Modify 310 CMR 7.29 by adding text in italics and deleting text in strikethroughs below:

310 CMR 7.29(2) Definitions:

ASH means bottom ash, fly ash or ash generated by an ash reduction process derived from combustion of fossil fuels, carbon or other substances.

BLOCK HOURLY AVERAGE means the average of all valid emission concentrations when the affected unit is operating, measured over a one-hour period of time from the beginning of an hour to the beginning of the next hour.

CALENDAR QUARTER means any consecutive three-month period (nonoverlapping) beginning January 1, April 1, July 1 or October 1.

CALENDAR YEAR means any period beginning January 1 and ending December 31.

CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) means a monitoring system for continuously measuring the emissions of a pollutant.

ROLLING with respect to an average means the calculation of an average by dropping the earliest month or calendar quarter value and incorporating the latest month or calendar quarter value for the period over which an average is calculated.

TOTAL MERCURY means the sum of particulate-bound and vapor-phase (elemental and oxidized) mercury in combustion gases or emitted to the atmosphere.

7.29(5)(a)3. Mercury Emissions.
a. By December 1, 2002, the Department will complete an evaluation of the technological and economic feasibility of controlling and eliminating emissions of mercury from the combustion of solid fossil fuel in Massachusetts in accordance with the Mercury Action Plan of the Conference of New England Governors and Eastern Canadian Premiers.
b. *deleted* ~~Within 6 months of completing the feasibility evaluation, the Department shall propose emission standards for mercury, with a proposed compliance date of October 1, 2006.~~
c. The Emission Control Plan submitted to the Department under 310 CMR 7.29(6) shall demonstrate*, and any person who owns, leases, operates or controls an affected facility shall ensure,* that beginning at the time of the affected facility's earliest applicable compliance date in 310 CMR 7.29(6)(c), *or at the time of the facility's earliest applicable Phase 1 NOx and SO2 compliance date under an administrative order existing prior to [insert date of promulgation] as may be amended, whichever is later,* total annual mercury emissions from combustion of solid fuels in units subject to *40 CFR* Part 72 located at an affected facility *or from re-burn of ash in*

Massachusetts will not exceed the average annual emissions calculated using the results of the stack tests required in 310 CMR 7.29(5)(a)3.d.ii.. *The average annual emissions calculated using the results of the stack tests required in 310 CMR 7.29(5)(a)3.d.ii. equal the average measured pounds of mercury emitted per million Btu consumed multiplied by the heat input in million Btu averaged over 1997, 1998 and 1999. A different three-calendar-year period within the five years prior to May 11, 2001 may be used if requested by the owner of an affected facility, and if the Department determines that the different period is more representative of historical actual heat input. Total annual mercury emissions equal the total emissions from:*

i. combustion of solid fossil fuel in units subject to 40 CFR Part 72 located at an affected facility, determined using emissions testing at least every other calendar quarter from October 1, 2006 until certified mercury CEMS are used to demonstrate compliance with the standards in 310 CMR 7.29(5)(a)3.e. or f., and using mercury CEMS thereafter, and

ii. re-burn of ash, where such ash was produced by the combustion of fossil fuel or ash at any affected facility. When ash is re-burned at an affected facility, the associated mercury emissions shall be attributed to the affected facility at which the ash is re-burned. When ash produced by an affected facility is used in Massachusetts as a cement kiln fuel, as an asphalt filler, or in other high temperature processes that volatilize mercury,

(i) the mercury content of the utilized ash shall be measured weekly using a method acceptable to the Department,

(ii) all of the mercury in the utilized ash shall be assumed to be emitted, unless it can be demonstrated with data acceptable to the Department that a lesser amount of mercury is emitted,

(iii) the associated mercury emissions shall be attributed to the affected facility from which the ash is shipped to the cement kiln, asphalt batching plant or other high temperature processing location, and

(iv) a proposal shall be submitted for Department approval at least 45 days prior to such use, or at least 45 days prior to October 1, 2006, whichever is later, detailing the proposed measurement methods to be used to comply with 7.29(5)(a)3.c.ii.I. and II.

d. Fuel Sampling and Stack Testing.

i. Beginning on May 11, 2001 until August 1, 2002, any person who owns, leases, operates or controls an affected facility which combusts solid fossil fuel in a Part 72 unit shall test each shipment of coal at the time received. The test shall be conducted by a method approved by the Department, and report the mercury and chlorine content of the coal. The results of each interim fuel testing shall be reported to the Department with the results of the next stack test as required in 310 CMR 7.29(5)(a)3.d.ii.

ii. Any person who owns, leases, operates or controls an affected facility which combusts solid fossil fuel shall perform stack tests for mercury. The stack tests shall:

- Be conducted using a DEP-approved test method detailed in a test protocol submitted to the Department at least 45 days before commencement of testing, and notify the Department of the specific date the test will be conducted at least 30 days prior to conducting the test;
- Test the mercury concentrations and species before all add-on air pollution control equipment (inlet) and after (outlet);
- Be conducted as follows:

One test shall be performed before August 1, 2001,
A second test shall be performed after December 1, 2001 but not later than February 1, 2002,
A third test shall be performed after June 1, 2002 but not later than August 1, 2002

- The results of each stack test shall be reported to the Department within 30 days after conducting each stack test.

iii. Stack tests for mercury shall consist at a minimum of three runs at full load on each unit firing solid fossil fuel or ash according to a testing protocol acceptable to the Department. Stack tests for mercury, and certification and annual Relative Accuracy Test Audits for mercury CEMS, shall determine total and particulate-bound mercury. The results of each stack test shall be reported to the Department within 45 days after conducting each stack test.

iv. Notwithstanding 310 CMR 7.29 (5)(a)3.d.iii., an affected facility with more than one stack flue may measure a representative stack flue concentration while all units that can supply the flue are at full load.

e. Effective on January 1, 2008, or 15 months after the facility's earliest applicable Phase 1 NOx and SO2 compliance date under an administrative order existing prior to [insert date of promulgation] as may be amended, whichever is later, any person who owns, leases, operates or controls an affected facility which combusts solid fossil fuel or ash shall comply with at least one of the following mercury emissions standards:

i. a facility average total mercury removal efficiency of 85% or greater for those units combusting solid fossil fuel or ash. The mercury removal efficiency based on mercury CEMS shall be calculated based on the average historic mercury inlet emissions determined under 310 CMR 7.29(5)(a)3.d.ii. using the methodology approved by the Department in the monitoring plan required under 310 CMR 7.29(5)(a)3.g. and shall be calculated on a rolling 12 month basis; or

ii. a facility average total mercury emissions rate of 0.0075 lbs./GWh or less for those units combusting solid fossil fuel or ash. The mercury emissions rate based on mercury CEMS shall be calculated using the methodology approved by the Department in the monitoring plan required under 310 CMR 7.29(5)(a)3.g. and shall be calculated on a rolling 12 month basis.

iii. Notwithstanding 310 CMR 7.29(5)(a)3.e.i. and ii., any person who owns, leases, operates or controls an affected unit which combusts solid fossil fuel or ash and has an enforceable commitment with the Department to terminate operations by January 1, 2010, may comply with 310 CMR 7.29 (5)(a)3.e.i. or ii. through January 1, 2010 by complying with an approved 310 CMR 7.29 emission control plan modification achieving early or off-site reductions. To comply with the foregoing, such person shall propose under 310 CMR 7.29(6)(h)1. to amend the approved emission control plan. Such early or off-site reductions shall be in an amount of at least the equivalent mass of mercury reductions required under 310 CMR 7.29 (5)(a)3.e.i. or ii. Any early reductions shall be accrued on-site at the stack prior to the compliance date effective under 310 CMR 7.29(5)(a)3.e. Any off-site mercury air emission reductions shall be accrued on at least a one pound reduced for one pound credited basis from facilities located in the same DEP Region as the affected unit. Any other off-site mercury reductions shall be accrued on at

least a ten pounds reduced for one pound credited basis from facilities located in the same DEP Region as the affected unit.

f. Effective on October 1, 2012, any person who owns, leases, operates or controls an affected facility which combusts solid fossil fuel or ash shall comply with at least one of the following mercury emissions standards:

i. a facility average total mercury removal efficiency of 95% or greater for those units combusting solid fossil fuel or ash. The mercury removal efficiency shall be calculated based on mercury CEMS as provided in 310 CMR 7.29(5)(a)3.e.i.; or

ii. an average total mercury emission rate of 0.0025 lbs./GWh or less for those units combusting solid fossil fuel or ash. The mercury emission rate shall be calculated based on mercury CEMS as provided in 310 CMR 7.29(5)(a)3.e.ii.

g. Mercury Continuous Emissions Monitoring Systems (CEMS)

i. By January 1, 2008, any person who owns, leases, operates or controls an affected facility which combusts solid fossil fuel or ash shall install, certify, and operate CEMS to measure mercury stack emissions from each solid fossil fuel- or ash-fired unit at a facility subject to 310 CMR 7.29. Any person required to install mercury CEMS shall:

(i) submit a preliminary CEMS monitoring plan for Department approval at least 180 days prior to equipment installation;

(ii) include the following information in the preliminary CEMS monitoring plan: source identification, source description, control technology description, the applicable regulations, the type of monitor, a monitoring system flow diagram, a description of the data handling system, and a sample calculation demonstrating compliance with the emission limits using conversion factors from 40 CFR Part 60 or Part 75 or other proposed factors;

(iii) submit for Department approval a CEMS certification protocol at least 90 days prior to certification testing for the CEMS, and any proposed adjustment to the certification testing at least seven days in advance;

(iv) include the following information in the certification protocol: the location of and specifications for each instrument or device, as well as procedures for calibration, operation, data evaluation and data reporting;

(v) install, calibrate, maintain and operate a CEMS for measuring mercury at locations approved in the Department's approval of the CEMS certification protocol and record the output of each CEMS;

(vi) submit a certification report within 60 days of the completion of the certification test for Department approval;

(vii) certify each CEMS in accordance with the quality assurance and quality control procedures contained in 40 CFR Part 60 Appendix F and continue to comply with the requirements of 40 CFR Part 60 Appendix F;

(viii) calculate a calendar month average from a block hourly average for each hour the emissions unit is operating and a block hourly average from all valid data points generated by a CEMS;

(ix) operate each continuous emission monitoring system at all times that the emissions unit(s) is operating except for periods of CEMS calibrations checks, zero span adjustment, and preventive maintenance as described in the monitoring plan approved by the Department and as determined during certification. Notwithstanding such exceptions, in all cases obtain valid data for at least 75% of

the hours per day, 75% of the days per month, and 90% of the hours per quarter during which the emission unit is combusting solid fossil fuel or ash;
(x) use only valid data to calculate mercury emissions using conversion factors and calculations from 40 CFR Part 60 or approved by the Department;
(vi) maintain a record of all measurements, performance evaluations, calibration checks, and maintenance or adjustments for each continuous emission monitor; and
(xii) submit to the appropriate Department regional office by the 30th day of April, July, October, and January, a report detailing any of the following that have occurred within the previous calendar quarter; in the event none of the following items have occurred, such information shall be stated in the report:
- the date and time that any mercury CEMS stopped collecting valid data and when it started to collect valid data again, except for zero and span checks and
- the nature and date of system repairs.

ii. If mercury CEMS capable of measuring only vapor-phase mercury are installed at a unit for purposes of determining compliance with the standards in 310 CMR 7.29(5)(a)3.c., e. and f., total mercury shall be determined by taking into account the average particulate-bound mercury measured during the most recent stack test on that unit in combination with the total vapor-phase mercury measured by the CEMS until such time as mercury CEMS to measure particulate-bound mercury are installed at a unit.
iii. Notwithstanding 310 CMR 7.29(5)(a)3.g.i., a unit with an enforceable commitment to terminate operations by January 1, 2010 may choose between quarterly stack testing and mercury CEMS to document mercury emissions in the period from January 1, 2008 until the time such unit terminates operation or January 1, 2010, whichever is earlier; however, if such a unit must install mercury CEMS to meet a federal requirement, data from that mercury CEMS shall be used to document mercury emissions instead of stack testing.

7.29(5)(b) Compliance with the emission standards in 310 CMR 7.29(5)(a), may be demonstrated by any combination of the following:
1. Dividing the total emissions of each pollutant by the total net electrical output from all electric generating units subject to 40 CFR Part 72 located at the affected facility as of the date of May 11, 2001 or repowered at the affected facility after May 11, 2001. *For demonstrating compliance with the mercury emissions standards in 310 CMR 7.29(5)(a)3., the person who owns, leases, operates or controls an affected facility shall include in the calculation only units that fire solid fossil fuel or ash, or that repowered a unit that fired solid fossil fuel or ash.*

7.29(6)(a) Emission Control Plan Deadline and General Provisions
3. Any person who owns, leases, operates, or controls an affected facility which installs mercury control equipment that is not already contained in an emission control plan approval under 310 CMR 7.29 shall submit a mercury emissions control plan amendment application under 310 CMR 7.29(6)(h) at least 90 days before intended installation and may not install such equipment until receiving approval of the revision.

4. Any person who owns, leases, operates or controls an affected facility which combusts solid fossil fuel shall by [insert date 6 months after date of promulgation] propose under 310 CMR 7.29(6)(h)1. to amend the approved emission control plan to incorporate the mercury emission cap established in 310 CMR 7.29(5)(a)3.c. Notwithstanding 310 CMR 7.29(5)(a)3.c., any facility with average annual emissions of less than 5 pounds, calculated using the results of the stack tests required in 310 CMR 7.29(5)(a)3.d.ii., may propose and be approved to use early or off-site reductions to demonstrate compliance with 310 CMR 7.29(5)(a)3.c. through September 30, 2012. Any early reductions shall be accrued on-site at the stack prior to the compliance date effective under 310 CMR 7.29(5)(a)3.c. Any off-site mercury air emission reductions shall be accrued on at least a one pound reduced for one pound credited basis from facilities located in the same DEP Region as the affected unit. Any other off-site mercury reductions shall be accrued on at least a ten pounds reduced for one pound credited basis from facilities located in the same DEP Region as the affected unit.

7.29(6)(h) Modifications to an Affected Facility's Emission Control Plan.
1. Any person subject to 310 CMR 7.29 may propose amendments to the approved emission control plan. If the Department proposes to approve such amendments, or approve such amendments with conditions, then the Department will publish a notice of public comment on the draft approval, in accordance with M.G.L. c. 30A. The Department will allow a 30 day public comment period following publication of the notice, and may hold a public hearing. Modifications to an affected facility's monitoring system approved pursuant to the requirements of 40 CFR Part 72 are not subject to such public comment prior to approval.
2. For the purposes of evaluating system performance, testing new technology or control technologies, diagnostic testing, or other related activities that are anticipated to reduce air pollution or advance the state-of-the-art technology for controlling facility mercury emissions, the Department may issue an ECP approval in the form of a limited amendment to the ECP for a limited period of time for the purpose of achieving compliance with the requirements of 310 CMR 7.29(5)(a)3.e. and f. The Department approval will detail the duration of the time period and how the facility shall report under 310 CMR 7.29(7)(b) for the duration of the time period. The Department will publish a notice of public comment on the draft approval. The Department will allow a 10 day public comment period following publication of the notice, and may hold a public hearing.

7.29(7) Reporting, Compliance Certification, and Record Keeping
(a) By January 30 of the year following the earliest applicable compliance date for the affected facility under 310 CMR 7.29(6)(c), and January 30 of each calendar year thereafter, the company representative responsible for compliance at each affected facility shall submit a report to the Department demonstrating compliance with the emission standards contained in 310 CMR 7.29(5)(a) and in an approved emission control plan. The report shall demonstrate compliance with any applicable monthly emission rate for each month of the previous calendar year, and *with any applicable 12-month emission rate for* each of the ~~twelve~~ *12* previous consecutive 12-month periods. *For the mercury standards at 310 CMR 7.29(5)(a)3.c., the compliance reports due January 30, 2007 and 2008 shall include the quarterly emissions for each quarter beginning October 1, 2006. For the mercury standards at 310 CMR 7.29(5)(a)3.c., e., and f., the compliance report due January 30, 2009 and each report thereafter shall demonstrate*

compliance with any applicable annual standard for the previous calendar year and with any applicable 12-month standard for each of the 12 previous consecutive 12-month periods.

(b) The compliance report shall contain the following:

1. Actual emissions for each pollutant, expressed in tons *for SO2, CO2, and NOx*, for each of the preceding 12 months*, and expressed in tenths of pounds for mercury, for each of the preceding four calendar quarters beginning October 1, 2006 and preceding 12 months beginning January 1, 2008*. Actual emissions shall be provided for individual units and as a facility total for all units included in the calculation demonstrating compliance. Actual emissions provided under this section shall be reported in accordance with

a. 40 CFR Part 75 for SO2, CO2, and NOx,

b. ~~(reserved) for Mercury, CO, and particulate matter.~~, *for the standards at 310 CMR 7.29(5)(a)3.c.i. based on stack tests, by calculating the tenths of pounds of mercury from:*

i. the average measured pounds of mercury emitted per million Btu consumed for the calendar year multiplied by

ii. the heat input determined under 40 CFR Part 75 for the calendar year. Affected facilities may choose to subtract the heat input attributable to combustion of fuels other than solid-fossil fuel and ash if such heat input is determined using the procedures of 40 CFR Part 75 Appendix D.

c. for the standards at 310 CMR 7.29(5)(a)3.c.ii., by assuming all of the mercury in the utilized ash is emitted, unless a lesser amount of mercury has been approved under 310 CMR 7.29(5)(a)3.c.ii.IV.

d. for the standards at 310 CMR 7.29(5)(a)3.c.i., e.ii., and f.ii. based on mercury CEMS, from mercury CEMS meeting quality assurance procedures detailed in 40 CFR Part 60 Appendix F Procedure 1 and/or performance specifications, test procedures and calculations approved by the Department in the monitoring plan required under 310 CMR 7.29(5)(a)3.g. Any particulate-bound mercury accounted for under the provisions of 310 CMR 7.29(5)(a)3.g.ii. shall be calculated from:

i. the most recent average measured pounds of particulate mercury emitted per million Btu consumed multiplied by

ii. the heat input determined under 40 CFR Part 75 for each calendar month. Affected facilities may choose to subtract the heat input attributable to combustion of fuels other than solid-fossil fuel and ash if such heat input is determined using the procedures of 40 CFR Part 75 Appendix D.

2. Actual net electrical output for each of the preceding 12 months, expressed in megawatt-hours. Actual net electrical output shall be provided for individual units and as a facility total for all units included in the calculation demonstrating compliance.

3. The resulting output-based emission rates for each of the preceding 12 months, and each of the 12 consecutive rolling month time periods, expressed in pounds per megawatt-hour *for SO2, CO2, and NOx and pounds per gigawatt-hour for mercury*. Output based emission rates shall be provided for individual units and as a facility total for all units included in the calculation demonstrating compliance.

4. A compliance certification report, which shall contain the following elements:

a. A statement certifying that the monitoring data reflects operations at the affected facility.

b. A statement that all *SO2, CO2, and NOx* emissions from the affected facility were accounted for, either through the applicable monitoring or through application of the appropriate missing data procedures and reported in the quarterly reports. If provisionally certified data were reported, the company representative responsible for compliance with 310 CMR 7.29 shall indicate whether the status of all provisionally certified data was resolved and all necessary quarterly reports were submitted.

(c) The Department may verify compliance by whatever means necessary, including but not limited to:

1. Inspection of a unit's operating records;
2. Requiring the person who owns, leases, operates or controls an affected facility to submit information on actual electrical output of company generating units provided to that person by the New England Independent System Operator;
3. Testing emission monitoring devices; and,
4. Requiring the person who owns, leases, operates or controls an affected facility to conduct emissions testing under the supervision of the Department.

(d) Any person who owns, leases, operates or controls an affected facility shall keep all measurements, data, reports and other information required by 310 CMR 7.29 for five years, or any other period consistent with the affected facility's operating permit.

(e) For units that apply carbon or other sorbent injection for mercury control, the following records shall be kept until such time as mercury CEMS are installed at that unit:

1. The average carbon or other sorbent mass feed rate (in lbs/hr) estimated during the initial mercury optimization test and all subsequent mercury emissions tests, with supporting calculations.

2. The average carbon or other sorbent mass feed rate (in lbs/hr) estimated for each hour of operation, with supporting calculations.

3. The total carbon or other sorbent usage for each calendar quarter, with supporting calculations.

4. The carbon or other sorbent injection system operating parameter data for the parameter(s) that are the primary indicator(s) of carbon or other sorbent feed rate.

5. Identification of the calendar dates when the average carbon or other sorbent mass feed rate recorded under 310 CMR 7.29(7)(e)2. was less than the hourly carbon feed rate estimated during and recorded under 310 CMR 7.29(7)(e)1., with reasons for such feed rates and a description of corrective actions taken.

6. Identification of the calendar dates when the carbon injection or other sorbent system operating parameter(s) that are the primary indicator(s) of carbon or other sorbent mass feed rate recorded under 310 CMR 7.29(7)(e)4. are below the level(s) estimated during the optimization tests for mercury with reasons for such occurrences and a description of corrective actions taken.

(f) For units that apply technology other than carbon or other sorbent for mercury control, the operating parameter records to be kept until such time as mercury CEMS are installed at that unit shall be proposed to the Department in the emission control plan application required under 310 CMR 7.29(6)(a)3.

(g) Any person subject to 310 CMR 7.29(5)(a)3. shall submit the results of all mercury emissions, monitor, and optimization test reports, along with supporting calculations, to the Department within 45 days after completion of such testing.