

SECTION .2500 – MERCURY RULES FOR ELECTRIC GENERATORS**.2501 PURPOSE AND APPLICABILITY**

(a) Purpose. The purpose of this Section is to control mercury emissions from coal-fired electric steam generating Hg units and to comply with the mercury emission caps of 1.133 tons (36,256 ounces) per year between 2010 and 2017 inclusive and 0.447 tons (14,304 ounces) per year for 2018 and thereafter as set out in 40 CFR 60.24.

(b) Applicability. This Section applies to:

- (1) any stationary coal-fired boiler or any stationary coal-fired combustion turbine serving at any time, since the start-up of a unit's combustion chamber, a generator with nameplate capacity of more than 25 MWe producing electricity for sale; or
- (2) any unit that qualifies as a cogeneration unit during the 12-month period starting on the date that the unit first produces electricity and continues to qualify as a cogeneration unit, or any cogeneration unit serving at any time a generator with nameplate capacity of more than 25 MWe and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 MWh, whichever is greater, to any utility power distribution system for sale. If a unit that qualifies as a cogeneration unit during the 12-month period starting on the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be subject to Subparagraph (1) of this Paragraph starting on the day on which the unit first no longer qualifies as a cogeneration unit; or
- (3) the Hg budget unit identified in the table in Rule .2503 of this Section.

(c) Retired Hg unit exemption. Any Hg unit that is permanently retired shall be exempted from the annual trading program if it complies with the provisions of 40 CFR 60.4105.

(d) Effect on other authorities. No provision of this Section, any application submitted or any permit issued pursuant to Rule .2504 of this Section, or any exemption under 40 CFR 60.4105, shall be construed as exempting any Hg unit or source covered under this Section or the owner or operator or designated representative of any Hg unit or source covered under this Section from complying with any other requirements of this Chapter or Chapter 17.

(e) Additional controls. The Board shall require additional reductions in mercury emissions when needed to reduce mercury concentrations to levels that do not cause or contribute to mercury-related health problems.

NCDAQ History Note:

Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).

Eff. January 1, 2007.

WNCRAQA History Note: Adopted Eff. March 19, 2007.

.2502 DEFINITIONS

- (a) For the purpose of this Section, the definitions in 40 CFR 60.4102, shall apply.
- (b) For the purpose of this Section, the abbreviations and acronyms listed in 40 CFR 60.4103 shall apply.

*NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).
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.2503 MERCURY EMISSION

- (a) Allocations. The table in this Paragraph contains allocations in ounces of total mercury.

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
Duke Energy, Belews Creek	1	3440	1386
	2	3212	1294
Duke Energy, Buck	5	53	21
	6	54	22
	7	59	24
	8	297	120
	9	330	133
Duke Energy, Cliffside	1	61	25
	2	62	25

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	3	100	40
	4	86	35
	5	1499	604
Duke Energy, Dan River	1	102	41
	2	113	45
	3	252	102
Duke Energy, G G Allen	1	349	141
	2	324	131
	3	601	242
	4	655	264
	5	615	248
Duke Energy, Marshall	1	1037	418
	2	1085	437
	3	1799	725
	4	1835	739
Duke Energy, Riverbend	7	186	75
	8	180	72
	9	325	131

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	10	323	130
Progress Energy, Asheville	1	621	250
	2	575	232
Progress Energy, Cape Fear	5	347	140
	6	407	164
Progress Energy, L V Sutton	1	195	78
	2	198	80
	3	905	365
Progress Energy, Lee	1	191	77
	2	189	76
	3	607	245
Progress Energy, Mayo	1A	1188	479
	1B	1153	465
Progress Energy, Roxboro	1	1041	419
	2	1930	777
	3A	990	399
	3B	1008	406

Hg BUDGET SOURCE	Hg BUDGET UNIT	ALLOCATION FOR 2010 – 2017 (ounces)	ALLOCATION FOR 2018 AND LATER (ounces)
	4A	987	397
	4B	917	369
Progress Energy, W H Weatherspoon	1	112	45
	2	111	45
	3	177	71
Dwayne Collier Battle Cogeneration Facility	1A	114	46
	1B	105	42
	2A	106	43
	2B	108	44
Elizabethtown Power	1	28	11
	2	26	10
Lumberton Power	1	31	12
	2	52	21
Primary Energy, Roxboro	1	95	38
Primary Energy, Southport	1	117	47
	2	118	47
Westmoreland-LG&E Partners Roanoke Valley	1	490	197
	2	171	69

(b) Compliance. The emissions of mercury of a Hg budget source shall not exceed the number of allowances that it has in its compliance account according to Rule .2510 of this Section.

(c) Emission measurement requirements. The emissions measurements recorded and reported according to 40 CFR 60.4170 through 60.4176 shall be used to determine compliance by each source identified in this rule with its emissions limitation according to 40 CFR 60.4106(c).

(d) Excess emission requirements. The provisions of 40 CFR 60.4106(d) shall be used for excess emissions.

(e) Liability. The owner or operator of any source covered under this Section shall be subject to the provisions of 40 CFR 60.4106(f).

(f) Modification and reconstruction, replacement, retirement, or change of ownership. The modification or reconstruction of a source covered under this Rule shall not make that source a "new" source for the purposes of this Section; it may be considered a new source under Chapter 4.0524, New Source Performance Standards, or 40 CFR Part 60. A source that is modified or reconstructed shall retain its emission allocation under Paragraph (a) of this Rule. If one or more sources covered under this Rule is replaced, the new source shall receive the allocation of the source, or sources, that it replaces instead of an allocation under Rule .2508 of this Section. If the owner of a source changes, the emission allocations under this Rule and revised emission allocations made under Rule .2509 of this Section shall remain with the source. If a source is retired, the owner or operator of the source shall follow the procedures in 40 CFR 60.4105. The allocations of a retired source shall remain with the owner or operator of the retired source until a reallocation occurs under Rule .2509 of this Section when the allocation shall be removed and given to other sources if the retired source is still retired.

(g) The Director shall comply with the timing requirements for mercury allocations under 40 CFR 60.4141.

NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10).
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.2504 PERMITTING

(a) The owner or operator of any Hg budget unit covered under this Section shall submit permit applications to comply with the requirements of this Section following the procedures and requirements in 40 CFR 60.4106(a), 60.4121, and 60.4122 and in Chapter 17.

(b) The Director shall review applications submitted under Paragraph (a) of this Rule and issue permits for compliance with this Section following the procedures and requirements in 40 CFR 60.4106(a), 60.4120, 60.4123, and 60.4124 and in Chapter 17.

NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10); 143-215.108.
Eff. January 1, 2007

WNCRAQA History Note: Adopted Eff. March 19, 2007.

.2505 MONITORING, REPORTING, AND RECORDKEEPING

(a) The owner or operator of a Hg budget unit covered under this Section shall comply with the monitoring, recordkeeping, and reporting requirements in 40 CFR 60.4106(b) and (e) and in 40 CFR 60.4170 through 60.4176.

(b) To approve or disapprove monitors used to show compliance with Rule .2503 of this Section, the Agency shall follow the procedures in 40 CFR 60.4171.

NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.65; 143-215.66; 143-215.107(a)(5), (10).
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.2506 DESIGNATED REPRESENTATIVE

(a) Designated representative. The owner or operator of any Hg budget source covered under this Section shall select a designated representative according to 40 CFR 60.4110. The designated representative shall have the responsibilities and duties set out in 40 CFR 60.4110.

(b) Alternate designated representative. The owner or operator of any Hg budget source covered under this Section shall select an alternate designated representative according to 40 CFR 60.4111. The alternate designated representative shall have the responsibilities and duties set out in 40 CFR 60.4111.

(c) Changing designated representative and alternate designated representative. The owner or operator of any Hg budget source covered under this Section may change the designated representative or the alternate designated representative using 40 CFR 60.4112.

(d) Changes in owners and operators. Whenever the owner or operator of a Hg budget source covered under this Section changes, the provisions in 40 CFR 60.4112(c) shall be followed.

(e) Certificate of representation. A complete certificate of representation for a CAMR designated representative or an alternate CAMR designated representative shall meet the requirements of 40 CFR 60.4113.

(f) Objections concerning CAMR designated representative. Objections concerning CAMR designated representative shall be handled according to the procedures in 40 CFR 60.4114.

NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).
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WNCRAQA History Note: Adopted Eff. March 19, 2007.

.2507 COMPUTATION OF TIME

Time periods shall be determined as described in 40 CFR 60.4107.

NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).
Eff. January 1, 2007.

WNCRAQA History Note: Adopted Eff. March 19, 2007.

.2508 NEW SOURCE GROWTH

(a) The total mercury allowances available for allocation in the new Hg unit set-aside for each control period in 2010 through 2017 shall be 1,813 ounces; the total mercury allowance available for allocations in each control period in 2018 and thereafter shall be 429 ounces. Except for the reference to 40 CFR 60.4142(b), the procedures in 40 CFR 4142(c)(2) through (4) shall be used to create allocations for Hg units covered under this Section that commence operations on or after January 1, 2001 and that are not covered in the table in Rule 2503 of this Section.

(b) The number of allowances allocated to a Hg unit under this Rule shall not exceed the Hg unit's actual emissions of mercury.

(c) New Hg unit allowances in Paragraph (a) of this Rule that are not allocated in a given year shall be distributed to Hg units covered in the table in Rule 2503 of this Section according to the provisions of 40 CFR 4142(d), except that the divisor used in calculating individual Hg unit allocations shall be:

- (1) 1,813 ounces for each control period in 2010 through 2017, and
- (2) 429 ounces for each control period in 2018 and thereafter.

NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).
Eff. January 1, 2007.

WNCRAQA History Note: Adopted Eff March 19, 2007.

.2509 PERIODIC REVIEW AND REALLOCATIONS

(a) In 2010 and every five years thereafter, the Environmental Management Commission shall review the emission allocations of Hg units covered under Rules .2503 of this Section and new Hg units covered under this Section that have been permitted but are not named in Rule .2503 of this Section and decide if any revisions are needed. In making this decision the Environmental Management Commission shall consider the following:

- (1) the size of the allocation pool for new Hg unit growth under Rule .2508 of this Section;
- (2) the amount of emissions from Hg units receiving allocations under Rule .2508 of this Section;
- (3) the amount of emissions allocations available through the trading program under Rule .2510 of this Section;
- (4) the impact of reallocation on existing Hg units;
- (5) the impact of reallocations on Hg units receiving allocations under Rule .2508 of this Section;
- (6) impact of future growth; and
- (7) other relevant information on the impacts of reallocation.

(b) The Division of Air Quality shall report to the Commission in July 2008 and July 2012. Each report shall provide the Commission and public updated information on the regulation of mercury emissions. The 2008 report shall include the information under Subparagraphs (1) through (12) of this Paragraph, where available. The 2012 report shall include all the following information:

- (1) actual emissions from units covered under this Section since 2010 and all other principal sources of mercury;
- (2) estimates of the amounts of the different species of mercury being emitted;
- (3) a mercury balance for North Carolina, including imported, exported, and in-state mercury emissions and the fate and transport of mercury in the air and waters of the State;
- (4) projected mercury emissions for 2015, 2018, 2023, and 2025;
- (5) the amount of new source growth and projected new units growth through 2025;
- (6) the state of mercury control technology, including technological and economic feasibility;
- (7) an assessment of cost and performance of mercury control technology as it may be applied to uncontrolled sources of mercury in North Carolina, including both coal-fired electric steam generating units and other sources that emit mercury and including an

assessment of technology used to satisfy requirements of the Clean Smokestacks Act (G.S. 143-215.107D) and other requirements for controlling nitrogen oxide and sulfur dioxide emissions.

- (8) a recommendation of mercury control technology, including the cost and expected reductions in mercury;
- (9) results of studies and monitoring on mercury and its species in fish in North Carolina, including an evaluation of the impact of reduced mercury emissions from coal-fired power plants on the levels of mercury observed in fish tissue;
- (10) a summary of mercury-related health problems in North Carolina, including accumulation of mercury in humans, toxicity, and mercury exposures from non-air emitting sources; and
- (11) results of studies on mercury deposition, applying monitoring techniques, back trajectory analysis, source attribution methodology, and any other relevant methodologies to assess the role of coal-fired units in North Carolina deposition.
- (12) recommendations, if any, on rule revisions.

(c) Based on the 2012 report, the Commission shall review mercury control requirements and decide if any rule changes are needed.

(d) Any changes made as a result of the review under Paragraph (a) or report under Paragraph (b) of this Section shall be made through rulemaking.

(e) The Director of the Division of Air Quality shall report to the Commission in 2018 and 2023 on the state of mercury control technology, including the mercury removal efficiency of available technology, the cost of installation and operation, and changes in fish tissue concentrations.

*NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).
Eff. January 1, 2007.*

WNCRAQA History Note: Adopted Eff. March 19, 2007.

.2510 TRADING PROGRAM AND BANKING

(a) EPA to administer. The United States Environmental Protection Agency (EPA) shall administer the allowance tracking system according to the procedures in 40 CFR 60.4151 through 60.4162.

(b) Compliance account. The owners or operators of each Hg budget source covered under this Section shall have a compliance account in the EPA administered tracking system that satisfies the requirements of 40 CFR 60.4151(a).

(c) General account. Any person may apply to open a general account to hold and transfer allowances by using the procedures and meeting the requirements in 40 CFR 60.4151(b) and

may close that account using the procedures in 40 CFR 60.4157.

(d) Allowance transfers. Any person who has a compliance or general account established under 40 CFR 60.4151 may transfer allowances using the procedures in 40 CFR 60.4160.

(e) Submittal of information. Persons with accounts shall submit information to EPA following the requirement of 40 CFR 60.4152.

(f) Banking. Any person who has a compliance account or a general account may bank allowances for future use or transfer under 40 CFR 60.4155.

(g) Appeal Procedures. The appeal procedures for decisions of the Administrator are set forth in 40 CFR 60.4108

*NCDAQ History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5), (10).
Eff. January 1, 2007.*

WNCRAQA History Note: Adopted Eff. March 19, 2007.

.2511 MERCURY EMISSION LIMITS

(a) Initial reductions. Initial reductions in mercury emissions shall be achieved as a co-benefit of installing controls for nitrogen oxide (NO_x) and sulfur dioxide (SO₂) emissions pursuant to G.S. 143-215.107D. No later than December 31, 2013, Duke Energy and Progress Energy shall install controls for nitrogen oxide (NO_x) and sulfur dioxide (SO₂) emissions under their respective plans for compliance with G.S. 143-215.107D. Duke Energy and Progress Energy shall each monitor mercury emissions at no fewer than four boilers identified for control pursuant to G.S. 143-215.107D consistent with the requirements of Paragraphs (d) and (e) of this Rule to document the reductions in mercury emissions realized as a result of installing controls for nitrogen oxide and sulfur dioxide emissions.

(b) Mercury control plans. Duke Energy and Progress Energy shall each submit a mercury control plan to the Director by January 1, 2013. The plan shall identify the technology proposed for use at each unit owned or operated by the utility; the schedule for installation and operation of mercury controls at each unit; and shall identify any units that will be shut down. For purposes of this Rule, controls for nitrogen oxide and sulfur dioxide installed in compliance with G.S. 143-215.107D are considered to be mercury controls. The plan shall provide for installation and operation of mercury controls on all units at the earliest date that is technically and economically feasible. Any unit that has not installed controls as specified in an approved mercury control plan by December 31, 2017 shall shut down unless the Commission has approved additional mercury reductions at a facility that has achieved initial mercury reductions under G.S. 143-215.107D in lieu of installing controls at the unit under the criteria set out in paragraph (c) of this Rule.

(c) Review and approval of plans. The Director shall review the mercury control plans

submitted pursuant to Paragraph (b) of this Rule and shall recommend that the Commission approve the plans, disapprove the plans or conditionally approve the plans. The Commission shall only approve a mercury control plan if it finds that the plan achieves the maximum level of reductions in mercury emissions at each unit that is technically and economically feasible without reliance on mercury allowances obtained through the allowance trading system under Rule .2510. Reductions in mercury are technically feasible if control technology exists that can reduce mercury emissions beyond the level achieved by an electrostatic precipitator for that particular unit. Economic feasibility is determined by considering environmental and health impacts; capital cost of compliance; annual incremental compliance cost; and impacts on local, regional and state economy. The Commission may approve additional mercury reductions at a unit that has achieved initial mercury reductions under G.S. 143-215.107D in lieu of installing mercury controls at a unit that has no mercury controls if the Commission finds that:

- (1) installation of controls at the unit is not economically and technically feasible; and
- (2) continued operation of the unit without mercury controls will not cause or contribute to mercury-related health problems.

(d) Source testing. Duke Energy and Progress Energy shall each test several of its boilers in North Carolina, but no less than four boilers in North Carolina each, for mercury emissions that represent boiler types and control device configurations in North Carolina. The tests shall be conducted before installation of sulfur dioxide control devices and after the installation of sulfur dioxide control devices, or if the unit has a sulfur dioxide control device already installed, the test shall be conducted before the sulfur dioxide control device and after the sulfur dioxide control device. All testing shall occur between the effective date of this Rule and January 1, 2009. Either continuous emission monitors that comply with Rule .2505 of this Section or Method 101 or 102 of 40 CFR Part 61 Appendix B shall be used to measure mercury emissions. Each company shall submit a testing plan within nine months from the effective date of this Rule to the Director for his approval. The plan shall include:

- (1) the identity of the boilers to be tested and an explanation of why they were selected.
- (2) a schedule for testing the boilers, and
- (3) a testing protocol including testing procedures.

(e) Approval of testing. The Director shall approve the testing plan submitted under Paragraph (d) of this Rule if he finds that:

- (1) the elements required under Paragraph (d) of this Rule have been submitted,
- (2) the boilers selected represent the boiler types and control device configurations that the company has in North Carolina, and
- (3) the testing protocol and procedures are appropriate for the testing to be done.

(f) New sources. Any coal-fired electric steam generating unit to which this Rule applies and which begins construction after the effective date of this Rule shall install and operate best

available control technology for mercury. For purposes of this Rule, "best available control technology" means an emissions limitation based on the maximum degree of reduction of mercury from coal-fired electric steam generating units that is achievable for such units taking into account energy, environmental, and economic impacts and other costs. The Director shall identify best available mercury control technology on a case by case basis. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 40 CFR parts 60, 61, or 63.

(g) If implementation of the mercury control plan approved by the Commission under this Rule does not result in a level of reductions sufficient to meet the allocations under Rule .2503 of this Section, the utilities may acquire allowances for any excess emissions.

NCDQA History Note: Authority G.S. 143-215.3(a); 143-215.107(a)(5); 143-215.107D. Eff. January 1, 2007.

WNCRAQA History Note: Adopted Eff. March 19, 2007.