

**Background Information and Technical Support Document for  
Proposed Amendments to  
310 CMR 7.00 et seq.:**

**310 CMR 7.02 “Plan Approval and Emission Limitations”**

**And**

**310 CMR 7.29 “Emissions Standards for Power Plants”**

**and Adoption of**

**310 CMR 7.00: Appendix D “Mercury Monitoring and Testing Program”**

**REGULATORY AUTHORITY  
M. G. L. c. 111, Sections 142A through 142O**

**May 2009**

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## A. SUMMARY

In response to the February 2008 court decision vacating the federal Clean Air Mercury Rule (CAMR), the Massachusetts Department of Environmental Protection (MassDEP) is proposing to adopt amendments to 310 Code of Massachusetts Regulations (CMR) 7.02, *Plan Approval and Emissions Limitations*, and 310 CMR 7.29, *Emissions Standards for Power Plants*, and adopt a new Appendix D - *Mercury Monitoring and Testing Program* to 310 CMR 7.00.

CAMR was promulgated by the U.S. Environmental Protection Agency (EPA) in 2005 to control mercury (Hg) emissions from coal-fired electric generating units nationwide. The regulation was vacated by the U.S. District of Columbia Circuit Court of Appeals on February 8, 2008.<sup>1</sup> In the absence of CAMR, Massachusetts will continue to rely on 310 CMR 7.29 to control Hg emissions from coal-fired power plants in Massachusetts. The four coal-fired power plants subject to 310 CMR 7.29 - Brayton Point, Salem Harbor, Mt. Tom, and NRG Somerset – are the same Massachusetts power plants that were subject to CAMR. The 310 CMR 7.29 standards and caps on Hg emissions for these facilities, which MassDEP adopted in 2004, are more stringent than the compliance dates and emission limits that EPA had established in CAMR. Therefore, the vacatur of CAMR will not lead to increased Hg emissions from these Massachusetts facilities.

MassDEP is proposing these regulatory revisions in order to replace the vacated provisions of 40 CFR Part 75 related to Hg monitoring, reporting and recordkeeping. Under the proposed amendments to 310 CMR 7.29 references to provisions in 40 CFR Part 75 – *Continuous Emissions Monitoring* (Part 75) related to Hg are replaced with references to the proposed Appendix D - *Mercury Monitoring and Testing Program*. Appendix D provides detailed instructions for Hg monitoring, reporting and recordkeeping. It insures that there will be no backsliding from the vacated Part 75 monitoring, quarterly reporting and recordkeeping requirements that MassDEP adopted by reference in its 2007 amendments to 310 CMR 7.29 to meet CAMR requirements. The proposed amendments and Appendix D retain, as alternative Hg monitoring methodologies for 310 CMR 7.29 compliance, continuous emissions monitoring systems (CEMS), sorbent traps, and short-term quarterly stack testing for certain units.<sup>2</sup> Appendix D also specifies how facilities must measure total Hg emissions (both vapor phase and particle bound Hg) and calculate emission reductions for purposes of meeting the removal efficiency standards of 310 CMR 7.29.

In response to CAMR, in 2007 MassDEP also adopted revisions to 310 CMR 7.02 concerning the permitting of new coal-fired power plants. The proposed amendments modify these revisions by replacing references to vacated provisions of 40 CFR Part 60 and 40 CFR Part 75 with references to Appendix D.

## B. BACKGROUND ON CAMR

EPA promulgated CAMR to regulate Hg emissions from coal-fired electric generating units. It established New Source Performance Standards (NSPS) for units constructed on or after January 30, 2004 and established a cap-and-trade program for existing units. Both existing and new coal-

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<sup>1</sup> *State of New Jersey, et al. v. U.S. Environmental Protection Agency*, 517 F.3d 574 (D.C. Cir. 2008)

<sup>2</sup> Currently, Brayton Point and Mt Tom have installed Hg CEMS, Salem Harbor has installed paired sorbent trap monitoring systems and NRG Somerset is stack testing.

fired electric generating units (Hg Budget units) were subject to Phase 1 (2010 to 2017) and Phase 2 (2018 and beyond) State CAMR Hg budgets set by EPA. States that chose not to participate in the national trading program were required to limit emissions from Hg Budget units to an amount that did not exceed the State CAMR budget.<sup>3</sup> CAMR required Hg Budget units to monitor and calculate Hg emissions using the procedures of 40 CFR Part 75 and to comply with the recordkeeping and reporting requirements of Part 75, including submitting electronic data reports of Hg emissions to EPA each calendar quarter beginning January 1, 2009. CAMR required that states submit a State Plan to EPA addressing the CAMR requirements.

Massachusetts, along with eight other states, filed a petition in the U.S. Circuit Court of Appeals for the District of Columbia contending that EPA's regulatory approach under CAMR violated the Clean Air Act. In its February 2008 decision, the Court agreed with the petitioners and CAMR was vacated and remanded to EPA.<sup>4</sup>

## C. MASSACHUSETTS REGULATION OF POWER PLANT MERCURY EMISSIONS

### C.1. 2001 and 2004 Requirements

In 2001, MassDEP adopted 310 CMR 7.29, *Emissions Standards for Power Plants*, setting initial Hg emissions caps on four existing coal-fired power plants. In 2004, MassDEP amended 310 CMR 7.29 to require the four affected facilities to comply with an annual facility-specific Hg cap starting in October 2006 and with Hg emissions standards starting January 1, 2008.<sup>5</sup> The units at the four facilities that are subject to 310 CMR 7.29's Hg provisions are: Brayton Point units 1 to 3, Salem Harbor units 1 to 3, Mt. Tom unit 1 and NRG Somerset unit 8. Under the 2004 amendments the owners and operators of these units must:

- As of October 1, 2006, ensure that the total annual Hg emissions from combustion of solid fossil fuel will not exceed a cap equal to the average annual emissions based on previous stack test results required under 310 CMR 7.29(5)(a)3.c.<sup>6</sup>
- As of January 1, 2008, comply with at least one of the following Hg emissions standards:
  - A facility average total Hg removal efficiency of 85% or greater, or
  - A facility average total Hg emissions rate of 0.0075 pounds/gigawatt hour (lbs/GWh) or less

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<sup>3</sup> Under CAMR, Massachusetts' annual Hg budget was 344 pounds for Phase 1 and 136 pounds for Phase 2. Under 310 CMR 7.29(5)(a)3.c., beginning October 1, 2006, the annual 7.29 facility Hg caps in pounds per year at the 7.29 facilities are: Brayton Point – 14.6.6; Mount Tom 4.1; Salem Harbor 21.2; Somerset 13.1; for a total cap of 185.0. See October 2003 *Background Document and Technical Support for Public Hearings on Proposed Amendments to 310 CMR 7.00 et seq.: 310 CMR 7.29, Emission Standards for Power Plants*. <http://www.mass.gov/dep/toxics/laws/hgtsdx03.pdf>

<sup>4</sup> *State of New Jersey, et al. v. U.S. Environmental Protection Agency*, 517 F.3d 574 (D.C. Cir.2008). The U.S. Supreme Court dismissed petitions appealing the decision on February 23, 2009.

<sup>5</sup> For additional information see the October 2003 *Background Document and Technical Support for Public Hearings on Proposed Amendments to 310 CMR 7.00 et seq.: 310 CMR 7.29, Emission Standards for Power Plants*. See also the May 2004 *Response to Comments on Proposed Amendments to 310 CMR 7.29, Emission Standards for Power Plants* - <http://www.mass.gov/dep/toxics/laws/hgtsdx03.pdf>, <http://www.mass.gov/dep/toxics/laws/hgrtc.pdf>.

<sup>6</sup> Salem Harbor Station entered into an Amended Administrative Consent Order with MassDEP requiring compliance with their 7.29 facility Hg cap beginning October 1, 2005.

- As of October 1, 2012, comply with at least one of the following Hg emissions standards:
  - A facility average total Hg removal efficiency of 95% or greater, or
  - A facility average total Hg emissions rate of 0.0025 lbs/GWh or less
- Beginning October 1, 2006, conduct emissions testing at least every other calendar quarter to demonstrate compliance with the facility's Hg cap
- Beginning January 1, 2008, to demonstrate compliance with the facility's Hg cap and the emissions standards, install, certify and operate CEMS to measure Hg emissions.

## **C.2. 2007 CAMR-Required Amendments to 310 CMR 7.29 and 310 CMR 7.02**

Massachusetts chose not to participate in the CAMR national cap-and-trade program, relying instead on existing 310 CMR 7.29 facility-specific caps and Hg emissions standards to achieve more certain reductions in Hg emissions.<sup>7</sup> The Massachusetts State Plan for CAMR, submitted to EPA in July 2007, included 310 CMR 7.29, which set limits on Hg emissions in Massachusetts at least as stringent as those required by CAMR. The 310 CMR 7.29 caps and standards adopted in 2001 and 2004 did not need to be revised to satisfy CAMR emission limits.

The Massachusetts State Plan for CAMR included amendments to 310 CMR 7.29 promulgated in 2007 to incorporate the CAMR Hg monitoring, recordkeeping and reporting requirements of Part 75. In response to EPA comments, it also included amendments to 310 CMR 7.02, which provided that any new permitted unit would comply with the CAMR NSPS and not cause the state to exceed its CAMR budget.<sup>8</sup> These 2007 revisions are discussed below.

### Monitoring, Recordkeeping and Reporting

As adopted in 2004, 310 CMR 7.29(5)(a)3.g. required facilities, by January 1, 2008 (one year earlier than CAMR), to measure Hg stack emissions using CEMS, which were defined as “a monitoring system for continuously measuring the emissions of a pollutant.” Because CAMR specifically addressed sorbent trap monitoring systems, in 2007 MassDEP amended the definitions in 310 CMR 7.29 to clarify that sorbent trap monitoring systems were allowed under 310 CMR 7.29.<sup>9</sup>

CAMR required Hg Budget units to calculate and report emissions by following the procedures of 40 CFR Part 75 beginning January 1, 2009. This included submitting an electronic data report each calendar quarter containing Hg emissions data. MassDEP amended the recordkeeping and reporting

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<sup>7</sup> In its State Plan MassDEP provided a detailed demonstration that the 310 CMR 7.29 facility caps and emissions standards were more stringent than the CAMR Phase 1 and 2 Hg budgets. That analysis is contained in the *Background Information and Technical Support Document for Proposed Amendments to 310 CMR 7.00 et seq.: 310 CMR 7.02 “Plan Approval and Emission Limitations” and 310 CMR 7.29 “Emissions Standards for Power Plants*, see <http://www.mass.gov/dep/service/regulations/regsarch.htm#camr>.

<sup>8</sup> EPA never proposed any action on the Massachusetts State Plan and likely will take no action until the litigation related to the CAMR vacatur is resolved.

<sup>9</sup> Field demonstrations supervised by joint EPA and industry research groups established that a sorbent trap monitoring system can provide Hg emissions data as accurately as presently available Hg CEMS systems. CEMS provide a stack pollutant reading at least once every 15 minutes, while sorbent trap monitoring systems continuously sample stack pollutant levels, and calculate an average Hg concentration for each hour of the time period (e.g., two weeks) that the sorbent trap is in the stack.

requirements of 310 CMR 7.29 by incorporating by reference the more detailed reporting requirements of 40 CFR Part 75, including the quarterly data reporting. Prior to incorporation of the 40 CFR Part 75 requirements, 310 CMR 7.29 required only annual reporting.

#### Revisions for New Budget Units

Prior to the 2007 amendments, 310 CMR 7.02, which governs permitting of sources of air pollution, required new or modified units to comply with all applicable NSPS. In addition, new or modified units were required to use Best Available Control Technology for Hg emissions, which may be more stringent than NSPS. In CAMR, EPA required that when permitting new sources of Hg, MassDEP demonstrate compliance with the CAMR Hg budgets. Therefore, MassDEP added a new subsection 7.02 (3)(o), *Compliance with the Massachusetts Annual Electric Generating Unit (EGU) Mercury Budget and Mercury Requirements*, giving MassDEP the authority to disapprove an application for a Limited Plan Approval or Comprehensive Plan Approval for a new coal-fired facility if the Hg emissions from the facility under consideration, combined with the total Hg emissions from all existing coal-fired facilities in Massachusetts, would exceed the CAMR Phase 2 Hg budget.

### **D. PROPOSED AMENDMENTS TO ADDRESS CAMR VACATUR**

MassDEP is proposing to add Appendix D and to amend certain provisions of 310 CMR 7.02 and 310 CMR 7.29 to strengthen and clarify requirements for Massachusetts facilities in light of the CAMR vacatur. MassDEP solicits comments only on Appendix D and the specific amendments that are proposed and not on previously decided issues related to 310 CMR 7.02 or 310 CMR 7.29.

#### **D.1 Monitoring Protocols**

In 2007 MassDEP amended 310 CMR 7.29 to incorporate by reference the now-vacated 40 CFR Part 75 monitoring requirements for Hg vapor phase analyzers and paired sorbent trap monitoring systems. It is proposing to replace the references to Part 75 with references to Appendix D. Appendix D will replace the vacated Part 75 provisions related to quality assurance, quality control and testing requirements. The requirements of Appendix D are derived from similar provisions included in Part 75 related to Hg that were eliminated by the CAMR vacatur.

Subsequent to the vacatur, NESCAUM<sup>10</sup> drafted two Hg monitoring protocols to replace the vacated Part 75 provisions in an effort to fill the regulatory gap and to promote regulatory consistency among states that were seeking to adopt monitoring, recordkeeping and reporting requirements consistent with Part 75. The two protocols address two different monitoring approaches – Hg CEMS and sorbent trap monitoring systems. The NESCAUM protocols were excerpted from the essential Part 75 provisions pertaining to Hg, with minor revisions and in a format that is more concise and user-friendly than Part 75.

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<sup>10</sup> NESCAUM is the association of air quality agencies of the states of Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, New Jersey, and New York. It provides scientific, technical, analytical, and policy support to the air quality and climate programs of the eight Northeast states.

MassDEP is using the NESCAUM protocols, modified to accommodate specific requirements of 310 CMR 7.29, as the basis for its proposed Appendix D. The MassDEP modifications include formulas that are specific to demonstrating compliance with the output-based Hg emission rate and percent removal efficiency standards of 310 CMR 7.29, neither of which were addressed in CAMR or in the NESCAUM protocols.

The addition of the percent removal efficiency formulas to Appendix D means that MassDEP no longer needs to approve a methodology for such calculations for each affected facility choosing to comply with the percent removal efficiency standard, as required by the 2004 amendments to 310 CMR 7.29. Associated edits to align 310 CMR 7.29 with the newly-specified percent removal efficiency formulas are:

- amend 310 CMR 7.29(5)(a)3.e.i. to refer to the formulas added in Appendix D,
- delete 310 CMR 7.29(5)(a)3.g.ii., since facilities no longer need to propose a methodology to demonstrate compliance with the % removal efficiency standards, and
- add 310 CMR 7.29(7)(b)5. to specify percent removal efficiency reporting details.

The operating and quality assurance requirements for sorbent trap systems proposed in Appendix D are based on the NESCAUM protocol, which in turn is based on the now-vacated Appendix K to Part 75.<sup>11</sup>

Consistent with Part 75, the NESCAUM protocols require monitoring only of vapor-phase Hg emissions. 310 CMR 7.29 requires facilities to report to MassDEP each January 30 annual emissions of total Hg, which includes both vapor phase and particulate-bound Hg. Therefore, MassDEP has included in the proposed Appendix D instructions for the measurement of both vapor phase and particulate bound Hg.

## **D.2. Reference Test Methods**

In 2005, EPA finalized two Hg reference test methods for testing the accuracy of Hg monitoring systems, Method 30A and Method 30B.<sup>12</sup> Appendix D proposes to allow the use of Methods 30A and B, as well as other Hg reference methods, for compliance testing. In communications with EPA since the CAMR vacatur, EPA staff asserts that Test Methods 30A and 30B in Appendix A-8 to 40 CFR Part 60 were not vacated. MassDEP is, therefore, not reproducing Methods 30A and 30B in their entirety in this rulemaking, instead relying on incorporation of the existing Part 60 requirements by reference in Appendix D.

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<sup>11</sup> 40 CFR Part 75, Appendix K, *Quality Assurance and Operating Procedures for Sorbent Trap Monitoring Systems*, 70 Fed.Reg. 28695 (May 18, 2005), as amended at 72 Fed.Reg. 51528 (September 7, 2007), 72 Fed.Reg. 55279 (September 28, 2007), 73 Fed.Reg. 4376 (January 24, 2008).

<sup>12</sup> US Environmental Protection Agency, *Two Optional Methods for Relative Accuracy Test Audits of Mercury Monitoring Systems Installed on Combustion Flue Gas Stream and Several Related Amendments to Related Mercury Monitoring Provisions; Final Rule* 72 Fed.Reg. 51494 (September 7, 2007). Method 30A uses an instrumental analyzer to measure vapor phase Hg emissions. Method 30B uses sorbent trap sampling and an extractive or thermal analytical technique. Method 30B has been adopted by affected facilities for 7.29 compliance testing. Method 30A has not been used by affected facilities to date due to costs.

MassDEP solicits comment on whether Method 30A and/or 30B in Appendix A-8 to 40 CFR Part 60 should be reproduced in their entirety in Appendix D, rather than incorporated by reference into Appendix D.

### **D.3. Quarterly Electronic Emissions Data Reporting**

MassDEP proposes to retain the Part 75 requirement to report quarterly that it incorporated into 310 CMR 7.29 in the 2007 amendments. The proposed revision to 310 CMR 7.29(7)(h) provides that facilities must submit electronic quarterly reports in a manner that is consistent with Appendix D and as specified by MassDEP. MassDEP expects that for determining compliance with 310 CMR 7.29(5)(a)3.c.i., e.ii. and f.ii., facilities will submit all pertinent hourly data, calculations and quality assurance data for each unit, either by e-mail or electronic storage media, in a spreadsheet file containing data from the data acquisition and handling system (DAHS) currently used by the facilities. No additional software, file format or other equipment is anticipated to be necessary beyond what affected facilities have already installed for ensuring compliance with 310 CMR 7.29(5)(a)3.

### **D.4. Missing Data Substitution**

On occasion, monitors do not function properly and therefore do not accurately measure emissions. This could cause a facility to appear to comply with an annual cap or emission rate standard, when it could actually be exceeding the cap or standard. In order to avoid inaccurate emissions reporting (particularly underreporting), missing data procedures are used to estimate emissions during time periods that a monitor is not functioning properly. The 2007 amendments to 310 CMR 7.29 incorporated by reference the Part 75 missing data substitution procedures for Hg monitoring systems. In Appendix D, MassDEP proposes to retain the now-vacated Part 75 missing data substitution procedures for Hg analyzers and paired sorbent trap systems.

Data substitution requirements are integral quality assurance incentives in Part 75 for NO<sub>x</sub>, SO<sub>2</sub>, CO<sub>2</sub>, O<sub>2</sub> and stack flow monitoring systems. The now-vacated data substitution procedures for Hg analyzers and paired sorbent trap systems, which CAMR had added to Part 75 and which are being proposed in Appendix D, are similar to the SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> data substitution procedures currently used under 310 CMR 7.29. However, the vacated Part 75 and the proposed Appendix D Hg data substitution procedures are not as stringent as those for SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub>, reflecting the infancy of compliance Hg monitoring at power plants across the United States.

When SO<sub>2</sub> and NO<sub>x</sub> missing data substitution procedures were first implemented for those monitoring systems in the 1990s, the missing data substitution procedures were less stringent than today's, due to concern about the reliability of SO<sub>2</sub> and NO<sub>x</sub> monitors. Over time, SO<sub>2</sub> and NO<sub>x</sub> monitors have proven to be very reliable when maintained properly. Missing data substitution procedures for SO<sub>2</sub> and NO<sub>x</sub> monitors have been made more stringent to provide a continuing incentive for the maintenance of the monitoring systems. Hg monitors can also be expected to become more reliable over time, but at present it is appropriate for MassDEP to propose missing data substitution procedures identical to those previously contained in Part 75.

MassDEP seeks comment on the use of missing data substitution procedures, including technical justification for choosing any specific missing data substitution procedures that differ from those proposed in Appendix D. It is particularly interested in comment from the affected facilities as to the monitor downtime they have experienced since installing Hg monitoring systems, and whether that downtime is improving over time as experience with maintaining the monitors increases.

#### **D.5. NRG Somerset**

Under 310 CMR 7.29, MassDEP allowed Somerset Power LLC (previously NRG Somerset) to stack test mercury emissions quarterly rather than install a mercury monitoring system in compliance with Part 75 because Somerset Power LLC had committed to either terminate operations or repower Unit 6/Boiler 8 by January 1, 2010.

In December 2006, Somerset Power proposed to modify and refuel Unit 6/Boiler 8 so that, instead of using pulverized coal as a fuel source, it would use syngas produced by the plasma gasification of coal and biomass feedstock. On January 25, 2008, MassDEP issued an Amended Emission Control Plan and a Comprehensive Plan Approval that allowed Somerset Power to convert Unit 6/Boiler 8 from a pulverized coal-fired boiler to a synthetic gas-fired boiler, the effect of which conversion was to reduce substantially the facility's air emissions. On February 15, 2008, the Conservation Law Foundation (CLF)<sup>13</sup> filed a Notice of Claim for an Adjudicatory Appeal to challenge the two approvals used by MassDEP.

CLF's appeal was decided on November 26, 2008, when MassDEP Commissioner Laurie Burt approved the Amended Emission Control Plan Final Approval issued January 25, 2008.<sup>14</sup> The Commissioner's approval extended the date by which Somerset Power must cease burning pulverized coal and shut down or convert to syngas to on or before September 30, 2010.

MassDEP proposes to amend 310 CMR 7.29(5)(a)3.g.iv. to reflect the September 30, 2010 date included in the Commissioner's final decision. This means that Somerset Power LLC may continue to monitor Hg emissions either through quarterly stack testing or using a mercury monitoring system until it shuts down or converts to syngas by September 30, 2010. Under proposed amendments to 310 CMR 7.29(7)(h), if Somerset Power LLC emits Hg after September 30, 2010, it must install, certify and operate a mercury monitoring system in accordance with Appendix D and submit a monitoring plan for MassDEP approval.

Somerset Power LLC submitted to MassDEP an Amended Emission Control Plan (ECP) application dated April 13, 2009 proposing to remove the 35% biomass raw materials restriction in the production of syngas in the Amended ECP Final Approval dated December 8, 2008. After review, MassDEP determined the proposed amended ECP is administratively and technically complete and proposes to amend the previously approved Amended ECP Final Approval dated December 8, 2008. Removal of the 35% biomass raw materials restriction up to 100% biomass, 100% coal or any combination of biomass and coal does not alter the mercury emission

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<sup>13</sup> The Conservation Law Foundation filed the appeal on behalf of itself and twelve residents.

<sup>14</sup> In the Matter of Somerset Power LLC, DEP Docket No. 2008-054 (November 26, 2008) denying the motion for reconsideration of the Amended Emission Control Plan Final Approval.

monitoring requirements for Unit 6/Boiler 8 under 310 CMR 7.29. The public comment period on the Proposed Amended ECP Draft Approval dated August 6, 2009 closed on September 8, 2009.

#### **D.6. NIST Traceability**

Hg CEMS analyzers require calibration against gas calibration reference standards containing a known quantity of Hg. Those standards in turn rely upon protocols developed by EPA in collaboration with the National Institute of Standards (NIST). In the January 24, 2008 revisions to Part 75, EPA delayed applicability of the required use of NIST-traceable Hg standards until January 1, 2010, as the needed protocols were still under development at that time. Those protocols are expected to be released in 2009. On July 2, 2009, EPA released interim traceability protocols for the qualification and certification of elemental and oxidized Hg gas generators for use in calibrating Hg CEMS.<sup>15</sup>

Therefore, MassDEP proposes to allow Hg CEMS certification and ongoing quality assurance tests after the date of promulgation of these amendments to be conducted without NIST-traceable standards until the later of January 1, 2010, or the effective date of the final traceability protocols as published in the Federal Register. Hg CEMS certification and quality assurance tests conducted by 310 CMR 7.29 affected facilities prior to the date of promulgation of these amendments will not be considered invalid for failure to meet NIST traceability requirements because the necessary protocols were not available.

Hg sorbent trap monitoring systems rely on currently available NIST-traceable salt solutions. Therefore, MassDEP is not proposing to delay the NIST traceability requirement for sorbent trap monitoring systems.

#### **D.7. Miscellaneous Amendments to 310 CMR 7.29**

Under 310 CMR 7.29(5)(a)3.g. affected facilities were, as of January 1, 2008, required to install, certify and operate a Hg monitoring system in accordance with Part 75. MassDEP is revising the required dates of compliance to reflect that the facilities must continue to comply with the requirements of Part 75 until the final promulgation of the proposed Appendix D and then must comply with Appendix D requirements after the date of promulgation of this rule. For consistency, the same change is proposed in various other sections of 7.29 (e.g., 7.29(7)(b)4.b.).

The appropriate load that an affected unit must operate at during relative accuracy test audits (RATAs) of installed Hg monitoring systems has been unclear. 310 CMR 7.29(5)(a)3.d.iii. requires that RATA compliance testing be conducted at “full load,” but the term is undefined and is not used in Part 75. MassDEP proposes to specify that the appropriate load level during Hg RATA compliance testing should be the same as that used for other RATA compliance testing under Part 75, which is the “normal load,” as defined in section 6.5.2.1 of appendix A to Part 75.

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<sup>15</sup> US Environmental Protection Agency, *Interim EPA Traceability Protocols for the Qualification and Certification of Elemental and Oxidized Mercury Gas Generators* (July 1, 2009). See <http://www.epa.gov/airmarkt/emissions/mercury/hgmonitoring.html>.

This change also harmonizes the RATA load requirements in 310 CMR 7.29(5)(a)3.d.iii. with those proposed in Appendix D.

MassDEP proposes to replace the requirement to report Hg mass in thousandths of ounces with a requirement to report in the more familiar units of thousandths of pounds of Hg.

MassDEP proposes to remove several miscellaneous amendments to 310 CMR 7.29 added in 2007 to conform with CAMR, including citations to and terminology from CAMR, such as “40 CFR Part 60 Subpart HHHH,” “EGU” and “Hg Designated Representative.”

## **D.8 Monitoring Plans**

Facilities that have already submitted monitoring plans to MassDEP prior to the effective date of these amendments are not required to resubmit a monitoring plan to address the adoption of Appendix D. Upon promulgation of Appendix D, MassDEP will review and provide comments on submitted monitoring plans and ultimately propose changes to the facilities’ 7.29 Emissions Control Plan approvals to incorporate the Appendix D monitoring requirements.

## **D.9 Retention of 310 CMR 7.02 Requirements for New Units**

In 2007, MassDEP adopted 310 CMR 7.02(3)(o) to ensure that new coal-fired EGUs would not cause Massachusetts to exceed its CAMR Phase 1 or 2 Hg budget. 310 CMR 7.02(3)(o) provides MassDEP the authority to disapprove an application for a Limited Plan Approval or Comprehensive Plan Approval for a new coal-fired EGU if the Hg emissions from the unit, combined with the total Hg emissions from all existing coal-fired EGUs in Massachusetts, would exceed the CAMR Phase 1 or 2 Hg budget. MassDEP is proposing to retain the underlying new EGU Hg emissions cap of 45 pounds and replace the CAMR definition of EGU previously incorporated in 310 CMR 7.02(3)(o). The proposed EGU definition includes units that use a broader range of technologies.

MassDEP is also proposing to amend 7.02(3)(o) to eliminate monitoring and recordkeeping requirements previously incorporated by reference from 40 CFR 60.24(h)(8) and replace them with requirements in the proposed amendments to 310 CMR 7.29 and 310 CMR 7.00: Appendix D. MassDEP also proposes to revise the definition of EGU in 310 CMR 7.02(5)(a)12. and 13, Comprehensive Plan Application, to be consistent with the proposed revision to the definition of EGU in 7.02(3)(o).

MassDEP also notes that any application for a Limited Plan Approval or Comprehensive Plan Approval for a new coal-fired EGU will also be subject to Section 112(g)(2)(B) of the Clean Air Act, which prohibits the construction of any major source of hazardous air pollutants, including Hg, unless MassDEP determines that the maximum achievable control technology emission limitation under Section 112 will be met on a case-by-case basis (case-by-case MACT). The Section 112(g)(2)(B) case-by-case MACT analysis, in operation with 310 CMR 7.02 and 310 CMR 7.29, will therefore ensure that any Hg emission limitation for a new coal-fired power plant will be at least as stringent as the emission limits provided in 310 CMR 7.29(5)(a)3.e.

## **E. AIR QUALITY IMPACTS**

These proposed amendments have no negative air quality impacts with respect to existing or new units. This regulatory proposal ensures no backsliding as MassDEP is not proposing to relax the existing Hg caps or standards for coal-fired EGUs in Massachusetts or the monitoring, reporting and recordkeeping requirements associated with them.

## **F. ECONOMIC ANALYSIS**

The proposed amendments clarify the quality assurance and quality control requirements that apply to the installation, operation and evaluation of Hg CEMS analyzers and Hg sorbent trap monitoring systems for use as direct compliance monitors in determining Hg emissions. The proposed changes to 310 CMR 7.02 and 310 CMR 7.29 and adoption of 310 CMR 7.00: Appendix D - *Mercury Monitoring and Testing Program* should impose similar monitoring, operating and maintenance costs compared to those already incurred by the affected facilities implementing Part 75 Hg monitoring. This rule package will not require additional capital costs beyond those already incurred by the affected facilities complying with Part 75 Hg monitoring requirements incorporated into 310 CMR 7.29(5)(a)3.

## **G. IMPACTS ON CITIES AND TOWNS**

The proposed amendments apply only to coal-fired power plants and will have no adverse effect on cities and towns in the Commonwealth.

## **H. MASSACHUSETTS ENVIRONMENTAL POLICY ACT (MEPA)**

Pursuant to 301 CMR 11.27 (Massachusetts Environmental Policy Act Regulations) the proposed regulations will not lessen the stringency of any existing applicable regulation or standard applicable to power plants, and, therefore, does not require the filing of an Environmental Notification Form (ENF).

## **I. PUBLIC PARTICIPATION**

As required by state law, MassDEP gives notice and provides the opportunity to review proposed regulatory revisions. MassDEP will hold a public hearing on these regulations in accordance with MGL Chapter 30A and will provide notice of the hearing and proposed revisions at least 30 days prior to the date of the public hearing. The proposed amendments to 310 CMR 7.02, 310 CMR 7.29 and Appendix D to 310 CMR 7.00, and the background and technical support will be available prior the public hearing on MassDEP's website at: <http://www.mass.gov/dep/>. Copies can also be reviewed at MassDEP's headquarters at One Winter Street, Boston as well as at each MassDEP regional office. If there are any questions regarding this document, please contact Patricio Silva, (617) 654-6575 or [patricio.silva@state.ma.us](mailto:patricio.silva@state.ma.us).