

.0533 STACK HEIGHT

- (a) For the purpose of this Rule, the following definitions apply:
- (1) "Stack" means any point in a source designed to emit solids, liquids, or gases into the air, including a pipe or duct but not including flares.
 - (2) "A stack in existence" means that the owner or operator had:
 - (A) begun, or caused to begin, a continuous program of physical on-site construction of the stack; or
 - (B) entered into binding agreements or contractual obligations, which could not be cancelled or modified without substantial loss to the owner or operator, to undertake a program of construction of the stack to be completed in the time that is normally required to construct such a stack.
 - (3) "Dispersion technique"
 - (A) "Dispersion technique" means any technique which attempts to affect the concentration of a pollutant in the ambient air by:
 - (i) using that portion of a stack which exceeds good engineering practice stack height,
 - (ii) varying the rate of emission of a pollutant according to atmospheric conditions or ambient concentrations of that pollutant, or
 - (iii) increasing final exhaust gas plume rise by manipulating source process parameters, exhaust gas parameters, stack parameters, or combining exhaust gases from several existing stacks into one stack; or other selective handling of exhaust gas streams so as to increase the exhaust gas plume rise.
 - (B) "Dispersion technique" does not include:
 - (i) the reheating of a gas stream, following use of a pollution control system, for the purpose of returning the gas to the temperature at which it was originally discharged from the facility generating the gas stream;
 - (ii) the using of smoke management in agricultural or silvicultural prescribed burning programs;
 - (iii) the merging of exhaust gas streams where:
 - (I) The facility owner or operator demonstrates that the source was originally designed and constructed with such merged gas streams;
 - (II) After July 8, 1985, such merging is part of a change in operation at the facility that includes the installation of pollution controls and is accompanied by a net reduction in the allowable emissions of a pollutant. This exclusion from the definition of "dispersion

techniques" shall apply only to the emission limitation for the pollutant affected by such change in operation; or

(III) Before July 8, 1985, such merging was part of a change in operation at the source that included the installation of emissions control equipment or was carried out for sound economic or engineering reasons. Where there was an increase in the emission limitation or in the event that no emission limitation was in existence prior to the merging, an increase in the quantity of pollutants actually emitted prior to the merging, the Director shall presume that merging was significantly motivated by an intent to gain emissions credit for greater dispersion. Absent a demonstration by the source owner or operator that merging was not significantly motivated by such intent, the Director shall deny credit for the effects of such merging in calculating the allowable emissions for the source;

(iv) Episodic restrictions on residential woodburning and open burning or;

(v) Techniques under Subpart (A)(iii) of this Subparagraph which increase final exhaust gas plume rise where the resulting allowable emissions of sulfur dioxide from the facility do not exceed 5,000 tons per year.

- (4) "Good engineering practice (GEP) stack height" means the greater of:
- (A) 65 meters measured from the ground-level elevation at the base of the stack;
 - (B) 2.5 times the height of nearby structure(s) measured from the ground-level elevation at the base of the stack for stacks in existence on January 12, 1979 and for which the owner or operator had obtained all applicable permit or approvals required under Chapter 17 and 40 CFR Parts 51 and 52, provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation;
 - (C) for stacks not covered under Part (B) of this Subparagraph, the height of nearby structure(s) measured from the ground-level elevation at the base of the stack plus 1.5 times the lesser dimension (height or projected width) of nearby structure(s) provided that the Director may require the use of a field study or fluid model to verify GEP stack height for the source; or
 - (D) the height demonstrated by a fluid model or a field study approved by the Director, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.
- (5) "Nearby" means, for a specific structure or terrain feature:

- (A) under Parts (4)(B) and (C) of this Paragraph, that distance up to five times the lesser of the height or the width dimension of a structure but not greater than one-half mile. The height of the structure is measured from the ground-level elevation at the base of the stack.
 - (B) under Part (4)(D) of this Paragraph, not greater than one-half mile, except that the portion of a terrain feature may be considered to be nearby which falls within a distance of up to 10 times the maximum height [Ht] of the feature, not to exceed two miles if such feature achieves a height [ht] one-half mile from the stack that is at least 40 percent of the GEP stack height determined by Part (4)(C) of this Paragraph or 26 meters, whichever is greater, as measured from the ground-level elevation at the base of the stack. The height of the structure or terrain feature is measured from the ground-level elevation at the base of the stack.
- (6) "Excessive concentrations" means, for the purpose of determining good engineering practice stack height under Part (4)(D) of this Paragraph:
- (A) for sources seeking credit for stack height exceeding that established under Part (4)(B) or (C) of this Paragraph, a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, and eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and which contributes to a total concentration due to emissions from all sources that is greater than an ambient air quality standard. For sources subject to Rule .0530 of this Section, an excessive concentration alternatively means a maximum ground-level concentration due to emissions from a stack due in whole or part to downwash, wakes, or eddy effects produced by nearby structures or nearby terrain features which individually is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects and greater than a prevention of significant deterioration increment. The allowable emission rate to be used in making demonstrations under this part shall be prescribed by the new source performance standard that is applicable to the source category unless the owner or operator demonstrates that this emission rate is infeasible. Where such demonstrations are approved by the Director, an alternative emission rate shall be established in consultation with the source owner or operator;

- (B) for sources seeking credit after October 11, 1983, for increases in existing stack heights up to the heights established under Part (4)(B) or (C) of this Paragraph:
 - (i) a maximum ground-level concentration due in whole or part to downwash, wakes or eddy effects as provided in Part (A) of this Subparagraph, except that the emission rate specified by any applicable Rule in this Subchapter (or, in the absence of such a limit, the actual emission rate) shall be used, or
 - (ii) the actual presence of a local nuisance (odor, visibility impairment, or pollutant concentration) caused by the existing stack, as determined by the Director; and
 - (C) for sources seeking credit after January 12, 1979, for a stack height determined under Part (4)(B) or (C) of this Paragraph where the Director requires the use of a field study or fluid model to verify GEP stack height, for sources seeking stack height credit after November 9, 1984 based on the aerodynamic influence of cooling towers, and for sources seeking stack height credit after December 31, 1970 based on the aerodynamic influence of structures not adequately represented by Part (4)(B) or (C) of this Paragraph, a maximum ground-level concentration due in whole or part to downwash, wakes, or eddy effects that is at least 40 percent in excess of the maximum concentration experienced in the absence of such downwash, wakes, or eddy effects.
- (7) "Emission limitation" means a requirement established by this Chapter that limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirements that limit the level of opacity, prescribe equipment, set fuel specifications, or prescribe operation or maintenance procedures for a source to assure continuous emission reduction.
- (b) With the exception stated in Paragraphs (c) and (d) of this Rule, the degree of emission limitations required by any rule in this Chapter shall not be affected by:
 - (1) that amount of a stack height that exceeds good engineering practice; or
 - (2) any other dispersion technique.
 - (c) Paragraph (b) shall not apply to:
 - (1) stack heights in existence or dispersion techniques implemented before December 31, 1970, except where pollutants are being emitted from such stacks or using such dispersion techniques by sources, as defined in Section 111(a)(3) of the Clean Air Act, which were constructed, or reconstructed, or for which major modifications, as

defined in Rules .0530(b) and .0531(b) of this Section were carried out after December 31, 1970; or

- (2) coal-fired steam electric generating units, subject to provisions of Section 118 of the federal Clean Air Act, which began operation before July 1, 1957, and whose stacks were constructed under a construction contract awarded before February 8, 1974.

However, these exemptions shall not apply to a new stack that replaces a stack that is exempted by Subparagraphs (1) and (2) of this Paragraph. These exemptions shall not apply to a new source using a stack that is exempted by Subparagraphs (1) and (2) of this Paragraph.

- (d) This Rule shall not restrict the actual stack height of any source.

NCDAQ History Note: *Filed as a Temporary Amendment Eff. March 8, 1994 for a Period of 180 Days or Until the Permanent Rule is Effective, Whichever is Sooner; Statutory Authority G.S. 143-215.3(a)(1); Eff. November 1, 1982; Amended Eff. July 1, 1994; July 1, 1987; April 1, 1986.*

WNCRAQA History Note: *Adopted Eff. May 8, 2000*

.0534 FLUORIDE EMISSIONS FROM PHOSPHATE FERTILIZER INDUSTRY

- (a) Emissions of total fluorides shall not exceed:

- (1) 0.020 pounds per ton of phosphorus-bearing material fed to any wet-process phosphoric acid plant;
- (2) 0.010 pounds per ton of phosphorus-bearing material fed to any superphosphoric acid plant;
- (3) 0.40 pounds per ton of phosphorus-bearing material fed to any granular diammonium phosphate plant;
- (4) 0.20 pounds per ton of phosphorus-bearing material fed to any run-of-pile triple superphosphate plant including curring and storing process;
- (5) 0.20 pounds per ton of phosphorus-bearing material fed to any granular triple superphosphate plant that began operating after December 31, 1969;
- (6) 0.40 pounds per ton of phosphorus-bearing material fed to any granular triple superphosphate plant that began operating before January 1, 1970; and
- (7) 0.00050 pounds per hour per ton of phosphorus-bearing material cured or stored at any curing or storage facility associated with a granular triple supersphosphate plant.

- (b) The phosphorus-bearing material mentioned in Paragraph (a) of this Regulation shall be expressed as phosphorus pentoxide.

NCDQA History Note: *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. November 1, 1982.*

WNCRAQA History Note: *Adopted Eff. May 8, 2000*

.0535 EXCESS EMISSIONS REPORTING AND MALFUNCTIONS

(a) For this Rule the following definitions apply:

- (1) "Excess Emissions" means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of this Chapter; or by a permit condition; or that exceeds an emission limit established in a permit issued under Chapter 17.0700.
- (2) "Malfunction" means any unavoidable failure of air pollution control equipment, process equipment, or process to operate in a normal and usual manner that results in excess emissions. Excess emissions during periods of routine start-up and shut-down of process equipment are not considered a malfunction. Failures caused entirely or in part by poor maintenance, careless operations or any other upset condition within the control of the emission source are not considered a malfunction.
- (3) "Start-up" means the commencement of operation of any source that has shut-down or ceased operation for a period sufficient to cause temperature, pressure, process, chemical, or a pollution control device imbalance that would result in excess emission.
- (4) "Shut-down" means the cessation of the operation of any source for any purpose.

(b) This Rule does not apply to sources to which Rules .0524, .1110, or .1111 of this Chapter applies unless excess emissions exceed an emission limit established in a permit issued under Chapter 17.0700 that is more stringent than the emission limit set by Rules .0524, .1110 or .1111 of this Chapter.

(c) Any excess emissions that do not occur during start-up or shut-down are considered a violation of the appropriate rule unless the owner or operator of the source of excess emissions demonstrates to the Director, that the excess emissions are the result of a malfunction. To determine if the excess emissions are the result of a malfunction, the Director shall consider, along with any other pertinent information, the following:

- (1) The air cleaning device, process equipment, or process has been maintained and operated, to the maximum extent practicable, consistent with good practice for minimizing emissions;
- (2) Repairs have been made expeditiously when the emission limits have been exceeded;

- (3) The amount and duration of the excess emissions, including any bypass, have been minimized to the maximum extent practicable;
- (4) All practical steps have been taken to minimize the impact of the excess emissions on ambient air quality;
- (5) The excess emissions are not part of a recurring pattern indicative of inadequate design, operation, or maintenance;
- (6) The requirements of Paragraph (f) of this Rule have been met; and
- (7) If the source is required to have a malfunction abatement plan, it has followed that plan.

All malfunctions shall be repaired as expeditiously as practicable. However, the Director shall not excuse excess emissions caused by malfunctions from a source for more than 15 percent of the operating time during each calendar year. The Director may require the owner or operator of a facility to maintain records of the time that a source operates when it or its air pollution control equipment is malfunctioning or otherwise has excess emissions.

(d) All electric utility boiler units shall have a malfunction abatement plan approved by the Director as satisfying the requirements of Subparagraphs (1) through (3) of this Paragraph. In addition, the Director may require any other source to have a malfunction abatement plan approved by the Director as satisfying the requirements of Subparagraphs (1) through (3) of this Paragraph. If the Director requires a malfunction abatement plan for a source other than an electric utility boiler, the owner or operator of that source shall submit a malfunction abatement plan within 60 days after receipt of the Director's request. The malfunction plans of electric utility boiler units and of other sources required to have them shall be implemented when a malfunction or other breakdown occurs. The purpose of the malfunction abatement plan is to prevent, detect, and correct malfunctions or equipment failures that could result in excess emissions. A malfunction abatement plan shall contain:

- (1) a complete preventive maintenance program including:
 - (A) the identification of individuals or positions responsible for inspecting, maintaining and repairing air cleaning devices;
 - (B) a description of the items or conditions that will be inspected and maintained;
 - (C) the frequency of the inspection, maintenance services, and repairs; and
 - (D) an identification and quantities of the replacement parts that shall be maintained in inventory for quick replacement;
- (2) an identification of the source and air cleaning operating variables and outlet variables, such as opacity, grain loading, and pollutant concentration, that may be monitored to detect a malfunction or failure; the normal operating range of these variables and a description of the method of monitoring or surveillance procedures

and of informing operating personnel of any malfunctions, including alarm systems, lights or other indicators; and

- (3) a description of the corrective procedures that the owner or operator will take in case of a malfunction or failure to achieve compliance with the applicable rule as expeditiously as practicable but no longer than the next boiler or process outage that would provide for an orderly repair or correction of the malfunction or 15 days, whichever is shorter. If the owner or operator anticipates that the malfunction would continue for more than 15 days, a case-by-case repair schedule shall be established by the Director with the source.

The owner or operator shall maintain logs to show that the operation and maintenance parts of the malfunction abatement plan are implemented. These logs are subject to inspection by the Director or his designee upon request during business hours.

(e) The owner or operator of any source required by the Director to have a malfunction abatement plan shall submit a malfunction abatement plan to the Director within six months after it has been required by the Director. The malfunction abatement plan and any amendment to it shall be reviewed by the Director or his designee. If the plan carries out the objectives described by Paragraph (d) of this Rule, the Director shall approve it. If the plan does not carry out the objectives described by Paragraph (d) of this Rule, the Director shall disapprove the plan. The Director shall state his reasons for his disapproval. The person who submits the plan shall submit an amendment to the plan to satisfy the reasons for the Director's disapproval within 30 days of receipt of the Director's notification of disapproval. Any person having an approved malfunction abatement plan shall submit to the Director for his approval amendments reflecting changes in any element of the plan required by Paragraph (d) of this Rule or amendments when requested by the Director. The malfunction abatement plan and amendments to it shall be implemented within 90 days upon receipt of written notice of approval.

(f) The owner or operator of a source of excess emissions that last for more than four hours and that results from a malfunction, a breakdown of process or control equipment or any other abnormal conditions, shall:

- (1) notify the Director or his designee of any such occurrence by 9:00 a.m. Eastern time of the Agency's next business day of becoming aware of the occurrence and describe:
- (A) name and location of the facility,
 - (B) the nature and cause of the malfunction or breakdown,
 - (C) the time when the malfunction or breakdown is first observed,
 - (D) the expected duration, and
 - (E) an estimated rate of emissions;

- (2) notify the Director or his designee immediately when the corrective measures have been accomplished;
- (3) submit to the Director within 15 days after the request a written report that includes:
 - (A) name and location of the facility,
 - (B) identification or description of the processes and control devices involved in the malfunction or breakdown,
 - (C) the cause and nature of the event,
 - (D) time and duration of the violation or the expected duration of the excess emission if the malfunction or breakdown has not been fixed,
 - (E) estimated quantity of pollutant emitted,
 - (F) steps taken to control the emissions and to prevent recurrences and if the malfunction or breakdown has not been fixed, steps planned to be taken, and
 - (G) any other pertinent information requested by the Director.

After the malfunction or breakdown has been corrected, the Director may require the owner or operator of the source to test the source in accordance with Section .2600 of this Chapter to demonstrate compliance.

(g) Start-up and shut-down. Excess emissions during start-up and shut-down are considered a violation of the appropriate rule if the owner or operator cannot demonstrate that the excess emissions are unavoidable. To determine if excess emissions are unavoidable during startup or shutdown the Director shall consider the items listed in Paragraphs (c)(1), (c)(3), (c)(4), (c)(5), and (c)(7) of this Rule along with any other pertinent information. The Director may specify for a particular source the amount, time, and duration of emissions allowed during start-up or shut-down. The owner or operator shall, to the extent practicable, operate the source and any associated air pollution control equipment or monitoring equipment in a manner consistent with best practicable air pollution control practices to minimize emissions during start-up and shut-down.

NCDQA History Note: Authority G.S. 143-215.3(a)(1);143-215.107(a)(4); 143-215.107(a)(5);
 Eff. March 1, 1983.
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WNCRAQA History Note: Adopted Eff. May 8, 2000.
 Amended Eff. November 17, 2008; April 9, 2001.

.0536 PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS

(a) The purpose of this Rule is to establish particulate and visible emission limits for the listed units by utilizing control technology to protect the public health and welfare of the area and its citizens.

(b) Notwithstanding Rule .0503 of this Section, emissions of particulate matter from the utility boiler units specified in the following table shall not exceed the maximum emission rate in the table as measured by a stack test conducted in accordance with Section .2600 of this Chapter. The results of any stack test shall be reported within 30 days, and the test report shall be submitted within 60 days after the test. In addition to limitations contained in Rule .0521 of this Section, visible emissions from the utility boiler units specified in the table shall not exceed the annual average opacity limits in the table. Each day an annual average opacity value shall be calculated for each unit for the most recent 365-day period ending with the end of the previous day. The average is the sum of the measured non-overlapping six-minute averages of opacity determined only while the unit is in operation divided by the number of such measured non-overlapping six-minute averages. Start-up, shut-down, and non-operating time shall not be included in the annual average opacity calculation, but malfunction time shall be included, Rule .0535 of this Section notwithstanding. The Director may approve an alternate method of calculating the annual average opacity if:

- (1) the alternate method is submitted by the electric utility company,
- (2) the director concludes that the alternate method will not cause a systematic or unacceptable difference in calculated values from the specified method, and
- (3) it is mutually agreed that the values calculated using the alternate method can be used for enforcement purposes.

The owner or operator of each unit shall submit a report to the Director by the 30th day following the end of each month. This report shall show for each day of the previous month the calculated annual average opacity of each unit and the annual average opacity limit. If a violation occurs, the owner or operator of the unit shall immediately notify the Director.

Facility	Boiler/Unit	Maximum Emission Rate (Lb/Million BTU of Heat Input)	Annual Average Opacity Limit (Percent)
Duke Power Company			
Allen	1	0.25	20
	2	0.25	20
	3	0.25	13
	4	0.25	14
	5	0.25	17
Belews Creek	1	0.15	17

Facility	Boiler/Unit	Maximum Emission Rate (Lb/Million BTU of Heat Input)	Annual Average Opacity Limit (Percent)
	2	0.15	17
Buck	5	0.15	10
	6	0.15	10
	7	0.15	6
	8	0.15	8
	9	0.15	10
Cliffside	1	0.25	8
	2	0.25	12
	3	0.25	8
	4	0.25	8
	5	0.25	16
Dan River	1	0.15	7
	2	0.15	9
	3	0.25	20
Marshall	1	0.20	20
	2	0.20	20
	3	0.18	20
	4	0.18	20
Riverbend	4	0.12	12
	5	0.12	12
	6	0.12	12
	7	0.12	12
Carolina Power & Light Company			
Asheville	1	0.12	10
	2	0.12	5

Facility	Boiler/Unit	Maximum Emission Rate (Lb/Million BTU of Heat Input)	Annual Average Opacity Limit (Percent)
Cape Fear	5	0.20	17
	6	0.20	15
Lee	1	0.25	18
	2	0.13	11
	3	0.25	15
Roxboro	1	0.25	15
	2	0.16	20
	3	0.10	25
Sutton	1	0.11	14
	2	0.11	14
	3	0.11	20
Weatherspoon	1	0.14	8
	2	0.14	10
	3	0.15	23

(c) For the purpose of this Rule, the heat input shall be the total heat content of all fuels burned in the unit during the period of time for which the compliance determination is being made.

(d) Stack tests shall be conducted in accordance with Section .2600 of this Chapter, and six-minute average opacity readings shall be recorded during the tests. If a stack test and opacity data are acceptable to the Director, the results shall be used by the owner or operator to update and refine the mass-opacity curve for that unit at least annually or when otherwise requested by the Director. The owner or operator of a unit shall notify the Director whenever an alteration in the equipment, method of operation, fuel, or other factors, may cause a systematic change in the mass-opacity curve expected to last more than one month.

(e) The owner or operator of units listed in Paragraph (b) of this Rule shall produce each year for each unit at least one stack test conducted in accordance with Section .2600 of this Chapter, the results of which are submitted to and accepted by the Director and which demonstrate achievement of the maximum emission rate for that unit.

(f) Whenever a stack test shows emissions of particulate matter exceeding the maximum emission rate listed in Paragraph (b) of this Rule, all necessary steps shall be taken to ensure

that the emissions of particulate matter do not continue to exceed the maximum emission rate and a retest shall be conducted before the 45th operating day following the day the excess was measured.

(g) Opacity shall be measured using an opacity monitoring system that meets the performance specifications of Appendix B of 40 CFR Part 60. The opacity monitoring system shall be subjected to a quality assurance program in accordance with Rule .0613 of this Section approved by the Director. The owner or operator of each unit subject to this Rule shall have on file with the Director an approved quality assurance program, and shall submit to the Director within the time period of his request for his approval a revised quality assurance program, including procedures and frequencies for calibration, standards traceability, operational checks, maintenance, auditing, data validation, and a schedule for implementing the quality assurance program.

(h) The owner or operator of each unit subject to this Rule shall have on file with the Director an approved malfunction abatement plan, and shall submit to the Director within the time period of his request for his approval a revised malfunction abatement plan, in accordance with Rule .0535 (d) and (e) of this Section. The owner or operator shall submit each month for each malfunction and other equipment failures that occurred at each unit during the preceding month a report that meets the requirements of Rule .0535 (f)(3) of this Section.

*NCDAQ History Note: Statutory Authority G.S. 143-215.3(a)(1); 143-215.107 (a)(5); Eff. March 1, 1983.
Amended Eff. June 1, 2008; April 1, 2001; August 1, 1991; August 1, 1987; February 1, 1986.*

*WNCRAQA History Note: Adopted Eff. May 8, 2000.
Amended Eff. November 17, 2008; April 9, 2001.*

.0537 CONTROL OF MERCURY EMISSIONS

(a) For the purpose of this Rule, the following definitions apply:

- (1) "Mercury" means the element mercury, excluding any associated elements, and includes mercury in particulates, vapors, aerosols, and compounds.
- (2) "Stationary source" means the total plant site. This includes all emissions (stacks, ducts, vents, openings, fugitives, etc.) to the atmosphere within the property boundary.

(b) This Rule shall apply to all new and existing stationary sources engaged in the handling or processing of mercury and not subject to standards on emissions for mercury in Rule .0530, .1110, or .1111 of this Chapter.

(c) An owner or operator of a stationary source engaged in the handling or processing of mercury shall not cause, allow, or permit particulate or gaseous mercury emissions in excess of 2300 grams per day into the outdoor atmosphere.

*NCDAQ History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. June 1, 1985;
Amended Eff. July 1, 1996.*

WNCRAQA History Note: Adopted Eff. May 8, 2000

.0538 CONTROL OF ETHYLENE OXIDE EMISSIONS

(a) For purposes of this Rule, "medical devices" means instruments, apparatus, implements, machines, implants, in vitro reagents, contrivances, or other similar or related articles including their components, parts, and accessories, intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease in man or other animals; or intended to affect the structure or any function of the body of man or other animals.

(b) This Rule applies to emissions of ethylene oxide resulting from use as a sterilant in:

- (1) the production and subsequent storage of medical devices; or
- (2) the packaging and subsequent storage of medical devices for sale;

at facilities for which construction began after August 31, 1992.

(c) This Rule does not apply to hospital or medical facilities.

(d) Facilities subject to this Rule shall comply with the following standards:

- (1) For sterilization chamber evacuation, a closed loop liquid ring vacuum pump, or equipment demonstrated to be as effective at reducing emissions of ethylene oxide shall be used;
- (2) For sterilizer exhaust, a reduction in the weight of uncontrolled emissions of ethylene oxide of at least 99.8 percent by weight shall be achieved;
- (3) For sterilizer unload and backdraft valve exhaust, a reduction:
 - (A) in controlled emissions of ethylene oxide of at least 99 percent by weight shall be achieved; or
 - (B) to no more than one part per million by volume of ethylene oxide shall be achieved.
- (4) Sterilized product ethylene oxide residual shall be reduced by:
 - (A) a heated degassing room to aerate the products after removal from the sterilization chamber; the temperature of the degassing room shall be maintained at a minimum of 95° Fahrenheit during the degassing cycle, and product hold time in the aeration room shall be at least 24 hours; or

(B) a process demonstrated to be as effective as Subparagraph (d)(4)(A) of this Rule.

(5) Emissions of ethylene oxide from the degassing area (or equivalent process) shall be vented to a control device capable of reducing uncontrolled ethylene oxide emissions by at least 99 percent by weight or to no more than one part per million by volume of ethylene oxide. The product aeration room and the product transfer area shall be maintained under a negative pressure;

(e) Before installation of the controls required by Paragraph (d) of this Rule, and annually thereafter, a written description of waste reduction, elimination, or recycling plan shall be submitted [as specified in G.S. 143-215.108(g)] to determine if ethylene oxide use can be reduced or eliminated through alternative sterilization methods or process modifications.

(f) The owner or operator of the facility shall conduct a performance test to verify initial efficiency of the control devices. The owner or operator shall maintain temperature records to demonstrate proper operation of the degassing room. Such records shall be retained for a period of at least two calendar years and shall be made available for inspection by Agency personnel.

(g) If the owner or operator of a facility subject to the Rule demonstrates, using the procedures in Rule .1106 of this Section, that the emissions of ethylene oxide from all sources at the facility do not cause the acceptable ambient level of ethylene oxide in Rule .1104 of this Section to be exceeded, then the requirements of Paragraphs (d) through (e) of this Rule shall not apply. This demonstration shall be at the option of the owner or operator of the facility. If this option is chosen, the Director shall write the facility's permit to satisfy the requirements of Rule .1104(a) of this Section.

NCDAQ History Note: *Statutory Authority G.S. 143-215.3(a)(1); 143-215.107(a)(4),(5);
143-215.108(c);
Eff. September 1, 1992;
Amended Eff. June 1, 2004; August 1, 2002.*

WNCRAQA History Note: *Adopted Eff. May 8, 2000;
Amended Eff. July 12, 2004; September 9, 2002.*

.0539 ODOR CONTROL OF FEED INGREDIENT MANUFACTURING PLANTS

(a) Applicability. The requirements of this Rule apply to any facility that produces feed-grade animal proteins or feed-grade animal fats and oils, but do not apply to any portions of such facilities that are engaged exclusively in the processing of food for human consumption.

(b) This Rule does not apply to those facilities solely engaged in the processing of marine byproducts. Those facilities, however, shall continue to control their odorous emissions in accordance with Rule .1806 of this Chapter.

(c) A person shall not allow, cause, or permit the operation or use of any device, machine, equipment, or other contrivance to process material to be used in the production of feed-grade animal proteins or feed-grade animal fats and oils unless all gases, vapors, and gas-entrained effluents from these processes are passed through condensers to remove all steam and other condensable materials. All noncondensibles passing through the condensers shall then be incinerated at 1200 degrees Fahrenheit for a period of not less than 0.3 seconds, or treated in an equally effective manner.

(d) Measurement and Recording Requirements. Any person processing or incinerating gases, vapors, or gas-entrained matter as required by Paragraph (c) of this Rule shall install, operate, and maintain in good working order and calibration continuous measuring and recording devices for equipment operational parameters to document equipment operation in accordance with this Rule. In addition, the owner or operator of the facility shall:

- (1) demonstrate that the measuring and recording devices are capable of verifying the compliance status of the equipment on a continuous basis;
- (2) describe the parameters to be used to determine the compliance status and how these parameters:
 - (A) are to be measured,
 - (B) are to be used to determine compliance status; and
- (3) provide a quality assurance program approved by the Director for all monitoring devices and systems that includes:
 - (A) procedures and frequencies for calibration,
 - (B) standards traceability,
 - (C) operational checks,
 - (D) maintenance schedules and procedures,
 - (E) auditing schedules and procedures,
 - (F) data validation, and
 - (G) schedule for implementing the quality assurance program.

These data shall be available to the Director upon request.

(e) A person shall not allow, cause, or permit the installation or operation of expeller units unless they are properly hooded and all exhaust gases are collected or ducted to odor control equipment.

(f) A person subject to this Rule shall not cause or permit any raw material to be handled, transported, or stored, or to undertake the preparation of any raw material without taking reasonable precautions to prevent odors from being discharged. For the purpose of this Rule,

such raw material is in "storage" after it has been unloaded at a facility or after it has been located at the facility for at least 24 hours. Reasonable precautions shall include the following:

- (1) storage of all raw material before or in the process of preparation, in properly enclosed and vented equipment or areas, together with the use of effective devices and methods to prevent the discharge of odor bearing gases;
- (2) use of covered vehicles or containers of watertight construction for the handling and transporting of any raw material; and
- (3) use of hoods and fans to enclose and vent the storage, handling, preparation, and conveying of any odorous materials together with effective devices or methods, or both, to prevent emissions of odors or odor bearing gases.

(g) The owner or operator shall notify the Director within two business days after conditions are encountered that cause or may cause release of excessive and malodorous gases or vapors.

(h) Compliance Schedule. The owner or operator of a facility subject to this Rule that begins construction or is in operation before July 1, 1996, shall adhere to the following increments of progress and schedules:

- (1) documentation that the facility complies with this Rule or an air permit application containing plans to bring the facility into compliance and a schedule shall be submitted by January 1, 1997;
- (2) the compliance schedule shall contain the following increments of progress:
 - (A) a date by which contracts for the emission control system and process equipment shall be awarded or orders shall be issued for purchase of component parts;
 - (B) a date by which on-site construction or installation of the emission control and process equipment shall begin;
 - (C) a date by which on-site construction or installation of the emission control and process equipment shall be completed; and
 - (D) a date by which final compliance shall be achieved.
- (3) The final compliance date under Subparagraph (2)(D) of this Paragraph shall be no later than July 1, 2001.

The owner or operator shall certify to the Director within five days after the deadline, for each increment of progress, whether the required increment of progress has been met.

(i) The owner or operator of a facility that begins construction after June 30, 1996, shall be in compliance with this Rule before beginning operation.

NCDAQ History Note:

Authority G.S. 143-215.3(a)(1); 143-215.66; 143-215.107 (a)(5);

Eff. July 1, 1996.

Amended Eff. April 1, 2001.

*WNCRAQA History Note: Adopted Eff. May 8, 2000.
 Amended Eff. April 9, 2001.*

.0540 PARTICULATES FROM FUGITIVE DUST EMISSION SOURCES

- (a) For the purpose of this Rule the following definitions apply:
- (1) "Excess fugitive dust emissions" means:
 - (A) Fugitive dust is visible extending beyond the facility's property line, or
 - (B) Upon inspection of settled dust on adjacent property, the Agency finds that the dust came from the adjacent facility.
 - (2) "Fugitive dust emissions" means particulate matter that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).
 - (3) "Production of crops" means:
 - (A) cultivation of land for crop planting;
 - (B) crop irrigation;
 - (C) harvesting;
 - (D) on site curing, storage, or preparation of crops; or
 - (E) protecting them from damage or disease conducted according to practices acceptable to the North Carolina Department of Agriculture and Consumer Services.
 - (4) "Public parking" means an area dedicated to or maintained for the parking of vehicles by the general public.
 - (5) "Public road" means any road that is part of the State highway system or any road, street, or right-of-way dedicated or maintained for public use.
 - (6) "Substantive complaints" means complaints that are verified with physical evidence.
- (b) This Rule does not apply to:
- (1) abrasive blasting covered under Rule .0541 of this Section;
 - (2) cotton ginning operations covered under Rule .0542 of this Section;
 - (3) non-production military base operations; or
 - (4) public roads, public parking, timber harvesting, or production of crops.
- (c) No person shall cause, permit, suffer or allow particulate matter to become airborne in the ambient air as a result of the construction, alteration, maintenance, repair or demolition of any road, bridge, tunnel, railroad track right of way, vehicle, equipment, machinery, building or structure without taking reasonable precautions, approved by the board, for the prevention of such particulate matter from becoming airborne.

(d) The owner or operator of a facility required to have a permit under Chapter 17 or of a source subject to a requirement under Chapter 4 shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints, or visible emissions in excess of that allowed under Paragraph (f) of this Rule.

(e) If fugitive dust emissions from a facility required to comply with this Rule cause or contribute to substantive complaints, the owner or operator of the facility shall:

- (1) within 30 days upon receipt of written notification from the Director of a second substantive complaint in a 12-month period, submit to the Director a written report that includes the identification of the probable source(s) of the fugitive dust emissions causing complaints and what measures can be made to abate the fugitive emissions;
- (2) within 60 days of the initial report submitted under Subparagraph (1) of this Paragraph, submit to the Director a control plan as described in Paragraph (g) of this Rule; and
- (3) within 30 days after the Director approves the plan, be in compliance with the plan.

(f) If there is sufficient environmental benefit to justify a fugitive dust control plan, the Director shall require that the owner or operator of a facility covered by Paragraph (d) of this Rule develop and submit a fugitive dust control plan as described in Paragraph (g) of this Rule if:

- (1) ambient air quality measurements or dispersion modeling as provided in Chapter 4 .1106(e) show violation or a potential for a violation of an ambient air quality standard for particulates in Chapter 4 .0400; or
- (2) the Agency observes excessive fugitive dust emissions from the facility beyond the property boundaries for six minutes in any one hour using Reference Method 22 in 40 CFR 60, Appendix A.

(g) The fugitive dust control plan shall:

- (1) identify the sources of fugitive dust emissions within the facility;
- (2) describe how fugitive dust will be controlled from each identified source;
- (3) contain a schedule by which the plan will be implemented;
- (4) describe how the plan will be implemented, including training of facility personnel; and
- (5) describe methods to verify compliance with the plan.

(h) The Director shall approve the plan if he finds that:

- (1) the plan contains all required elements in Paragraph (g) of this Rule;
- (2) the proposed schedule contained in the plan will reduce fugitive dust emissions in a timely manner;
- (3) the methods used to control fugitive dust emissions are sufficient to prevent fugitive dust emissions from causing or contributing to a violation of the ambient air quality standards for particulates; and

- (4) the described compliance verification methods are sufficient to verify compliance with the plan.

If the Director finds that the proposed plan does not meet the requirements of this Paragraph he shall notify the owner or operator of the facility of any deficiencies in the proposed plan. The owner or operator shall have 30 days after receiving written notification from the Director to correct the deficiencies or submit a schedule describing actions to be taken and the time by which they will be implemented.

(i) If after a plan has been implemented, the Director finds that the plan inadequately controls fugitive dust emissions, he shall require the owner or operator of the facility to correct the deficiencies in the plan. Within 90 days after receiving written notification from the Director identifying the deficiency, the owner or operator of the facility shall submit a revision to his plan to correct the deficiencies.

NCDAQ History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 143-215.108(c)(7);
Eff. July 1, 1998.
Amended Eff. July 10, 2010; August 1, 2007.

WNCRAQA History Note: Adopted Eff. May 8, 2000;
Amended Eff. September 13, 2010; May 10, 2004.

.0541 CONTROL OF EMISSIONS FROM ABRASIVE BLASTING

- (a) For the purpose of this Rule, the following definitions apply:
- (1) "Abrasives" means any material used in abrasive blasting operations.
 - (2) "Abrasive blasting" means the operation of cleaning or preparing a surface by forcibly propelling a stream of abrasive material against the surface. Sandblasting is one form of abrasive blasting.
 - (3) "Abrasive blasting equipment" means any equipment used in abrasive blasting operations.
 - (4) "Fugitive dust emissions" means emissions of particulate matter into the outdoor atmosphere that is not vented or captured by a stack or chimney.
 - (5) "Building" means a structure with four or more sides and a roof that is used, in whole or in part, to house or contain abrasive blasting.

(b) The owner or operator shall ensure that any abrasive blasting operation conducted outside a building or conducted indoors and vented to the atmosphere is performed in accordance with the requirements set forth in Chapter 4 .0521, Control of Visible Emissions. For the purposes of this Rule, the visible emissions reading for abrasive blasting performed outside a

building shall be taken at a spot approximately one meter above the point of abrasive blasting with a viewing distance of approximately five meters.

(c) Except as provided in Paragraph (d) of this Rule, all abrasive blasting operations shall be conducted within a building.

(d) An abrasive blasting operation conducted under one or more of the following conditions is not required to be conducted within a building:

- (1) when the item to be blasted exceeds eight feet in any dimension,
- (2) when the surface being blasted is situated at its permanent location or not further away from its permanent location than is necessary to allow the surface to be blasted, or
- (3) when the abrasive blasting operation is conducted at a private residence or farm and the visible emissions created by this abrasive blasting operation do not migrate beyond the property boundary of the private residence or farm on which the abrasive blasting operation is being conducted.

(e) The owner or operator of any abrasive blasting operation conducted in accordance with Subparagraphs (d)(1) and (d)(2) of this Rule, outside a building, shall take appropriate measures to ensure that the fugitive dust emissions created by the abrasive blasting operation do not migrate beyond the property boundaries in which the abrasive blasting operation is being conducted. Appropriate measures include the following:

- (1) the addition of a suppressant to the abrasive blasting material,
- (2) wet abrasive blasting,
- (3) hydroblasting,
- (4) vacuum blasting,
- (5) shrouded blasting, or
- (6) shrouded hydroblasting.

NCDQA History Note: Authority G.S. 143-215.3(a)(1); 143-215.108(c)(7); 143-215.108(d)(1);
Eff. July 1, 2000.

WNCRAQA History Note: Adopted Eff. July 10, 2000

.0542 CONTROL OF PARTICULATE EMISSIONS FROM COTTON GINNING OPERATIONS

(a) Purpose. The purpose of this Rule is to establish control requirements for particulate emissions from cotton ginning operations.

(b) Definitions. For the purposes of this Rule the following definitions apply:

- (1) "1D-3D cyclone" means any cyclone-type collector of the 1D-3D configuration. This designation refers to the ratio of the cylinder to cone length, where D is the diameter of the cylinder portion. A 1D-3D cyclone has a cylinder length of 1xD and a cone length of 3xD.
 - (2) "2D-2D cyclone" means any cyclone-type collector of the 2D-2D configuration. This designation refers to the ratio of the cylinder to cone length, where D is the diameter of the cylinder portion. A 2D-2D cyclone has a cylinder length of 2xD and a cone length of 2xD.
 - (3) "Bale" means a compressed and bound package of cotton lint, nominally weighing 500 pounds.
 - (4) "Existing facility" means a cotton ginning operation that operated prior to July 1, 2002.
 - (5) "Ginning operation" means any facility or plant that removes seed, lint, and trash or one or more combination of these from raw cotton or bales of lint cotton.
 - (6) "Ginning season" means the period of time during which the gin is in operation, which is generally from September of the current year through January of the following year;
 - (7) "High pressure exhausts" means the exhaust air systems at a cotton gin that are not defined as "low pressure exhausts."
 - (8) "Low pressure exhausts" means the exhaust cotton handling systems located at a cotton gin that handle air from the cotton lint handling system and battery condenser.
- (c) Applicability. This rule applies to all existing, new, and modified cotton ginning operations. Existing facilities with a maximum rated capacity of less than 20 bales per hour that do not have cyclones on lint cleaners and battery condensers as of July 1, 2002 are not required to add:
- (1) the emission control devices in Paragraph (d)(1) of this Rule to lint cleaning exhausts if emissions from the lint cleaning are controlled by fine mesh screens; and
 - (2) the emission control devices in Paragraph (d)(2) of this Rule to battery condenser exhausts if the emissions from the battery condenser are controlled by fine mesh screens.
- (d) Emission Control Requirements. The owner or operator of each cotton ginning operation shall control particulate emissions from the facility by controlling:
- (1) all high pressure exhausts and lint cleaning exhausts with an emission control system that includes:
 - (A) one or more 1D-3D or 2D-2D cyclones to achieve 95 percent efficiency; or
 - (B) a device with a minimum of 95 percent efficiency.
 - (2) low pressure exhausts, except lint cleaning exhausts, by an emission control system that includes:
 - (A) one or more 1D-3D or 2D-2D cyclones to achieve 90 percent efficiency; or

(B) a device with at least a 90 percent efficiency.

Efficiency is based on the removal of particulate matter between the cyclone's inlet and outlet; it is measured using test methods in Section .2600 of this Chapter.

(e) Raincaps. Exhausts from emission points or control devices shall not be equipped with raincaps or other devices that deflect the emissions downward or outward.

(f) Operation and Maintenance. To ensure that optimum control efficiency is maintained, the owner or operator shall establish, based on manufacturers recommendations, an inspection and maintenance schedule for the control devices, other emission processing equipment, and monitoring devices that are used pursuant to this Rule. The inspection and maintenance schedule shall be followed throughout the ginning season. The results of the inspections and any maintenance performed on the control equipment, emission processing equipment, or monitoring devices shall be recorded in the log book required in Paragraph (k) of this Rule.

(g) Fugitive Emissions. The owner or operator shall minimize fugitive emissions from cotton ginning operations as follows.

(1) The owner or operator of a

(A) trash stacker shall:

- (i) install, maintain, and operate a three sided enclosure with a roof whose sides are high enough above the opening of the dumping device to prevent wind from dispersing dust or debris; or
- (ii) install, maintain, and operate a device to provide wet suppression at the dump area of the trash cyclone and minimize free fall distance of waste material exiting the trash cyclone; or

(B) trash stacker/trash composting system shall install, maintain, and operate a wet suppression system providing dust suppression in the auger box assembly and at the dump area of the trash stacker system. The owner or operator shall keep the trash material wet and compost it in place until the material is removed from the dump area for additional composting or disposal.

(2) Gin Yard. The owner or operator shall clean and dispose of accumulations of trash or lint on the non-storage areas of the gin yard daily.

(3) Traffic areas. The owner or operator shall clean paved roadways, parking, and other traffic areas at the facility as necessary to prevent re-entrainment of dust or debris. The owner or operator shall treat unpaved roadways, parking, and other traffic areas at the facility with wet or chemical dust suppressant as necessary to prevent dust from leaving the facility's property and shall install and maintain signs limiting vehicle speed to 10 miles per hour where chemical suppression is used and to 15 miles per hour where wet suppression is used.

- (4) Transport of Trash Material. The owner or operator shall ensure that all trucks transporting gin trash material are covered and that the trucks are cleaned of over-spill material before trucks leave the trash hopper dump area. The dump area shall be cleaned daily.
- (h) Alternative Control Measures. The owner or operator of a ginning operation may petition for use of alternative control measures to those specified in this Rule. The petition shall include:
- (1) the name and address of the petitioner;
 - (2) the location and description of the ginning operation;
 - (3) a description of the alternative control measure;
 - (4) a demonstration that the alternative control measure is at least as effective as the control device or method specified in this Rule.
- (i) Approval of Alternative Control Measure. The Director shall approve the alternative control measure if he finds that:
- (1) all the information required by Paragraph (h) of this Rule has been submitted; and
 - (2) the alternative control measure is at least as effective as the control device or method specified in this Rule.
- (j) Monitoring.
- (1) The owner or operator of each ginning operation shall install, maintain, and calibrate monitoring devices that measure pressures, rates of flow, and other operating conditions necessary to determine if the control devices are functioning properly.
 - (2) Before or during the first week of operation of the 2002-2003 ginning season, the owner or operator of each gin shall conduct a baseline study of the entire dust collection system, without cotton being processed, to ensure air flows are within the design range for each collection device. For 2D-2D cyclones the air flow design range is 2700 to 3600 feet per minute. For 1D-3D cyclones the design range is 2800 to 3600 feet per minute. For other control devices the air flow design range is that found in the manufacturer's specifications. Gins constructed after the 2002-2003 ginning season shall conduct the baseline study before or during the first week of operation of the first ginning season following construction. During the baseline study the owner or operator shall measure or determine according to the methods specified in this Paragraph and record in a logbook:
 - (A) the calculated inlet velocity for each control device; and
 - (B) the pressure drop across each control device.The owner or operator shall use Method 1 and Method 2 of 40 CFR Part 60 Appendix A to measure flow and static pressure and determine inlet velocity or the USDA method for determining duct velocity and static pressure in Agricultural Handbook Number 503, *Cotton Ginners Handbook*, dated December 1994. The Cotton Ginners

Handbook method shall only be used where test holes are located a minimum of eight and one-half pipe diameters downstream and one and one-half pipe diameters upstream from elbows, valves, dampers, changes in duct diameter or any other flow disturbances. Where Method 2 is used a standard pitot tube may be used in lieu of the s-pitot specified in Method 2 subject to the conditions specified in Paragraph 2.1 of Method 2.

- (3) On a monthly basis following the baseline study, the owner or operator shall measure and record in the logbook the static pressure at each port where the static pressure was measured in the baseline study. Measurements shall be made using a manometer, a Magnahelic® gauge, or other device that the Director has approved as being equivalent to a manometer. If the owner or operator measures a change in static pressure of 20 percent or more from that measured in the baseline study, the owner or operator shall initiate corrective action. Corrective action shall be recorded in the logbook. If corrective action will take more than 48 hours to complete, the owner or operator shall notify the regional supervisor of the region in which the ginning operation is located as soon as possible, but by no later than the end of the day such static pressure is measured.
- (4) When any design changes to the dust control system are made, the owner or operator shall conduct a new baseline study for that portion of the system and shall record the new values in the logbook required in Paragraph (k) of this Rule. Thereafter monthly static pressure readings for that portion of the system shall be compared to the new values.
- (5) During the ginning season, the owner or operator shall daily inspect for structural integrity of the control devices and other emissions processing systems and shall ensure that the control devices and emission processing systems conform to normal and proper operation of the gin. If a problem is found, corrective action shall be taken and recorded in the logbook required in Paragraph (k) of this Rule.
- (6) At the conclusion of the ginning season, the owner or operator shall conduct an inspection of the facility to identify all scheduled maintenance activities and repairs needed relating to the maintenance and proper operation of the air pollution control devices for the next season. Any deficiencies identified through the inspection shall be corrected before beginning operation of the gin for the next season.

(k) Recordkeeping. The owner operator shall establish and maintain on-site a logbook documenting the following items:

- (1) Results of the baseline study as specified in Paragraph (j)(2) of this Rule;
- (2) Results of new baseline studies as specified in Paragraph (j)(4) of this Rule;

- (3) Results of monthly static pressure checks and any corrective action taken as specified in Paragraph (j)(3) of this Rule;
- (4) Observations from daily inspections of the facility and any resulting corrective actions taken as required in Paragraph (j)(5) of this Rule; and
- (5) A copy of the manufacturer's specifications for each type of control device installed.

The logbook shall be maintained on site and made available to Agency representatives upon request.

- (l) Reporting. The owner or operator shall submit by March 1 of each year a report containing the following:
- (1) the name and location of the cotton gin;
 - (2) the number of bales of cotton produced during the previous ginning season;
 - (3) a maintenance and repair schedule based on inspection of the facility at the conclusion of the previous cotton ginning season required in Paragraph (j)(6) of this Rule; and
 - (4) signature of the appropriate official as identified in Chapter 17.0304(j), certifying as to the truth and accuracy of the report.

(m) Compliance Schedule. Existing sources shall comply as specified in Paragraph (d) of this Rule. New and modified sources shall be in compliance upon start-up.

(n) Record retention. The owner or operator shall retain all records required to be kept by this Rule for three years from the date of recording.

NCDAQ History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. August 1, 2002;
Amended Eff. June 1, 2008.

WNCRAQA History Note: Adopted Eff. September 9, 2002.
Amended Eff. November 17, 2008.

.0543 BEST AVAILABLE RETROFIT TECHNOLOGY

- (a) For the purposes of this Rule, the definitions at 40 CFR 51.301 shall apply.
- (b) Mandatory Class I Federal areas are identified in 40 CFR Part 81, Subpart D.
- (c) The Director shall have the maximum flexibility allowed under 40 CFR 51.308 or 40 CFR Part 51, Appendix Y.
- (d) This rule applies to BART-eligible sources as determined using 40 CFR Part 51, Appendix Y that cause or contribute to any visibility impairment in a mandatory Class I Federal area as determined by using 40 CFR Part 51, Subpart P.

(e) Unless exempted under 40 CFR 51.303, the owner or operator of a BART-eligible emission unit subject to this Rule shall perform a best available retrofit technology (BART) evaluation for that emission unit. Pursuant to 40 CFR 51.308, the evaluation shall include:

- (1) the technology available,
- (2) the cost of compliance,
- (3) the energy and non-air quality environmental impacts of compliance,
- (4) any pollution control equipment in use at source,
- (5) the remaining useful life of the source, and
- (6) the degree of improvement in visibility that may reasonably be anticipated to result from the use of such technology.

(f) The owner or operator of a BART-subject emission unit shall install, operate, and maintain BART as approved by the Director after considering the six items listed in Paragraph (e) of this Rule and incorporated in the unit's permit issued under Chapter 17.

(g) The owner or operators of a BART-eligible source required to install BART under this Rule shall submit permit applications for the installation and operation of BART by September 1, 2006. The Director shall extend the deadline for submitting a permit application if additional time is needed to complete the evaluation required under Paragraph (e) of this Rule.

(h) BART shall be determined using "Guidelines for Determining Best Available Retrofit Technology for Coal-fired Power Plants and Other Existing Stationary Facilities" (1980), 40 CFR 51.308(e)(1)(ii), and 40 CFR Part 51, Appendix Y. Electric generating units covered under and complying with Chapter 4.2400, Clean Air Interstate Rules, are considered to be in compliance with the BART requirements for nitrogen oxides and sulfur dioxide under this Rule.

(i) The owner or operator of a BART-eligible source required to install BART under this Rule shall have installed and begun operation of the BART controls by December 31, 2012.

(j) "Guidelines for Determining Best Available Retrofit Technology for Coal-fired Power Plants and Other Existing Stationary Facilities" is incorporated by reference, exclusive of appendix E, and shall include any later amendments or editions. This document, which was published in the Federal Register on February 6, 1980 (45 FR 8210), is EPA publication No. 450/3-80-009b and can be obtained from the U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 for \$84.00. It is also available for inspection at the National Archives and Records Administration (NARA). Information on the availability of this material at NARA may be found at:

http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

NCEAQ History Note:

Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5), (10)

Eff. July 1, 2006.

Amended Eff. May 1, 2007.

*WNCRAQA History Note: Adopted Eff. September 11, 2006.
 Amended Eff. July 9, 2007.*

.0544 PREVENTION OF SIGNIFICANT DETERIORATION REQUIREMENTS FOR GREENHOUSE GASES

(a) The purpose of this Rule is to implement a program for the prevention of significant deterioration of air quality for greenhouse gases as required by 40 CFR 51.166. For purposes of greenhouse gases, the provisions of this Rule shall apply rather than the provisions of Rule .0530 of this Section. A major stationary source or major modification shall not be required to obtain a prevention of significant deterioration (PSD) permit on the sole basis of its greenhouse gases emissions. For all other regulated new source review (NSR) pollutants, the provisions of Rule .0530 of this Section apply.

(b) For the purposes of this Rule, the definitions contained in 40 CFR 51.166(b) and 40 CFR 51.301 shall apply except the definition of "baseline actual emissions." "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated NSR pollutant, as determined in accordance with Subparagraphs (1) through (3) of this Paragraph:

- (1) For an existing emissions unit, baseline actual emissions means the average rate, in tons per year, at which the emissions unit emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period preceding the date that a complete permit application is received by the Agency for a permit required under this Rule. The Director shall allow a different time period, not to exceed 10 years preceding the date that a complete permit application is received by the Agency, if the owner or operator demonstrates that it is more representative of normal source operation. For the purpose of determining baseline actual emissions, the following shall apply:
 - (A) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions;
 - (B) The average rate shall be adjusted downward to exclude any non-compliant emissions that occurred while the source was operating above any emission limitation that was legally enforceable during the consecutive 24-month period;
 - (C) For an existing emission unit (other than an electric utility steam generating unit), the average rate shall be adjusted downward to exclude any emissions that would have exceeded an emission limitation with which the major stationary source shall currently comply. However, if the State has taken credit in an attainment demonstration or maintenance plan consistent with

the requirements of 40 CFR 51.165(a)(3)(ii)(G) for an emission limitation that is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under part 63 of the Code of Federal Regulations, the baseline actual emissions shall be adjusted to account for such emission reductions;

- (D) For an electric utility steam generating unit, the average rate shall be adjusted downward to reflect any emissions reductions under G.S. 143-215.107D and for which cost recovery is sought pursuant to G.S. 62-133.6;
 - (E) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period shall be used to determine the baseline actual emissions for all the emissions units being changed. A different consecutive 24-month period for each regulated NSR pollutant can be used for each regulated NSR pollutant; and
 - (F) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by Parts (B) and (C) of this Subparagraph;
- (2) For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit; and
 - (3) For a plantwide applicability limit (PAL) for a stationary source, the baseline actual emissions shall be calculated for existing emissions units in accordance with the procedures contained in Subparagraph (1) of this Paragraph and for a new emissions unit in accordance with the procedures contained in Subparagraph (2) of this Paragraph.
- (c) In the definition of "net emissions increase," the reasonable period specified in 40 CFR 51.166(b)(3)(ii) shall be seven years.
 - (d) In the definition of "subject to regulation", a greenhouse gas's global warming potential is the global warming potential published at Table A-1 of Subpart A of 40 CFR Part 98 and shall include subsequent amendments and editions.
 - (e) The limitation specified in 40 CFR 51.166(b)(15)(ii) shall not apply.
 - (f) Major stationary sources and major modifications shall comply with the requirements contained in 40 CFR 51.166(i) and (a)(7) and by extension in 40 CFR 51.166(j) through (o) and (w). The transition provisions allowed by 40 CFR 52.21 (i)(11)(i) and (ii) and (m)(1)(vii) and (viii) are hereby adopted under this Rule. The minimum requirements described in the portions of 40 CFR 51.166 referenced in this Paragraph are hereby adopted as the requirements to be used

under this Rule, except as otherwise provided in this Rule. Wherever the language of the portions of 40 CFR 51.166 referenced in this Paragraph speaks of the "plan," the requirements described therein shall apply to the source to which they pertain, except as otherwise provided in this Rule. Whenever the portions of 40 CFR 51.166 referenced in this Paragraph provide that the Agency plan may exempt or not apply certain requirements in certain circumstances, those exemptions and provisions of nonapplicability are also hereby adopted under this Rule. However, this provision shall not be interpreted so as to limit information that may be requested from the owner or operator by the Director as specified in 40 CFR 51.166(n)(2).

(g) 40 CFR 51.166(w)(10)(iv)(a) is changed to read: "If the emissions level calculated in accordance with Paragraph (w)(6) of this Section is equal to or greater than 80 percent of the PAL [plant wide applicability limit] level, the Director shall renew the PAL at the same level." 40 CFR 51.166(w)(10)(iv)(b) is not incorporated by reference.

(h) Chapter 17 .0102 and .0302 are not applicable to any source to which this Rule applies. The owner or operator of the sources to which this Rule applies shall apply for and receive a permit as required in Chapter 17 .0300 or .0500.

(i) When a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation that was established after August 7, 1980, on the capacity of the source or modification to emit a pollutant, such as a restriction on hours of operation, then the provisions of this Rule shall apply to the source or modification as though construction had not yet begun on the source or modification.

(j) The provisions of 40 CFR 52.21(r)(2) regarding the period of validity of approval to construct are incorporated by reference except that the term "Administrator" is replaced with "Director".

(k) Permits may be issued based on innovative control technology as set forth in 40 CFR 51.166(s)(1) if the requirements of 40 CFR 51.166(s)(2) have been met, subject to the condition of 40 CFR 51.166(s)(3), and with the allowance set forth in 40 CFR 51.166(s)(4).

(l) A permit application subject to this Rule shall be processed in accordance with the procedures and requirements of 40 CFR 51.166(q). Within 30 days of receipt of the application, applicants shall be notified if the application is complete as to initial information submitted. Commencement of construction before full prevention of significant deterioration approval is obtained constitutes a violation of this Rule.

(m) Approval of an application with regard to the requirements of this Rule shall not relieve the owner or operator of the responsibility to comply with applicable provisions of other rules of Chapter 17 and any other requirements under local, state, or federal law.

(n) If the owner or operator of a source is using projected actual emissions to avoid applicability of prevention of significant deterioration requirements, the owner or operator shall

notify the Director of the modification before beginning actual construction. The notification shall include:

- (1) a description of the project;
- (2) identification of sources whose emissions could be affected by the project;
- (3) the calculated projected actual emissions and an explanation of how the projected actual emissions were calculated, including identification of emissions excluded by 40 CFR 51.166(b)(40)(ii)(c);
- (4) the calculated baseline actual emissions and an explanation of how the baseline actual emissions were calculated; and
- (5) any netting calculations, if applicable.

If upon reviewing the notification, the Director finds that the project will cause a prevention of significant deterioration evaluation, then the Director shall notify the owner or operator of his or her findings. The owner or operator shall not make the modification until the owner or operator has received a permit issued pursuant to this Rule. If a permit revision is not required pursuant to this Rule, the owner or operator shall maintain records of annual emissions in tons per year, on a calendar year basis related to the modifications for 10 years following resumption of regular operations after the change if the project involves increasing the emissions unit's design capacity or its potential to emit the regulated NSR pollutant; otherwise these records shall be maintained for five years following resumption of regular operations after the change. The owner or operator shall submit a report to the Director within 60 days after the end of each year during which these records must be generated. The report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c). The owner or operator shall make the information documented and maintained under this Paragraph available to the Director or the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii).

(o) The references to the Code of Federal Regulations (CFR) in this Rule are incorporated by reference unless a specific reference states otherwise. The version of the CFR incorporated in this Rule is that as of July 20, 2011 as set forth here <http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol2/pdf/CFR-2011-title40-vol2-sec51-166.pdf>, <http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol3/pdf/CFR-2011-title40-vol3-sec52-21.pdf>, and with the amendment set forth on 76 FR 43507 at <http://www.gpo.gov/fdsys/pkg/FR-2011-07-20/pdf/2011-17256.pdf> and does not include any subsequent amendments or editions to the referenced material. This Rule is applicable as of its effective date in accordance with 40 CFR 51.166(b)(48) and (b)(49)(iv) and (v).

NCDAQ History Note:

Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3); 143-215.107(a)(5); 143-215.107(a)(7); 143-215.108(b); 150B-21.6; Eff. January 28, 2011 pursuant to E.O. 81, Beverly E. Perdue;

*Pursuant to G.S. 150B-21.3(c), a bill was not ratified by the
General Assembly to disapprove this rule;
Temporary Amendment Eff. December 23, 2011;
Amended Eff. July 1, 2012;
Temporary Amendment Eff. December 2, 2014;
Amended Eff. September 1, 2015.*

WNCRAQA History Note:

*Adopted Eff. December 21, 2010;
Amended Eff. November 9, 2015; March 9, 2015; September 10,
2012.*