrimack complies with this permit condition.</p>						
51.	MKEB	Fuel flow meter, recorder, & totalizer	a) PSNH shall monitor or measure fuel oil consumption of MKEB (in gallons per hour and total gallons per day) using a fuel flow meter. b) PSNH shall calibrate or verify the accuracy of the fuel flow meter in accordance with the manufacturers or suppliers recommendation or in a manner approved by DES at a frequency consistent with the manufacturers or suppliers recommendation, but at a minimum annually.	Continuously	Temporary Permit TP-B-0490	Yes
52.	Facility wide	Inventories of Regulated Substances	The owner or operator shall monitor the quantity of regulated substances to ensure that the facility is in compliance with the requirements of 40 CFR 68.	Continuously	40 CFR 68 and 1990 CAA Section 112(r)(1)	Yes
53.	MK1 & MK2	Baseline Mercury Input	Baseline mercury input shall be determined as follows: a) No later than August 1, 2006, and continuing for 12 months thereafter, a	As specified	RSA 125-O:14,I. (State-Only Enforceable)	Unknown

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			<p>representative monthly sample of the coal used traditionally (not to include trial or test coal blends) by each affected source shall be collected from each of the units identified in b. below and analyzed to determine the average mercury content of the fuel for each unit expressed in pounds of mercury input per ton of coal combusted at each affected source. The mercury content of the coal derived from these analyses for each affected source shall be multiplied by the average annual throughput of coal for the period 2003, 2004, and 2005 (average tons of coal combusted per year) for each respective affected source to yield the average pounds of mercury input per year into each affected source. The sum of these annual input pound averages from each affected source shall equal the baseline mercury input.</p> <p>b) Determination of the mercury content of the coal shall follow appropriate ASTM testing procedures (ASTM D3684-01). For purposes of baseline mercury input determination, coal sampling shall occur at Merrimack Unit 1 and Unit 2, and at either Schiller Unit 4 or Unit 6, which shall serve to represent all Schiller units. At least 4 of the samples taken from each of these units shall</p>			

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			correspond with the stack testing done at each of these units under RSA 125-O:14,II.			
<b>Finding: See Section X: Other Findings.</b>						
54.	MK1 & MK2	Baseline Mercury Emissions	Pursuant to RSA 125-O:14,II, baseline mercury emissions shall be determined based upon stack testing and DES approval.	As specified in statute	RSA 125-O:14,II. (State-Only Enforceable)	<b>Unknown</b>
<b>Finding: See Section X: Other Findings.</b>						
55.	MK1 & MK2	Mercury Emission Monitoring	<p>a) Prior to the availability and operation of CEMS, and subsequent to the baseline emissions testing under RSA 125-O:14, II, stack tests or another methodology approved by DES shall be conducted twice per year to determine mercury emissions levels from the affected sources.</p> <p>b) Any stack tests performed shall employ a federally recognized and approved methodology, proposed by the Owner and employing a test protocol approved by DES.</p> <p>When a federal performance specification takes effect and a mercury CEMS capable of meeting the federal specifications becomes available, a mercury CEMS, approved by DES, shall be installed on MK1 and MK2 as deemed appropriate by DES.</p>	Twice per year or until a mercury CEMS is in operation and approved by DES	RSA 125-O:15 (State-Only Enforceable)	<b>Yes</b>
<b>Finding: The compliance date for this permit condition is July 1, 2013. PSNH-Merrimack does not have operating mercury CEMS associated with any of the emission units identified in Table 1. However, PSNH-Merrimack has conducted mercury testing on July 16, 2013. Results from this test are due within 60 days, and have not yet been received.</b>						
56.	MK2	SO <sub>2</sub> , NO <sub>x</sub> , CO, PM, VOCs Emissions	Pursuant to the 40 CFR 52.21 (b)(21)(v) (dated July 1, 2002), for an electric utility steam	Monthly	40 CFR 70.6 (a)(3)(i)(B) and 40 CFR	<b>Yes</b>

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
		(tons/month and tons/ consecutive 12-month period)	generating unit (other than a new unit or the replacement of an existing unit), actual SO <sub>2</sub> , NO <sub>x</sub> , CO, PM, VOC emissions of the unit following the physical or operational change shall equal the representative actual annual emissions of the unit, provided PSNH maintains and submits to DES on an annual basis for a period of 5 years from the date the unit resumes regular operation, information demonstrating that the physical or operational change did not result in an emissions increase. A longer period, not to exceed 10 years, may be required by DES, if it determines such a period to be more representative of normal source post-change operations. Pursuant to 40 CFR 52.21(b)(33) (dated July 1, 2002), representative actual annual emission means the average rate, in tons per year, at which the source is projected to emit a pollutant for the two-year period after the physical change or change in the method of operation of a unit (or a different consecutive two-year period within 10 years after that change, where DES determines that such period is more representative of normal source operations), considering the effect any such change will have on increasing or decreasing the hourly emissions rate and on projected capacity utilization. In projecting future emissions, DES shall consider all relevant information, including but not limited to, historical operational data, the company's own representations, filings with the		52.21 (b)(21) and (33), dated July 1, 2002	

**Table 7 – Monitoring and Testing Requirements**

Item #	Device	Parameter	Method of Compliance	Frequency	Rule Citation	Compliant
			State or Federal regulatory authorities, and compliance plans under Title IV of the CAA; and exclude, in calculating any increase in emissions that results from the particular physical change or change in the method of operation at an electric utility steam generating unit, that portion of the unit's emissions following the change that could have been accommodated during the representative baseline period and is attributable to an increase in projected capacity utilization at the unit that is unrelated to the particular change, including any increased utilization due to the rate of electricity demand growth for the utility system as a whole. In order to calculate annual emissions as required pursuant to 40 CFR 52.21 (dated July 1, 2002), PSNH shall monitor emissions of SO <sub>2</sub> , NO <sub>x</sub> , CO, PM, and VOCs for a period of 5 years or more beginning in 2008.			
57.	MKEB	SO <sub>2</sub> , NO <sub>x</sub> , CO, PM <sub>10</sub> , and VOC emissions	PSNH shall monitor the SO <sub>2</sub> , NO <sub>x</sub> , CO, PM <sub>10</sub> , and VOC emissions (in tons/ consecutive 12-month period) by using appropriate AP-42 emission factors and fuel consumption.	Monthly and consecutive 12-month period	40 CFR 70.6 (a)(3)(i)(B)	Yes
58.	Facility-wide	Stack Test	For any compliance stack test, the owner or operator must meet the stack testing requirements of Env-A 802, including but not limited to pre-test meeting, pre-test protocol, pre-test notice, scheduling change notifications, and stack test result submittals	For each compliance stack test	Env-A 802	Yes

Table 7a, below, lists the additional monitoring and testing requirements for the facility from TP-0008 and any deficiencies noted during the inspection.

Table 7a Monitoring and Testing Requirements from TP-0008						
Item No.	Device	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
1.	MK1 & MK2	Continuous Emissions Monitoring Systems	<p><u>Site-Specific Monitoring Plan - Continuous Emissions Monitoring Systems</u></p> <p>a) The Owner shall submit a CEMS monitoring plan describing the proposed systems. The monitoring plan shall contain the information required under Env-A 808.04(c) and address all applicable monitoring requirements of Env-A 808, 40 CFR Part 60, and 40 CFR Part 75.</p> <p>b) The CEMS monitoring plan in item a above, shall at a minimum, address the following operating scenarios:</p> <p>(i) CEMS monitoring for units MK1 and MK2 when both units MK1 and MK2 are operating and emissions are discharged through the common exhaust stack STMK3;</p> <p>(ii) CEMS monitoring for compliance with the SO<sub>2</sub> limitation specified in Table 4, Item 6 and 8 of TP-0080;</p> <p>(iii) Monitoring for unit MK1 when emissions are discharged through stack STMK2 (bypass stack).</p>	At least 90 days prior to the installation of the CEM system	Env-A 808.04(a)	Yes
2.	MK1 & MK2	Continuous Emissions Monitoring Systems	<p><u>Quality Assurance/Quality Control Plan Requirements</u></p> <p>The Owner of a source required by this part to install, operate, and maintain an opacity or gaseous CEMS</p>	As specified within regulation	Env-A 808.06	Yes

Table 7a Monitoring and Testing Requirements from TP-0008						
Item No.	Device	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
			shall: a) Prepare a quality assurance/quality control (QA/QC) plan, which shall contain written procedures for implementation of its QA/QC program for each CEMS; b) File the QA/QC plan with DES no later than the time specified in Env-A 808.05(e) after the initial startup of each CEMS; c) Review the QA/QC plan and all data generated by its implementation at least once each year; d) Revise or update the QA/QC plan, as necessary, based on the results of the annual review, by: (i) Documenting any changes made to the CEMS or changes to any information provided in the monitoring plan; (ii) Including a schedule of, and describing, all maintenance activities that are required by the CEMS manufacturer or that might have an effect on the operation of the system; (iii) Describing how the audits and testing required by this part will be performed; and (iv) Including examples of the reports that will be used to document the audits and tests required by this part; e) Make the revised QA/QC			

Table 7a Monitoring and Testing Requirements from TP-0008						
Item No.	Device	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
			<p>plan available for review by DES at any time; and</p> <p>f) Within 30 days of completion of the annual QA/QC plan review, certify in writing that the Owner will continue to implement the source's existing QA/QC plan or submit in writing any changes to the plan and the reasons for each change;</p> <p>g) Revision of the QA/QC plan is required if the results of emission report reviews, inspections, audits, review of the QA/QC plan, or any other information available to DES show that the plan does not meet the criteria specified in 40 CFR 60, Appendix F, Procedure 1, section 3; and</p> <p>h) The QA/QC plan shall be considered an update to the CEMS monitoring plan required by Env-A 808.04.</p>			

Table 7a Monitoring and Testing Requirements from TP-0008						
Item No.	Device	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
3.	MK1 & MK2	Mercury Emissions	<u>Monitoring of Mercury Emissions</u> a) Prior to the availability and operation of CEMS, and subsequent to the baseline emissions testing under RSA 125-O:14, II, stack tests or another methodology approved by DES shall be conducted twice per year to determine mercury emissions levels from the affected sources. b) Any stack tests performed shall employ a federally recognized and approved methodology, proposed by the Owner and employing a test protocol approved by DES. c) When a federal performance specification takes effect and a mercury CEMS capable of meeting the federal specifications becomes available, a mercury CEMS, approved by DES, shall be installed on STMK3 as deemed appropriate by DES.	Twice per year or until a mercury CEMS is in operation and approved by DES	RSA 125-O:15	Yes
<b>Finding: See Table 7, Item #55</b>						
4.	MK1 & MK2	Stack flow, NO <sub>x</sub> , SO <sub>2</sub> , and CO <sub>2</sub> (or O <sub>2</sub> ), opacity	The new stack (STMK3 from the FGD) serving units MK1 and MK2 shall be equipped with flow monitoring, NO <sub>x</sub> , SO <sub>2</sub> , and CO <sub>2</sub> or O <sub>2</sub> CEMS and a continuous opacity monitor (COMS). The CEMS and COMS shall meet 40 CFR 75 requirements.	Continuously	Env-A 808.02(a) (new) and 40 CFR 75 §75.10(a)(2), §75.12, and Env-A 1211.03(f)	Yes
<b>Finding: Since the FGD system and STMK3 became operational, the CEMS have met the requirements of 40 CFR 75.</b>						

Table 7a Monitoring and Testing Requirements from TP-0008						
Item No.	Device	Parameter	Method of Compliance	Frequency of Method	Regulatory Cite	Compliant
5.	MK2-PC7	FGD Operating Parameters	a) The Owner shall continuously monitor the scrubber liquor pH and FGD absorber exit gas temperature. b) The Owner shall calibrate or validate the accurate operation of the instruments measuring the parameters a minimum of once annually in accordance with manufacturer's recommended procedures or alternative procedures as approved by DES. All records of the calibrations or validations shall be kept and made available upon request.	Continuously	RSA 125-C:6, XI	Yes
6.	MK2-PC7	FGD Data Acquisition System	The Owner shall have a data acquisition system for the FGD absorber exit gas temperature and scrubber liquor pH monitors, which calculates and monitors hourly averages and daily averages.	Continuously	RSA 125-C:6, XI	Yes

Table 7b, below, lists the additional monitoring and testing requirements for the facility from TP-0068 and any deficiencies noted during the inspection.

Table 7b Monitoring and Testing Requirements from TP-0068						
Item #	Parameter	Method of Compliance	Frequency	Applicable Unit	Regulatory Basis	Compliant
2	Sulfur Content of Liquid Fuels	Conduct testing in accordance with appropriate ASTM test methods or retain delivery tickets in accordance with Table 4, Item 3 of TP-0068 in order to demonstrate compliance with the sulfur content limitation provisions specified in this permit for liquid fuels.	For each delivery of fuel for MKEC	MKEC	Env-A 806.02 & Env-A 806.05	Yes
3	Hours of Operation	MKEC shall be equipped with a non-resettable hour meter.	Continuous	MKEC	40 CFR 60.4209(a) (Subpart III)	Yes

**VII. Compliance with Recordkeeping Requirements**

Table 8 below, taken from TV-0055, lists the recordkeeping requirements for the facility and any deficiencies noted during the evaluation.

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
1.	<p><u>Record Retention:</u></p> <p>a) The Permittee shall retain the records required by this permit on file for a minimum of 5 years, except the certificate of representation for the designated representatives shall be kept beyond the 5-year period.</p> <p>b) Pursuant to Env-A 4605.03(a), unless otherwise provided, the Owner or Operator of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall keep on site each of the following documents for a period of 10 years from the date the document is created:</p> <p>(i) The account certificate of representation for the CO<sub>2</sub> AAR for the source and each CO<sub>2</sub> budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation prepared in accordance with Env-A 4604.05, provided that the certificate and documents shall be retained on site at the source beyond such 10-year period until such documents are superseded because of the submission of a new account certificate of representation changing the CO<sub>2</sub> AAR;</p> <p>(ii) All emissions monitoring information, in accordance with Env-A 4609 and 40 CFR 75;</p> <p>(iii) Copies of all reports, compliance certifications and other submissions and all records made or required under Env-A 4600; and</p> <p>(iv) Copies of all documents used to complete a CO<sub>2</sub> budget permit application and any other submission under the CO<sub>2</sub> Budget Trading Program or to demonstrate compliance with the requirements of Env-A 4600.</p>	Minimum of 5 year retention of records as specified	Facility Wide	40 CFR §72.9(f)(1), 40 CFR §75.57, 40 CFR 70.6(a)(3)(ii)(B), Env-A 3213, Env-A 902.01(a)(new), and Env-A 4605.03(a)	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
2.	<p><u>Monitoring Plan and QA/QC Plan:</u></p> <p>a) The Permittee shall prepare and maintain a monitoring plan for the CEMS and COMS, which contains sufficient information to demonstrate that all unit SO<sub>2</sub> emissions, NO<sub>x</sub> emissions, CO<sub>2</sub> emissions and opacity are monitored and reported.</p> <p>b) The Permittee shall prepare and maintain monitoring plans for other approved monitoring methods, which contain sufficient information to demonstrate that all unit NO<sub>x</sub> emissions are monitored and reported.</p> <p>c) The Permittee shall update the monitoring plan whenever the Permittee makes a replacement, modification or change that could affect the CEMS or COMS or other approved monitoring method.</p> <p>d) The Permittee shall review the QA/QC plan and all data generated by its implementation at least once each year.</p> <p>e) The Permittee shall revise or update the QA/QC plan based on the results of the annual review by conducting the following:</p> <p>(i) Documenting any changes made to the CEM or the monitoring method or changes to any information provided in the monitoring plan;</p> <p>(ii) Including a schedule of, and describing, all maintenance activities that are required by the CEM manufacturer or that might have an effect on the operation of the system;</p> <p>(iii) Describing how the audits and testing required by this part will be performed; and</p> <p>(iv) Including examples of the reports that will be used to document the audits and tests required by this part;</p> <p>(v) Make the revised QA/QC plan available for on-site review by the division at any time; and</p> <p>(vi) Within 30 days of completion of the annual QA/QC plan review, certify in writing that the owner or operator will continue to implement the source's existing QA/QC plan or submit in writing any changes to the plan and the</p>	Whenever a change occurs that could affect monitoring method or annually, whichever is more frequent	MK1 & MK2, MKCT1 & MKCT2	40 CFR §75.53 (a), (b), (e), and (f), §75.73(c), Env-A 808.04, Env-A 808.06, Env-A 3212.13, and Env-A 2910.09	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
	<p>reasons for each change.</p> <p>f) The QA/QC plan shall be considered an update to the CEM monitoring plan required by Env-A 808.04.</p> <p>g) Pursuant to Env-A 3212.13(a) and Env-A 2910.09, the units subject to acid rain emission limitations (MK1 &amp; MK2) shall comply with the requirements of 40 CFR 75.62, except the monitoring plan shall also include all of the information required by 40 CFR 75, Subpart H.</p> <p>h) Pursuant to Env-A 3212.13(b), a unit not subject to acid rain emission limitations (MKCT1 &amp; MKCT2) shall comply with the requirements of 40 CFR 75.62, except the monitoring plan shall only include the information required by 40 CFR 75, Subpart H.</p> <p>i) Pursuant to 40 CFR 75.73(c)(3), the monitoring plan for a unit not subject to acid rain emission limitations (MKCT1 &amp; MKCT2) shall include the provisions of 40 CFR 75.53(e)(1), 75.53(f)(1)(i), (f)(2)(i), and (f)(4) in electronic format and 40 CFR 75.53(e)(2), 75.53(f)(1)(ii), and (f)(2)(ii) in hardcopy format.</p> <p>j) For MK1 and MK2, the owner or operator shall determine the heat input rate (in MMBtu/hr) to each unit for every hour or part of an hour any fuel is combusted following the procedures in 40 CFR 75 Appendix F, Equation F-15.</p>				
3.	<p><u>CEM, COMS and Other Approved Monitoring Methods Recordkeeping Requirements:</u></p> <p>a) The Permittee shall record and maintain the information required pursuant to 40 CFR 75.57, 75.58, 75.59, and 75.73(b), which includes the certification, quality assurance, and quality control records.</p> <p>b) The Permittee shall record and maintain CEMS and COMS records according to the most stringent requirements of Env-A 808 and 40 CFR 75.</p>	As specified by regulation	MK1, MK2, MKCT1, MKCT2	40 CFR §75.57, 75.58, 75.59, and 75.73, Env-A 3212, Env-A 903.04 (a) (new), and Env-A 800	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
4.	<p><u>Sulfur Analysis Records for Liquid Fuel Oil</u>                      The owner or operator shall maintain fuel delivery tickets for each shipment of fuel oil received. The deliver tickets shall be in a form suitable for inspection and available to the DES and/or EPA upon request. Each delivery ticket shall indicate the following:</p> <ul style="list-style-type: none"> <li>a) The name, address and telephone number of the fuel supplier;</li> <li>b) The type of fuel delivered;</li> <li>c) The quantity of fuel oil delivered;</li> <li>d) The date of delivery; and</li> <li>e) The maximum percent sulfur by weight of the fuel oil delivered.</li> </ul> <p>If the delivery tickets do not contain sulfur content of fuel delivered, the Permittee shall provide other documentation from the fuel supplier with the above information or a written statement or other documentation from the fuel supplier that the sulfur content of the fuel as delivered does not exceed state or federal standards for that fuel or perform testing in accordance with appropriate ASTM test methods to determine compliance with the sulfur content limitation provisions in Env-A 1604 for liquid fuel.</p>	For each delivery of liquid fuel to the facility	MK1, MK2, MKCT1, MKCT2, MKEB, MKEG	Env-A 806.05 (new) and 40 CFR 70.6(a)(3)(ii)(A) and 40 CFR 60 Subpart Dc §60.48c(f)(1) (for MKEB)	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
5.	<p><u>Delivery Ticket and Sulfur Analysis Records for Coal:</u> The permittee shall maintain delivery tickets from each coal supplier for each shipment of coal received. The delivery tickets shall be in a form suitable for inspection and available to the DES and/or EPA upon request. Each delivery ticket shall indicate the following:</p> <ul style="list-style-type: none"> <li>a) The name of the fuel supplier;</li> <li>b) The address of the fuel supplier;</li> <li>c) The telephone number of the fuel supplier;</li> <li>d) The type of fuel delivered;</li> <li>e) The quantity of coal delivered;</li> <li>f) The date of delivery;</li> <li>g) The maximum percent sulfur by weight of the coal delivered or the lb sulfur/MMBtu of coal;</li> <li>h) Identification of the mine from which the coal originated;</li> <li>i) The weight percent ash content of the coal; and</li> <li>j) The gross heat content of the coal (Btu per pound).</li> </ul> <p>If the delivery tickets do not contain sulfur content of fuel delivered, the Permittee shall provide other documentation from the fuel supplier with the above information or perform testing in accordance with appropriate ASTM test methods to determine compliance with the sulfur content limitation provisions in Env-A 1606 for solid fuels.</p>	Each delivery of Coal	MK1 & MK2	Env-A 806.05 (new) & 40 CFR 70.6(a)(3)(ii)(A)	Yes
6.	<p><u>Solid Fuel Utilization Records:</u> The Permittee shall maintain the following monthly records or records for an alternative period as approved by DES in accordance with Env-A 912, of the bituminous coal characteristics and utilization:</p> <ul style="list-style-type: none"> <li>a) Fuel consumption;</li> <li>b) Fuel type;</li> <li>c) Ash content;</li> <li>d) Sulfur content as percent sulfur by weight of fuel and pounds per million Btu gross heat content; and</li> <li>e) Btu content per pound of fuel.</li> </ul>	Monthly or alternative period as approved by DES in accordance with Env-A 912	MK1 & MK2	Env-A 903.03(a)(1) (formerly Env-A 901.03(a)(2))	Yes

**Table 8- Recordkeeping Requirements**

Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
7.	<p><u>Liquid Fuel Utilization Records:</u> The Permittee shall maintain the following monthly records or records for an alternative period as approved by DES in accordance with Env-A 912, of the liquid fuel characteristics and utilization by device:</p> <ul style="list-style-type: none"> <li>a) Fuel consumption;</li> <li>b) Fuel type;</li> <li>c) Viscosity (based on generally accepted values);</li> <li>d) Sulfur content as percent sulfur by weight of fuel;</li> <li>e) Btu content per gallon of fuel; and</li> <li>f) Hours of operation of each fuel combustion device while operating with each type of liquid fuel, so the distribution of fuel among each combustion device can be estimated.</li> </ul>	Monthly or alternative period as approved by DES in accordance with Env-A 912	MK1, MK2, MKCT1, MKCT2, MKEB, MKEG	Env-A 903.03(a)(3) and (b) (formerly Env-A 901.03(a)(1) and (c))	Yes
8.	<p><u>General Recordkeeping Requirements for Process Operations:</u> Keep monthly records of raw material utilization (coal) for each of the crusher systems and coal fed to MK1 and MK2.</p>	Monthly and consecutive 12 month periods	MKPCC, MKSCC, MK1, MK2	Env-A 903.02 & State Permits to Operate PO-BP-2416 & PO-BP-2417	Yes
9.	<p><u>General NO<sub>x</sub> Recordkeeping Requirements:</u> The Permittee shall record and maintain the following information for fuel burning devices:</p> <ul style="list-style-type: none"> <li>a) Facility information, including the following:                             <ul style="list-style-type: none"> <li>(i) Source name;</li> <li>(ii) Source identification;</li> <li>(iii) Physical address; and</li> <li>(iv) Mailing address.</li> </ul> </li> <li>b) Identification of fuel burning devices;</li> <li>c) Operating schedule for each fuel burning device identified in Condition B) above:                             <ul style="list-style-type: none"> <li>(i) Days per calendar week during the normal operating schedule;</li> <li>(ii) Hours per day during the normal operating schedule and for a typical ozone season day; and</li> <li>(iii) Hours per year during the normal operating schedule.</li> </ul> </li> <li>d) Type and amount of fuel burned for each fuel-burning device during normal operating conditions and for a typical ozone season day, if different from normal operating conditions, on an hourly basis in MMBtu/hr.</li> <li>e) Theoretical potential NO<sub>x</sub> emissions for the calculation year for each fuel burning</li> </ul>	Annually and as applicable	MK1, MK2, MKCT1, MKCT2, MKEB, MKEG	Env-A 905.02 (formerly Env-A 901.08(c)(1)-(5))	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
	device: (i) Annual emissions, in tons per year; and (ii) Typical ozone season day emissions, in pounds per day. f) Actual NO <sub>x</sub> emissions for each fuel burning device: (i) Annual emissions, in tons per year; and (ii) Typical ozone season day emissions, in pounds per day. g) Emission factors and the origin of the emission factors used to calculate the NO <sub>x</sub> emissions.				
10.	<u>Recordkeeping Requirements for Sources or                      Devices with Add-On NO<sub>x</sub> Air Pollution Control                      Equipment:</u> The Permittee shall record and maintain the following information: a) Air pollution control device identification number, type, model number, and manufacturer; b) Installation date; c) Unit(s) controlled; d) Type and location of the capture system, capture efficiency percent, and method of determination; e) Emission test results, including inlet NO <sub>x</sub> concentration (ppm), outlet NO <sub>x</sub> concentration (ppm), method of concentration determination, and date of determination; f) Information as to whether the air pollution control device is always in operation when the fuel burning device it is serving is in operation; and g) Destruction or removal efficiency of the air pollution control equipment, including the following information: (i) Destruction or removal efficiency, in percent; (ii) Current primary and secondary equipment control information codes from EPA AIRS Air Facility Subsystem List for each piece of control equipment; (iii) Date tested; and (iv) Method of determining destruction or removal efficiency, if not tested.	Maintain at the facility at all times	MK1 & MK2	Env-A 905.03 (formerly Env-A 901.08(c)(6))	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
11.	<u>Boiler Operating Hour Records:</u> The owner or operator shall maintain a log to record the number of hours of operation of MK1 and MK2 each month. This log may be part of the existing work management system.	Monthly	MK1 & MK2	Env-A 906 & Temporary Permits FP-T- 0054 & TP-B- 0462	Yes
12.	<u>Emergency Generator Operating Records:</u> The owner or operator shall record and maintain monthly and consecutive 12-month records of the operating hours of the emergency generator.	Monthly and consecutive 12-month periods	MKEG	Env-A 906 & State Permit to Operate PO-B- 1788	Yes
13.	<u>Coal Crusher Records:</u> The Permittee shall maintain the following information, which may be included in the facility work management system: a) The monthly visible emission observation results for the secondary crusher; b) A log of repairs made to the coal crusher enclosure. The log shall include the following: (i) The date a problem was observed; (ii) The date of the repair; (iii) A description of the problem; and (iv) The corrective actions taken.	Monthly for visible emission observation records and for each occurrence for repairs	MKPCC & MKSCC	State Permits to Operate No. PO- BP-2416 & PO- BP-2417	Yes
14.	<u>Certificate of Representation:</u> The Permittee shall complete and retain a certificate of representation for a designated representative or an alternate designated representative including the elements pursuant to 40 CFR 72.24, <i>Certificate of representation.</i>	Maintain at the facility at all times	MK1 & MK2	40 CFR §72.24	Yes
15.	<u>Regulated Toxic Air Pollutant Records:</u> The Permittee shall maintain records in accordance with the applicable method used to demonstrate compliance pursuant to Env-A 1405.	Maintain at facility at all times	All devices subject to RSA 125-I and Env-A 1400	Env-A 902.01 (c) State-Only Enforceable	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
16.	<p><u>Monitoring Records:</u> The Permittee shall maintain records of monitoring results as specified in Table 7 of this Permit including the following:</p> <ul style="list-style-type: none"> <li>a) Visible emission/opacity test results for the MKSCC, MKCT1, and MKCT2;</li> <li>b) NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>, and continuous emissions monitoring data for MK1 &amp; MK2;</li> <li>c) Continuous opacity monitoring data for MK1 &amp; MK2;</li> <li>d) Stack volumetric flow rate (in kscfm) for MK1 &amp; MK2;</li> <li>e) Outlet temperature of each ESP;</li> <li>f) Daily and monthly ammonia consumption of each SCR;</li> <li>g) Coal throughput for the MKPCC &amp; MKSCC (primary and secondary coal crushers);</li> <li>h) Net electrical output;</li> <li>i) Coal E Belt scale calibrations/verifications for MK1 and MK2;</li> <li>j) Quantities of regulated substances facility-wide;</li> <li>k) Monthly and consecutive 12-month NO<sub>x</sub>, SO<sub>2</sub>, CO, PM<sub>10</sub>, and VOC emissions from MKEB; and</li> <li>l) Daily NO<sub>x</sub> emissions for MKCT1 and MKCT2 in lb/MMBtu and lb/hr, and monthly NO<sub>x</sub> emissions in tons/month and the tons/consecutive 12-month period using the stack test results and operating hours.</li> </ul>	Maintain at facility at all times	As specified for each monitoring record	<p>40 CFR 70.6(a)(3)(ii) for items (A-D) and (G-L)</p> <p>Env-A 609.05 for items (E) and (F)</p>	Yes
17.	<p><u>Operating Scenario Records:</u> PSNH shall maintain a record of the scenarios under which it is operating. PSNH shall specify whether operation is under normal conditions or an alternative operating scenario listed in Section VII. PSNH shall specify which alternative operating scenario is in use.</p>	Whenever operation method changes from normal operation to a specific alternative operating scenario	Facility wide	40 CFR 70.6 (a)(9)	Yes
18.	<p><u>Multi-pollutant Budget and Trading Program Recordkeeping Requirements:</u> The permittee shall comply with the recordkeeping requirements of the multi-pollutant budget and trading program.</p>	As required by the rule	MK1 & MK2	Env-A 2900 State-Only Enforceable	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
19.	On an hourly and daily basis, the owner or operator shall record fuel consumption for each fuel type, in gallons per hour and totaled gallons per day..	Hourly and daily	MKEB	40 CFR 60 Subpart Dc §60.48c(g)	Yes
20.	The owner or operator shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the Emergency Boiler.	For each occurrence	MKEB	40 CFR 60 Subpart A §60.7(b)	Yes
21.	The owner or operator shall maintain a file of all fuel flow (gal/hr) and totalizer measurements (gal/day) for the Emergency Boiler; all fuel flow meter and totalizer calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection.	Maintain at facility at all times	MKEB	40 CFR 60 Subpart A §60.7(f)	Yes
22.	<u>Representative Actual Annual Emissions Test Recordkeeping Requirements:</u> PSNH shall maintain records of SO <sub>2</sub> , NO <sub>x</sub> , CO, PM, and VOC emissions in tons/month and tons per consecutive 12-month period for MK1 and MK2.	Monthly and consecutive 12-month period	MK2	40 CFR 52.21(b)(21) and (33), dated July 1, 2002 and 40 CFR 70.6(a)(3)(ii) and Env-A 906	Yes
23.	<u>ESP Monitoring Records:</u> The owner or operator shall maintain the following records for each ESP: a) Fields out of service for each ESP unit, b) The time the field stopped operating, c) The reason for the field being out of service, d) The time the field was returned to service, and e) Corrective actions taken to return the field to service.	Daily	MK1-PC1, MK1-PC2, MK2-PC4 & MK2-PC5	40 CFR 70.6(a)(3)(ii)	Yes

Table 8- Recordkeeping Requirements					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
24.	<p><u>VOC Recordkeeping Requirements</u>                      The owner or operator shall record and maintain the following information at the facility:</p> <p>a) Facility information, including the following:</p> <ul style="list-style-type: none"> <li>(i) Source name;</li> <li>(ii) Source identification;</li> <li>(iii) Physical address;</li> <li>(iv) Mailing address;</li> </ul> <p>b) Identification of each VOC emitting device or process except the following:</p> <ul style="list-style-type: none"> <li>(i) Processes or devices associated with non-core activities and</li> <li>(ii) Processes processes or devices emitting exempt VOCs.</li> </ul> <p>c) Operating schedule information for each VOC emitting device/process identified in B) above, including the following:</p> <ul style="list-style-type: none"> <li>(i) Days of operation per calendar week during the normal operating schedule;</li> <li>(ii) Hours of operation per day during normal operating schedule and for a typical high ozone day, if different from the normal operating schedule; and</li> <li>(iii) Hours of operation per year under normal operating conditions;</li> </ul> <p>d) The following VOC emissions data for each VOC-emitting process/device identified in B) above:</p> <ul style="list-style-type: none"> <li>(i) Annual theoretical potential emissions, in tons per year and during a typical day during the high ozone season of each, in pounds per day;</li> <li>(ii) Applicable emission factors, if used to calculate emissions and origin of the emission factors; and</li> <li>(iii) Actual emissions from each VOC-emitting device or process identified in B) above, in tons per year and a typical day during the high ozone season in pounds per day.</li> </ul>	Annually and as applicable	MK1, MK2, MKCT1, MKCT2, MKEB, MKEG	Env-A 904.02 (formerly 901.06)	Yes

Table 8a, below, lists the additional recordkeeping requirements for the facility from TP-0008 and any deficiencies noted during the inspection.

<b>Table 8a- Recordkeeping Requirements from TP-0008</b>					
<b>Item #</b>	<b>Requirement</b>	<b>Duration/ Frequency</b>	<b>Applicable Unit</b>	<b>Rule Citation</b>	<b>Compliant</b>
1	<u>Record Retention and Availability</u> The Owner shall keep the required records on file. These records shall be available for review by DES upon request.	Retain for a minimum of 5 years	Emissions Units specified in Table 1 and Pollution Control Equipment specified in Table 3	Env-A 902	Yes
2	<u>General Recordkeeping Requirements for Process Operations</u> The Owner shall keep monthly records of: a) The quantity of limestone used as documented by limestone delivery records; and b) The hours of operation of the wet limestone ball mills.	Monthly	MKLC1 MK2-PC7	Env-A 903.02	Yes
3	The Owner shall maintain the standard operating and maintenance procedures for the air pollution control equipment in a convenient location (e.g., control room/technical library) and make them readily available to DES upon request.	Maintain at facility at all times	MK2-PC7	Env-A 906.01	Yes
4	<u>CEMS and Other Approved Monitoring Methods Recordkeeping Requirements</u> a) The Owner shall record and maintain the information pursuant to 40 CFR Part 75, which includes the certification, quality assurance, and quality control records. b) The Owner shall record and maintain CEMS records according to the most stringent requirements of Env-A 808 and 40 CFR Part 75.	As specified by regulation	MK1, MK2, MK2-PC7	Env-A 903.04 Env-A 808 40 CFR Part 75	Yes
5	The Owner shall record the hours of operation of MK1 and MK2 as follows: a) Total hours of MK1 and MK2 each; and b) Total hours of MK1 when discharging through STMK2 (bypass stack)	Monthly	MK1 and MK2	Env-A 906	Yes

Table 8b, below, lists the additional recordkeeping requirements for the facility from TP-0068 and any deficiencies noted during the inspection.

<b>Table 8b- Recordkeeping Requirements from TP-0068</b>					
<b>Item #</b>	<b>Requirement</b>	<b>Duration/ Frequency</b>	<b>Applicable Unit</b>	<b>Rule Citation</b>	<b>Compliant</b>
2	<p><u>General Recordkeeping Requirements for Combustion Devices</u>                      Maintain the following records:                      a) Type (e.g. diesel fuel, natural gas) and amount of fuel burned; and                      b) Hours of operation.</p>	Monthly	MKEC	Env-A 903.03	Yes
3	<p><u>Liquid Fuel Oil Recordkeeping Requirements</u>                      In lieu of sulfur testing pursuant to Table 3, Item 2, the Owner or Operator may maintain a written statement from the fuel supplier that the sulfur content of the fuel as delivered does not exceed state or federal standards for that fuel.</p>	Whenever there is a change in fuel supplier, but at least annually	MKEC	Env-A 806.05	Yes
4	<p><u>Recordkeeping Requirements for Oil-Fired EGs Manufactured after April 1, 2006</u>                      a) Maintain documentation from the manufacturer certifying that the engine complies with the applicable emission standards stated in 40 CFR 60 Subpart III.                      b) A breakdown of hours of operation recorded pursuant to Table 4 Item 2.b. by:                      (i) Hours of emergency operation; and                      (ii) Hours of maintenance and readiness testing.</p>	<p>Maintain current data</p> <p>Monthly</p>	MKEC	40 CFR 60.4211 (Subpart III)	Yes

**Table 8b- Recordkeeping Requirements from TP-0068**

Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
5	<p><u>VOC Emission Statements Recordkeeping Requirements</u>                      Record the following information:</p> <ul style="list-style-type: none"> <li>a) Identification of each VOC emitting process or device, except processes or devices associated exclusively with non-core activities as defined in Env-A 1204.03(bp);</li> <li>b) The operating schedule information during the high ozone season (June 1 through August 31) for each VOC emitting device or process identified in a. above, including:                             <ul style="list-style-type: none"> <li>(i) Typical hours of operation per day; and</li> <li>(ii) Typical days of operation per calendar month.</li> </ul> </li> <li>c) The following VOC emission data from each VOC-emitting process or device identified in a. above, including:                             <ul style="list-style-type: none"> <li>(i) Actual VOC emissions for:                                     <ul style="list-style-type: none"> <li>a.) The calendar year, in tons; and</li> <li>b.) A typical high ozone season day during that calendar year, in pounds per day; and</li> </ul> </li> <li>(ii) The emission factors and the origin of the emission factors used to calculate the VOC emissions.</li> </ul> </li> </ul>	Maintain current Data	MKEC	Env-A 904.02	Yes
6	<p><u>General NO<sub>x</sub> Recordkeeping Requirements</u>                      Record the following information:</p> <ul style="list-style-type: none"> <li>a) Identification of each fuel burning device;</li> <li>b) Operating schedule during the high ozone season (June 1 through August 31) for each fuel burning device identified in a., above, including:                             <ul style="list-style-type: none"> <li>(i) Typical hours of operation per day;</li> <li>(ii) Typical days of operation per calendar month;</li> <li>(iii) Number of weeks of operation;</li> <li>(iv) Type and amount of each fuel burned;</li> <li>(v) Heat input rate in MMBtu/hr;</li> <li>(vi) Actual NO<sub>x</sub> emissions for the calendar year and a typical high ozone day during that calendar year; and</li> <li>(vii) Emission factors and the origin of the emission factors used to calculate the NO<sub>x</sub> emissions.</li> </ul> </li> </ul>	Maintain Up-to-Date Data	MKEC	Env-A 905.02	Yes

**VIII. Compliance with Reporting Requirements**

Table 9 below, taken from TV-0055, lists the applicable reporting requirements for the facility and any deficiencies noted during the evaluation.

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
1.	<p><u>CEMS Recertification Notifications and Reports:</u></p> <p>a) The Permittee shall notify EPA and DES by telephone or in writing and not later than 21 days prior to the first scheduled day of full recertification testing and at least 7 calendar days prior to the first scheduled day of partial recertification testing (when all of the tests are not required). In emergency situations when equipment fails with lost data, the Permittee may provide notice within 2 business days following the date when testing is scheduled. If the testing is rescheduled, the Permittee may notify DES and EPA by telephone or other means within 2 business days prior to the scheduled test date or the revised test date, whichever is earlier.</p> <p>b) Within 45 calendar days after completing all recertification tests, the Permittee shall submit to EPA and DES the electronic and hardcopy information contained in 40 CFR 75.63.</p> <p>c) Pursuant to Env-A 3212.14 and Env-A 2910.10, the permittee shall submit an application to DES within 45 days after completing all initial certification or recertification tests including the information required under 40 CFR 75, Subpart H.</p> <p>d) Pursuant to Env-A 2910.07, the permittee shall also submit written notification required pursuant to 40 CFR 75.61 to the ATS administrator.</p>	7 days prior to partial recertification, 21 days prior to full recertification, and 45 days after all recertification tests	MK1 & MK2	40 CFR §75.61 (a)(1), 75.70, 75.63, and 75.73(d) and Env-A 3212 and 2910	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
2.	<p><u>Relative Accuracy Test Audit (RATA) Notification and Reports:</u></p> <p>a) The Permittee shall submit written notice to DES no later than 21 calendar days prior to the first scheduled day of testing. If the testing is rescheduled, the Permittee may notify DES by telephone or other means no later than 24-hours in advance of the new testing date. Pursuant to Env-A 808.07, PSNH shall notify DES at least 30 days prior to the performance of the RATA. DES shall require rescheduling of the RATA if staff necessary to observe the RATA are not available.</p> <p>b) If requested, the Permittee shall submit the quality assurance RATA reports to EPA and DES by the later of 45 days after completing a quality assurance RATA or 15 days of receiving the request.</p> <p>c) Pursuant to Env-A 2910.07, the permittee shall also submit written notification required pursuant to 40 CFR 75.61 to the ATS administrator.</p>	21 calendar days prior to RATA	MK1 & MK2	40 CFR §75.61 (a)(5), §75.73(d), Env-A 3212.11, Env-A 2910, Env-A 808.05, and Env-A 808.07(c) and (d)	Yes
3.	<p><u>CEMS Performance Specification Testing Reports:</u></p> <p>a) DES shall be notified of the date or dates of the performance specification testing at least 30 days prior to the scheduled dates.</p> <p>b) The owner or operator shall submit to DES a written report summarizing the results of testing within 45 days of the completion of the test.</p>	30-day notice to DES prior to test; test report to DES 45 days after the test	MK1 & MK2	Env-A 808.05	Yes
4.	<p><u>CEMS General Audit Notification Requirements:</u></p> <p>The owner or operator shall notify DES at least 2 weeks prior to any planned audit or test procedure except for RATAs, where the owner or operator shall provide at least 30 days notice prior to the performance of the RATA.</p>	2 weeks prior to any planned audit or test procedure and at least 30 days prior to the RATA.	MK1 & MK2	Env-A 808.07(c) and (e)	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
5.	<p><u>Monitoring and QA/QC Plan Submittals:</u></p> <p>a) Electronic copy: The Owner or Operator shall submit a complete, electronic, up-to-date monitoring plan to EPA and DES as follows:</p> <ul style="list-style-type: none"> <li>(i) No later than 21 days prior to the initial certification tests;</li> <li>(ii) At the time of recertification application submission;</li> <li>(iii) In each electronic quarterly report (Item #6 of Table 11); and</li> <li>(iv) Whenever an update of the electronic monitoring plan information is required under 40 CFR 75.53(b).</li> </ul> <p>b) Hardcopy: The Owner or Operator shall submit all of the hardcopy information required by 40 CFR 75.53 to EPA and DES prior to initial certification. Thereafter, the Owner or Operator shall submit hardcopy information only if that portion of the monitoring plan is revised. The Owner or Operator shall submit the required hardcopy information as follows: no later than 21 days prior to the initial certification test; with any certification or recertification application, if a hardcopy monitoring plan change is associated with the certification or recertification event; and within 30 days of any other event with which a hardcopy monitoring plan change is associated, pursuant to 40 CFR 75.53(b). Electronic submittal of all monitoring plan information, including hardcopy portions, is permissible provided that a paper copy of the hardcopy portions can be furnished upon request.</p> <p>c) Contents: The monitoring plan shall contain the information specified in 40 CFR 75.53.</p> <p>d) Format: The designated representative shall submit each monitoring plan in a format specified by EPA.</p>	As specified	MK1, MK2, MKCT1, & MKCT2	40 CFR §75.62, §75.73(d) and (e), Env-A 808.04, Env-A 808.06, Env-A 3212, and Env-A 2910	Yes
6.	<p><u>Quarterly Reports:</u></p> <p>a) The Permittee shall submit to DES and EPA in electronic format or other format as approved by DES and/or EPA 30 calendar days after the end of the calendar quarter the information contained in 40 CFR 75.64(a), 40 CFR 75.73(f), 40 CFR 75.74, Env-A 2912, Env-A 3212, Env-A 3214, Env-A 808.11(new), and Env-A 808.13 (new) and the following information:</p>	30 calendar days after the end of the calendar quarter	MK1, MK2	40 CFR §75.64, §75.73(f), §75.57(f), §75.74, 40 CFR 70.6(a)(3)(iii), Env-A 2910, Env-A 2911,	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	(i) Opacity, SO <sub>2</sub> , NO <sub>x</sub> , and CO <sub>2</sub> emissions as calculated by the CEMS. (ii) The 24-hour averages of the following shall be reported, whether or not an excess emission has occurred: a.) SO <sub>2</sub> lb/MMBtu, SO <sub>2</sub> ppm, and SO <sub>2</sub> lb/hr; b.) NO <sub>x</sub> lb/MMBtu, NO <sub>x</sub> ppm, and NO <sub>x</sub> lb/hr; c.) Percent CO <sub>2</sub> and CO <sub>2</sub> lb/hr as measured by continuous monitor/recorder; d.) Stack volumetric flow rate (in kscfm); e.) Load (in MW); f.) Steam flow (in klbs/hr); g.) Heat input (MMBtu/hr); h.) Opacity (in percent); i.) Fuel flow (in tons/day); j.) Hours of operation (in hours/day); and k.) Ammonia usage (in gallons/day). (iii) Excess emission data recorded by the CEM system, including the following: a.) The date and time of the beginning and ending of each of excess emissions; b.) The magnitude of each excess emission; c.) The specific cause of the excess emission; and d.) The corrective action taken. (iv) If no excess emissions have occurred, a statement to that effect; (v) For gaseous emission monitoring systems, the daily averages of the measurements made and emissions rates calculated. (vi) A statement as to whether the CEM system was inoperative, repaired, or adjusted during the reporting period; (vii) If the CEM system was inoperative, repaired, or adjusted during the reporting period, the following information: a.) The date and time of the beginning and ending of each period when the CEM was inoperative; b.) The reason why the CEM was not operating; c.) The corrective action taken; and d.) The percent data availability calculated in accordance with Env-A 808.10 for each			Env-A 3212, Env-A 3214, Env-A 808.11(new), Env-A 808.13 (new) & Temporary Permits TP-B-0462 & TP-B--0054	

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	<p>flow, diluent, or pollutant analyzer in the CEM system;</p> <p>(viii) The date and time beginning and ending each period when the source of emissions which the CEM system is monitoring was not operating;</p> <p>(ix) When calibration gas is used, the following information:</p> <p>a.) The calibration gas concentration;</p> <p>b.) If a gas bottle was changed during the quarter:</p> <ol style="list-style-type: none"> <li>1. The date of the calibration gas bottle change;</li> <li>2. The gas bottle concentration before the change; and</li> <li>3. The gas bottle concentration after the change; and</li> </ol> <p>c.) The expiration date for all calibration gas bottles used.</p> <p>(x) Excess emissions of SO<sub>2</sub> shall be defined as an annual SO<sub>2</sub> emission, which exceeds the state acid rain emission limitation, as calculated from CEM data.</p> <p>b) The designated representative shall affirm that the component/system identification codes and formulas in the quarterly electronic reports represent current operating conditions.</p> <p>c) The designated representative shall submit a certification in support of each quarterly emissions monitoring report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored.</p> <p>d) The certification shall indicate whether the monitoring data submitted were recorded in accordance with the applicable requirements of this part including the quality control and quality assurance procedures and specifications of 40 CFR 75, and any such requirements, procedures and specifications of an applicable excepted or approved alternative monitoring method.</p> <p>e) For a unit with add-on emission controls, the designated representative shall also include a certification, for all hours where data are substituted following the provisions of 40 CFR 75.34(a)(1), that the add-on emission controls were operating within the range of parameters</p>				

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	<p>listed in the monitoring plan and that the substitute values recorded during the quarter do not systematically underestimate SO<sub>2</sub> or NO<sub>x</sub> emissions, pursuant to 40 CFR 75.34.</p> <p>f) For a unit that is reporting on a control period basis, the designated representative shall also include a certification that the NO<sub>x</sub> emission rate and NO<sub>x</sub> concentration values substituted for missing data under 40 CFR 75 Subpart D are calculated using only values from a control period and do not systematically underestimate NO<sub>x</sub> emissions.</p> <p>g) Pursuant to Env-A 3212.15(e) and Env-A 2910.11(a)(3), the quarterly reports shall be submitted in the manner specified in 40 CFR 75, Subpart H and 40 CFR 75.64.</p> <p>h) Pursuant to Env-A 3212.15(f) and Env-A 2910.11(a)(4), for MK1 &amp; MK2, the quarterly reports shall include all of the data and information required in 40 CFR Subpart H and 40 CFR Subpart G.</p> <p>i) Pursuant to Env-A 3214.01 and Env-A 2911.01, the owner or operator shall also submit emissions and operations information in electronic format as part of the quarterly reports.</p> <p>j) Pursuant to Env-A 3214.02, the owner or operator shall also submit to the NETS administrator in the quarterly reports, NO<sub>x</sub> emissions in lb/hr for every hour during the control period and cumulative quarterly and seasonal NO<sub>x</sub> emission data in pounds.</p> <p>k) Pursuant to Env-A 2911.02, the owner or operator shall also submit to the ETS administrator in the quarterly reports, SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> emissions in lb/hr for every hour during the year and cumulative quarterly and annual SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> emissions data in pounds.</p>				
7.	<p><u>Excess Emissions Requirements</u>                      If either of these devices has excess emissions of NO<sub>x</sub> or SO<sub>2</sub> in any calendar year, then the owner or operator shall submit a proposed offset plan, as required under 40 CFR 77. The owner or operator of an affected source that has excess emissions in any calendar year shall:</p> <p>a) Pay without demand the penalty required, and pay upon demand the interest on that penalty, as required by 40 CFR 77.6; and</p>	<p>Within 60 days after the end of any calendar year where a unit has excess emissions of sulfur dioxide or nitrogen oxide</p>	<p>MK1 &amp; MK2</p>	<p>40 CFR §72.9(e)</p>	<p>Yes</p>

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	b) Comply with the terms of an approved offset plan, as required by 40 CFR 77.3.				
8.	<u>Offset Plans for Excess SO<sub>2</sub> Emissions:</u> The Permittee shall submit an offset plan no later than 60 days after the end of any calendar year during which a unit has excess SO <sub>2</sub> emissions. The offset plan shall contain the information pursuant to 40 CFR 77.3.	Within 60 days after the end of any calendar year where a unit has excess emissions of sulfur dioxide	MK1 & MK2	40 CFR §77.3	Yes
9.	<u>Quarterly Audit Reports:</u> Pursuant to Env-A 808.07 (new), the Permittee shall submit to DES, a written summary report of the results of all required audits that were performed in that quarter, in accordance with the following: a) For gaseous CEM audits, the report format shall conform to that presented in 40 CFR 60, Appendix F, Procedure 1, Section 7; and b) For opacity CEM audits, the report format shall conform to that presented in EPA-600/8-87-025, April 1992, "Technical Assistance Document: Performance Audit Procedures for Opacity Monitors."	Quarterly, no later than 30 calendar days after the end of the quarter for which reporting is required	MK1 & MK2	Env-A 808.07 (new)	Yes
10.	<u>Net Thermal and Electrical Output Reporting:</u> The facility shall report the net thermal and electrical output of each affected source for each month of the calendar year to DES.	Annually (no later than April 15 <sup>th</sup> of the following year)	MK1, MK2, MKCT1, & MKCT2	Env-A 2906.05(g) & Env-A 3207.04(h)	Yes
11.	<u>Coal Quarterly Reports:</u> Quarterly reports shall be submitted to DES, which include the following information for each coal shipment. The data shall be summarized on a monthly basis. Submittal of the "Monthly Report of Cost and Quality of Fuel for Electric Plants", will satisfy the requirements of this condition. a) The shipment date; b) The weight of coal received in tons; c) Identification of the mine from which the coal came from; d) The ash content in weight percent of the coal; e) The sulfur lb/MMBtu content of coal or the weight percent of sulfur in the coal; and f) The gross heat content of the coal in Btu/lb.	Within 30 days after each calendar quarter	MK1 & MK2	Env-A 910 & Temporary Permits FP-T-0054 & TP-B-0462 (State Enforceable Only)	Yes
12.	<u>Performance Test Reports:</u> The Permittee shall submit a report to DES documenting the results of the compliance stack emission test. The compliance	No later than 60 days after a performance test	Facility wide	Env-A 802.11 (new)	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	stack emission test report shall contain the following information: a) All the information required for the pre-test protocol as described in Env-A 802.04; b) All test data; c) All calibration data; d) Process data agreed by DES and the Permittee to be collected; e) All test results; f) A description of any discrepancies or problems that occurred during testing or sample analysis; g) An explanation of how discrepancies or problems were treated and their effect on the final results; and h) A list and description of all equations used in the test report, including sample calculations for each equation used.				
13.	<u>Quarterly Fuel Usage Report:</u> Monthly fuel usage information by device, fuel type, and sulfur content shall be submitted in writing to the DES.	Within 30 days after the end of a calendar quarter	MK1, MK2, MKCT1, MKCT2	Env-A 910 & Temporary Permits FP-T-0054 & TP-B-0462 and Env-A 907.02 State-Only Enforceable	Yes
14.	<u>NO<sub>x</sub> Reporting Requirements:</u> The Permittee shall submit reports of the NO <sub>x</sub> records kept pursuant to the Section VIII. I. Table 10.	Annually (no later than April 15 <sup>th</sup> of the following year)	MK1, MK2, MKCT1, MKCT2, MKEG, & MKEB	Env-A 909.03 (formerly Env-A 901.09)	Yes
15.	<u>Ammonia Consumption of SCR Systems:</u> Submit monthly ammonia consumption for each SCR System (MK1-PC3 and MK2-PC6) during the calendar year.	Annually (no later than April 15 <sup>th</sup> of the following year)	MK1-PC3 & MK2-PC6	Env-A 609.05 & Temporary Permits FP-T-0054 & TP-B-0462	Yes
16.	<u>Regulated Toxic Air Pollutant Reports:</u> The Permittee shall report actual emissions speciated by individual regulated toxic air pollutants, including a breakdown of VOC emission compounds.	Annually (no later than April 15 <sup>th</sup> of the following year)	All devices subject to RSA 125-I and Env-1400	Env-A 907.01 (new) State-Only Enforceable	Yes
17.	<u>Semi-Annual Permit Deviation/Monitoring Reports:</u> The Permittee shall submit a permit deviation/monitoring report of the data specified in	Semiannually (by July 31 <sup>st</sup> and January 31 <sup>st</sup> of	Facility wide	40 CFR 70.6(a)(3)(iii) (A)	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	<p>Table 9 of this Permit every 6 months. All required reports must be certified by a responsible official consistent with 40 CFR 70.5(d). The report shall contain a summary of the following information, unless this information was provided to DES pursuant to another requirement:</p> <ul style="list-style-type: none"> <li>a) Visible emission/opacity test results;</li> <li>b) Summary showing monthly average sulfur content of the liquid and solid fuels from testing and/or delivery ticket and/or other documentation certifications for liquid and solid fuel sulfur content;</li> <li>c) Fuel consumption for all combustion devices except for MK1 &amp; MK2;</li> <li>d) Coal throughput for the coal crushers;</li> <li>e) Any fields out of service in any of the ESP's during the reporting period, including the time the field stopped operating, the reason for the field being out of service, the time the field was returned to service, and any corrective action taken; and</li> <li>f) All instances of deviations from Permit requirements.</li> </ul>	each calendar year)			
18.	<p><u>ESP Reports:</u></p> <ul style="list-style-type: none"> <li>a) Within 24 hours of discovery of more than 7 fields out of service on MK1-PC1 and MK1-PC2 combined, the owner or operator shall notify (e.g., via call or email, etc.) DES on the next business day of the number of fields out of service in any of the ESPs.</li> <li>b) Within 24 hours of discovery of more than 8 fields out of service on MK2-PC4 and MK2-PC5 combined, the owner or operator shall notify (e.g., via call or email, etc.) DES on the next business day of the number of fields out of service in any of the ESPs.</li> </ul>	Each occurrence	MK1-PC1, MK1-PC2, MK2-PC4 & MK2-PC5	40 CFR 70.6 (a)(3)(iii)(B)	Yes
19.	<p><u>Prompt Reporting of Permit Deviations:</u> The Permittee shall promptly report deviations from permit requirements by phone, fax or e-mail in accordance with Section XXVIII of this permit and Env-A 911 (new).</p>	Within 24 hours of discovery of occurrence	Facility wide	Env-A 911 & 40 CFR 70.6 (a)(3)(iii)(B)	Yes
20.	<p><u>Certification by the Designated Representative or the Alternate Designated Representative:</u> Any document submitted under the Acid Rain program shall be signed and certified by the designated representative or the alternate designated</p>	With each submittal	MK1 & MK2	40 CFR §72.21	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	representative and include the statements pursuant to 40 CFR 72.21 (a)(1) and (2).				
21.	<u>Certification by a Responsible Official:</u> Any application form, report, or compliance certification submitted to the DES and/or EPA shall contain certification by a responsible official of truth, accuracy, and completeness as outlined in Section XXI.B of this permit.	With each submittal	Facility wide	40 CFR 70.5 (d)	Yes
22.	<u>Emissions Reporting and Emissions Fees:</u> The Permittee shall submit reports of actual emissions of all significant and insignificant activities and payment of emissions-based fees in accordance with Env-A 700 and Section XXIII of this permit.	Quarterly payment on the 15 <sup>th</sup> day of the 2 <sup>nd</sup> quarter after actual emissions occurred; Reporting of actual annual emissions done annually by April 15 <sup>th</sup> the following year	Facility wide	Env-A 907.01 (new) & Env-A 705.03 & 705.04	Yes
23.	<u>NO<sub>x</sub> Budget Program Annual Compliance Certification:</u> For each control period (May 1 to September 30 of each year), the AAR for each budget source shall submit an annual compliance certification to DES containing the information specified in Env-A 3216.03.	November 30 <sup>th</sup> each calendar year	MK1, MK2, MKCT1, MKCT2	Env-A 3216 State-Only Enforceable	Yes
24.	<u>Multi-pollutant Budget and Trading Program Annual Compliance Certification:</u> The Permittee shall submit an annual compliance certification to DES for the prior year containing all of the information listed in Env-A 2913.03(a) through (e).	By January 30 <sup>th</sup> of each year, beginning in 2007	MK1 & MK2	Env-A 2913.01, 2913.02, & 2913.03 State-Only Enforceable	Yes
25.	<u>Annual Title V Compliance Certification:</u> The Permittee shall submit an annual compliance certification in accordance with Section XXI of this permit.	Annually (no later than April 15 <sup>th</sup> of the following year)	Facility wide	40 CFR 70.6(c)(1)	Yes
26.	<u>NSPS Subpart Dc Initial Notification Requirements for the Emergency Boiler:</u> Each time the owner or operator brings in an Emergency Boiler to the PSNH Merrimack Station, the owner or operator shall furnish the EPA and DES written notification of the date of construction or reconstruction, anticipated startup, and actual startup, as provided by 40 CFR 60, Subpart A, Section 60.7. This notification shall	As stated for each installation of an Emergency Boiler	MKEB	40 CFR 60 Subpart Dc §60.48c(a)	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	include: a) The design heat input capacity of the boiler and identification of fuels to be combusted in the boiler; b) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for the boiler (e.g., a copy of this permit); and c) The annual capacity factor at which the facility anticipates operating the boiler based on all fuels combined and each individual fuel. Notification of the date of construction/installation of the boiler is commenced is due no later than 30 days after such date. Notification of the anticipated initial startup of the boiler, must be postmarked not more than 60 days nor less than 30 days prior to the initial startup date. Notification of the actual date of initial startup of the boiler is commenced must be postmarked within 15 days after the initial startup date.				
27.	<u>NSPS Subpart Dc Performance Test Report for the Emergency Boiler:</u> Each time the owner or operator brings in an Emergency Boiler for operation, the owner or operator shall submit to EPA and DES results of the performance test for opacity and the fuel supplier certification for the first load of No. 2 fuel oil or on-road low sulfur diesel oil for consumption in the Emergency Boiler.	Within 60 days of completion of testing	MKEB	40 CFR 60 Subpart Dc §60.48c(b)	Yes
28.	<u>NSPS Subpart Dc Semi-annual Fuel Report for the Emergency Boiler:</u> The owner or operator shall submit semi-annual reports to EPA and DES, postmarked within 30 days following the end of the reporting period, including: a) Calendar dates covered in the reporting period; b) Each 30-day average sulfur content (weight percent) for each fuel type (No. 2 fuel oil and on-road low sulfur diesel oil) for each 30-day period during the reporting period; reasons for any non-compliance with the emission standards; and description of corrective actions taken. c) If fuel supplier certification is used to demonstrate compliance, the fuel supplier certification must include the name of the fuel supplier, a statement that the fuel oil complies with specifications under the definition of	Semi-annually, (by July 31 <sup>st</sup> and January 31 <sup>st</sup> of each calendar year) within 30 days following the end of the reporting period to DES and EPA	MKEB	40 CFR 60 Subpart Dc §60.48c(d), (e), & (j)	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	<p>distillate oil for fuel oil no. 2 in 40 CFR 60.41c , and the sulfur content or maximum sulfur content of the no. 2 fuel oil and the on-road low sulfur diesel fuel oil.</p> <p>d) A certified statement by the responsible official that the fuel supplier certification represents all of the fuel combusted during the period.</p>				
30.	<p><u>CO<sub>2</sub> Budget Trading Program Reports</u>                      The CO<sub>2</sub> AAR shall submit quarterly reports as follows:</p> <p>a) The CO<sub>2</sub> AAR shall report the CO<sub>2</sub> mass emissions data for the CO<sub>2</sub> budget unit, in an electronic format prescribed by the Administrator unless otherwise prescribed by the regional organization, for each calendar quarter beginning with the calendar quarter covering January 1, 2009 through March 31, 2009;</p> <p>b) The CO<sub>2</sub> AAR shall submit each quarterly report to the regional organization within 30 days following the end of the calendar quarter covered by the report, in the manner specified in Subpart H of 40 CFR 75 and 40 CFR 75.64;</p> <p>c) Quarterly reports shall be submitted for each CO<sub>2</sub> budget unit which include all of the data and information required in Subpart G of 40 CFR 75, except for opacity, NO<sub>x</sub>, and SO<sub>2</sub> provisions; and</p> <p>d) The CO<sub>2</sub> AAR shall include a compliance certification with, and in support of, each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:</p> <p>(i) The monitoring data submitted were recorded in accordance with the applicable requirements of both 40 CFR 75 and Env-A 4600, including the quality assurance procedures and specifications; and</p> <p>(ii) The CO<sub>2</sub> concentration values substituted for missing data under Subpart D of 40 CFR 75 do not systematically underestimate CO<sub>2</sub> emissions.</p>	Quarterly (no later than 30 days following the end of each quarterly reporting period)	MK1 & MK2	Env-A 4609.16(c)	Yes
31.	<p><u>Certification by the CO<sub>2</sub> Authorized Account Representative</u>                      Any submission under the CO<sub>2</sub> budget trading</p>	With each submittal	MK1 & MK2	Env-A 4604.01(e)	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	program shall be signed and certified by the CO <sub>2</sub> Authorized Account Representative and shall include the certification statement pursuant to Env-A 4604.01(e).				
32.	<p><u>CO<sub>2</sub> Budget Program Annual Compliance Certification</u></p> <p>a) For each control period in which a CO<sub>2</sub> budget source is subject to the requirements of Env-A 4605, the CO<sub>2</sub> AAR of the source shall submit to the Department by March 1 following the relevant control period, a compliance certification report.</p> <p>b) The CO<sub>2</sub> AAR shall include in the compliance certification report under (a), above, the following elements, in a format prescribed by the Department:</p> <p>(i) Identification of the source and each CO<sub>2</sub> budget unit at the source;</p> <p>(ii) At the CO<sub>2</sub> AAR's option, the serial numbers of the CO<sub>2</sub> allowances that are to be deducted from the source's compliance account under Env-A 4605.06 for the control period, including the serial numbers of any CO<sub>2</sub> offset allowances that are to be deducted subject to the limitations of Env-A 4605.04; and</p> <p>(iii) The compliance certification specified in (c), below.</p> <p>c) In the compliance certification report required by A), above, the CO<sub>2</sub> AAR shall certify, based on reasonable inquiry of those individuals with primary responsibility for operating the source and the CO<sub>2</sub> budget units at the source in compliance with the CO<sub>2</sub> Budget Trading Program, whether the source and each CO<sub>2</sub> budget unit at the source for which the compliance certification is submitted was operated during the calendar years covered by the report in compliance with the requirements of the CO<sub>2</sub> Budget Trading Program, including:</p> <p>(i) Whether the source was operated in compliance with the requirements of Env-A 4605;</p> <p>(ii) Whether the monitoring plan applicable to each unit at the source has been maintained to reflect the actual operation and monitoring of the unit, and contains all</p>	By March 1 (following the relevant control period), beginning March 1, 2012 and every 3 years thereafter	MK1 & MK2	Env-A 4605.09	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	<p>information necessary to attribute CO<sub>2</sub> emissions to the unit, in accordance with Env-A 4609;</p> <p>(iii) Whether all CO<sub>2</sub> emissions from the units at the source were monitored or accounted for through the missing data procedures specified in 40 CFR 75 Subpart D, or 40 CFR 75 appendix D or appendix E and reported in the quarterly monitoring reports, including whether conditional data were reported in the quarterly reports in accordance with Env-A 4609. If conditional data were reported, the Owner or Operator shall indicate whether the status of all conditional data has been resolved and all necessary quarterly report resubmissions have been made;</p> <p>(iv) Whether the facts that form the basis for certification under Env-A 4609 of each monitor at each unit at the source, or for using an excepted monitoring method or alternative monitoring method approved under Env-A 4609, if any, have changed; and</p> <p>(v) If a change is required to be reported under (c)(iv), above, the nature of the change, the reason for the change, when the change occurred, and how the unit's compliance status was determined subsequent to the change, including what method was used to determine emissions when a change mandated the need for monitor recertification.</p>				
33.	<p><u>Representative Actual Annual Emissions Reporting Requirements:</u>                      PSNH shall submit to DES annually, SO<sub>2</sub>, NO<sub>x</sub>, CO, PM, and VOC emissions in tons/month and consecutive 12-month period for MK1 and MK2.</p>	Annually (no later than April 15 <sup>th</sup> the following year)	MK2	40 CFR 52.21(b)(21) and (33), dated July 1, 2002 and Env-A 910 (new)	Yes
34.	<p><u>Notification Requirements</u>                      a) Pursuant to Env-A 3212.09, the permittee shall comply with the notification requirements of Env-A 3212.07 and 40 CFR 75.20(f) for MKCT1 &amp; MKCT2                      b) Pursuant to Env-A 3212.11, for MKCT1 &amp; MKCT2, the permittee shall submit written</p>	As specified	MKCT1 & MKCT2	Env-A 3212	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	notification to DES only.				
35.	<p><u>Quarterly Reports for MKCT1 and MKCT2</u>                      The Permittee shall submit to DES and EPA in electronic format or other format as approved by DES and/or EPA the information as follows:</p> <p>a) Pursuant to Env-A 3212.15(b), the owner or operator shall either meet all of the requirements related to 40 CFR 75 related to monitoring and reporting NO<sub>x</sub> mass emissions during the entire year or submit quarterly only for the periods from the earlier of May 1 or the date and hour that the owner or operator successfully completes all of the recertification tests required in accordance with 40 CFR 75.74 through September 30<sup>th</sup> of each year in accordance with 40 CFR 75.74(b);</p> <p>b) Pursuant to Env-A 3212.15(e), the quarterly reports shall be submitted in the manner specified in 40 CFR 75, Subpart H and 40 CFR 75.64;</p> <p>c) Pursuant to Env-A 3212.15(g), the quarterly reports shall include all of the data and information required in 40 CFR 75 Subpart H; and</p> <p>d) Pursuant to Env-A 3214.02, the owner or operator shall also submit to the NETS administrator NO<sub>x</sub> emissions in lb/hr for every hour during the control period and cumulative quarterly and seasonal NO<sub>x</sub> emission data in pounds.</p>	30 calendar days after the end of the 2 <sup>nd</sup> and 3 <sup>rd</sup> calendar quarter	MKCT1 & MKCT2	Env-A 3212, Env-A 3214, 40 CFR 75, Subpart G & H	Yes
36.	<p><u>VOC Reporting Requirements</u>                      The owner or operator shall submit each the following information:</p> <p>a) A) Facility information, including the following:                      (i) Source name;                      (ii) Source industrial classification (SIC) code;                      (iii) Physical address; and                      (iv) Mailing address;</p> <p>b) Identification of each VOC emitting device or process;</p> <p>c) Operating schedule information for each VOC emitting device, including the following:                      (i) A typical business day;                      (ii) A typical high ozone season day, if different from a typical business day.</p>	Annually (no later than April 15 <sup>th</sup> of the following year	MK1, MK2, MKCT1, MKCT2, MKEG, & MKEB	Env-A 908 (formerly Env-A 901.07)	Yes

Table 9- Reporting Requirements					
Item #	Requirement	Frequency	Applicable Emission Unit	Rule Citation	Compliant
	d) Total quantities of actual VOC emissions fro the entire facility and for each device or process including the following: (i) Annual VOC emissions, in tons; and (ii) Typical high ozone season day VOC emissions, in pounds per day.				

Table 9a, below, lists the additional reporting requirements for the facility from TP-0008 and any deficiencies noted during the inspection.

Table 9a- Reporting Requirements from TP-0008					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
1.	<u>Performance Test Reports</u> The Owner shall submit a report to DES documenting the results of the compliance stack emission test. The compliance stack emission test report shall contain the following information: a) All the information required for the pre-test protocol per Env-A 802.04; b) All test data; c) All calibration data; d) Process data agreed by DES and the Owner to be collected; e) All test results; f) A description of any discrepancies or problems that occurred during testing or sample analysis; g) An explanation of how discrepancies or problems were treated and their effect on the final results; and h) A list and description of all equations used in the test report, including sample calculations for each equation used.	No later than 60 days after a performance test	MK1, MK2 & MK2-PC7	Env-A 802.11	Yes
<b>Finding: See Table 9, Item #12.</b>					
2.	<u>Quarterly Reports</u> The Owner shall submit to DES no later than 30 calendar days after the end of the calendar quarter, the information required in Table 7, Item 4 of TP-0008.	Quarterly – 30 calendar days after end of calendar quarter	MK1, MK2, MK2-PC7	40 CFR 75, Env-A 808.11	Yes

Table 9a- Reporting Requirements from TP-0008					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
3.	<p><u>Semi-annual Report</u>                      The Owner shall submit to DES the following information on a semi-annual basis:</p> <p>a) Hours of operation of MK1 and MK2 as required in Table 7, Item 5 of TP-0008; and</p> <p>b) Limestone records as required in Table 7, Item 2 of TP-0008.</p>	Semi-annual	MK1, MK2, MKLC1	Env-A 910	Yes
4.	<p><u>Annual Emissions Compliance Report for Mercury</u>                      The Owner shall submit to DES a report of annual mercury emissions from the affected sources to demonstrate compliance with Item 13 of Table 4 of TP-0008. This report shall include all references and methodologies used to calculate the total mercury emissions from the affected sources.</p>	Annually by April 15 <sup>th</sup> of each calendar year	Affected Sources as defined in RSA 125-O:12	Env-A 910	Unknown
<p><b>Finding: This requirement is effective as of July 1, 2013. Therefore, the first annual emissions compliance report for mercury will be due April 15, 2014.</b></p>					

Table 9b, below, lists the additional reporting requirements for the facility from TP-0068 and any deficiencies noted during the inspection.

Table 9b- Reporting Requirements from TP-0068					
Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
1	<p><u>Annual Emissions Report</u>                      Submit an annual emissions report which shall include the following information:</p> <p>a) Actual calendar year emissions from each emission unit of NO<sub>x</sub>, CO, SO<sub>2</sub>, TSP, VOCs, and HAPs (speciated by individual HAP);</p> <p>b) The methods used in calculating such emissions in accordance with Env-A 705.02, <i>Determination of Actual Emissions for Use in Calculating Emission-Based Fees</i>; and</p> <p>c) All information recorded in accordance with Table 4, Item 2 of TP-0068.</p>	Annually (received by DES no later than April 15 <sup>th</sup> of the following year)	MKEC	Env-A 907.01	Yes

**Table 9b- Reporting Requirements from TP-0068**

Item #	Requirement	Duration/ Frequency	Applicable Unit	Rule Citation	Compliant
2	<p><u>VOC Emission Statements Reporting Requirements</u>                      Include the following information with the annual emission report:</p> <p>a) Facility information, including:</p> <p>(i) . Source name;</p> <p>(ii) Standard Industrial Classification (SIC) code;</p> <p>(iii) North American Industrial Classification System (NAICS) code;</p> <p>(iv) Physical and mailing addresses; and</p> <p>b) A breakdown of VOC emissions reported pursuant to Table 5, Item 1 by month; and</p> <p>c) All data recorded pursuant to Table 4, Item 5 of TP-0068</p>	Annually (received by DES no later than April 15th of the following year)	MKEC	Env-A 908	Yes
3	<p><u>NO<sub>x</sub> Emission Statements Reporting Requirements</u>                      Include the following information with the annual emission report:</p> <p>a) A breakdown of NO<sub>x</sub> emissions reported pursuant to Table 5, Item 1 by month; and</p> <p>b) All data recorded in accordance with Table 4, Item 6 of TP-0068.</p>	Annually (received by DES no later than April 15th of the following year)	MKEC	Env-A 909	Yes

**IX. Permit Deviations**

During this inspection period, the facility has had one reported permit deviation. On July 1, 2013, PSNH-Merrimack notified DES and submitted a permit deviation report for a permit deviation related to the data availability of the SO<sub>2</sub> CEMS for the second quarter of 2012. In accordance with Env-A 808.02(b), “The percent CEM data availability shall be maintained at a minimum of 90% on a calendar quarter basis for all opacity monitors, gaseous concentration monitors, and stack volumetric flow monitors....” As indicated in the 2013 second quarter quarterly report submitted in accordance with Table 9, Item #6 of TV-0055, the percent data availability for the SO<sub>2</sub> CEMS associated with MK2 was 86.7%. According to the permit deviation report, the percent data availability was caused by the MK2 SO<sub>2</sub> CEMS vacuum pump failing on June 3, 2013, causing the CEMS to record invalid data. The vacuum pump was replaced on June 4, 2013.

## **X. Other Findings**

In 2006, RSA 125-O:11-18 was enacted by the NH General Court. The statute requires PSNH to reduce mercury emissions from affected facilities, which include MK1 and MK2 as well as the coal burning units SR4, SR5<sup>1</sup> and SR6 at PSNH's Schiller Station in Portsmouth, NH. On June 7, 2007, in accordance with RSA 125-O:13-I, PSNH filed an initial permit application for the installation and operation of scrubber technology to reduce the mercury emissions.

RSA 125-O:14 prescribed the method to determine the baseline mercury input and baseline mercury emissions from PSNH. On August 30, 2006, pursuant to RSA 125-O:14, III, PSNH submitted to DES a plan to determine the baseline mercury input and baseline mercury emissions. RSA 125-O:13, II provides that the total mercury emissions from the affected sources shall be at least 80% less, on an annual basis, than the baseline mercury input as defined in RSA 125-O:12, III, beginning July 1, 2013.

DES issued a final baseline mercury input determination on June 28, 2011, based on the above mentioned annual throughputs, coal blends and mercury content of coal. In this determination, DES determined the baseline mercury input is 228 pounds per year. On July 28, 2011, PSNH filed a Notice of Appeal to the NH Air Resources Council. As a result, the Air Resources Council remanded this matter to DES for further administrative review. At the time of the inspection report, a final determination is still pending.

On November 29, 2011, pursuant to RSA 125-O:14, II, DES issued a preliminary determination that the baseline mercury emissions from the affected sources is 309 pounds per year. A final determination has not been issued.

## **XI. Enforcement History and Status**

During the inspection period, there has been no enforcement against the facility.

## **XII. Compliance Assistance, Recommendations and Corrective Actions**

During the inspection, no compliance assistance was required and no corrective actions were made that would bring the facility into compliance.

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<sup>1</sup> On June 8, 2006, when RSA 125-O:11-18 became effective, SR5 was an affected unit. On July 18, 2006, DES received notification from PSNH that SR5 was repowered with a wood/coal fired fluidized bed boiler, which is not an "affected source" pursuant to RSA 125-O:2 and RSA 125-O:12.

Based on the findings of this compliance evaluation, DES recommends the following action to bring the facility into compliance with the identified deficiencies and future reporting requirements:

- Operate each CEMS such that they achieve 90% data availability for each calendar quarter.

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Title: Senior Compliance Assessment Engineer

Signed:

