

SECTION .0500 - EMISSION CONTROL STANDARDS

15A NCAC 02D .0501 COMPLIANCE WITH EMISSION CONTROL STANDARDS

(a) Purpose and Scope. The purpose of this Rule is to assure compliance with emission control standards found in this Section. This Rule shall apply to all air pollution sources, both combustion and non-combustion.

(b) All new sources shall be in compliance prior to beginning operations.

(c) In addition to any control or manner of operation necessary to meet emission standards in this Section, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards pursuant to 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than those named in the applicable emission standards in this Section are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

(d) The Bubble Concept. As provided in this Paragraph, a facility with multiple emission sources or multiple facilities within the same area may choose to meet the total emission limitation for a given pollutant through a different mix of controls than those required by the rules in 15A NCAC 02D .0500 or .0900.

(1) In order for this mix of alternative controls to be permitted, the Director shall determine that the following conditions are met:

- (A) Sources pursuant to 15A NCAC 02D .0524, .0530, .0531, .1110 or .1111, the federal New Source Performance Standards (NSPS), the federal National Emission Standards for Hazardous Air Pollutants (NESHAP), regulations established pursuant to Section 111(d) of the federal Clean Air Act, or state or federal Prevention of Significant Deterioration (PSD) requirements apply, shall have emissions no larger than if there were not an alternative mix of controls;
- (B) The facility or facilities is located in an attainment area or an unclassified area or in an area that has been demonstrated to be attainment by the statutory deadlines with reasonable further progress toward attainment for those pollutants being considered;
- (C) All of the emission sources affected by the alternative mix are in compliance with applicable regulations or are in compliance with established compliance agreements; and
- (D) The review of an application for the proposed mix of alternative controls and the enforcement of any resulting permit will not require expenditures on the part of the State in excess of five times that which would otherwise be required for the review and enforcement of other permits.

(2) The owners or operators of the facility or facilities shall demonstrate the alternative mix of controls is equivalent in total allowed emissions, reliability, enforceability, and environmental impact to the aggregate of the otherwise applicable individual emission standards; and

- (A) that the alternative mix approach does not interfere with the attainment and maintenance of the ambient air quality standards and does not interfere with the PSD program, which shall include modeled calculations of the amount, if any, of PSD increment consumed or created;
- (B) that the alternative mix approach conforms with reasonable further progress requirements as defined in Clean Air Act Section 171(1), in any nonattainment area;
- (C) that the emissions pursuant to the alternative mix approach are quantifiable, and trades among them are equivalent; and
- (D) that the pollutants controlled pursuant to the alternative mix approach are of the same criteria pollutant categories, except that emissions of some criteria pollutants used in alternative emission control strategies are subject to the limitations as defined in 44 FR 71784 (December 11, 1979), Subdivision D.1.c.ii. The Federal Register referenced in this Part is hereby incorporated by reference and does not include subsequent amendments or editions.

The demonstrations of equivalence shall be performed with at least the same level of detail as State Implementation Plan (SIP) demonstration of attainment for the area. A copy of the SIPs can be found on the DAQ website at <https://deq.nc.gov/about/divisions/air-quality/air-quality-planning/state-implementation-plans>. If the facility involves another facility in the alternative strategy, it shall complete a modeling demonstration to ensure that air quality is protected. Demonstrations of equivalency shall take into account differences in the level of reliability of the control measures or other uncertainties.

- (3) The emission rate limitations or control techniques of each source within the facility or facilities subjected to the alternative mix of controls shall be specified in the facility's permit or facilities' permits.
 - (4) Compliance schedules and enforcement actions shall not be affected because an application for an alternative mix of controls is being prepared or is being reviewed.
 - (5) The Director may waive or reduce requirements in this Paragraph up to the extent allowed by the Emissions Trading Policy Statement published in the Federal Register of April 7, 1982, pages 15076-15086, provided that the analysis required by Paragraph (e) of this Rule supports any waiver or reduction of requirements. The Federal Register referenced in this Subparagraph is hereby incorporated by reference and does not include subsequent amendments or editions.
- (e) In a permit application for an alternative mix of controls pursuant to Paragraph (d) of this Rule, the owner or operator of the facility shall demonstrate the proposal is equivalent to the existing requirements of the SIP in total allowed emissions, enforceability, reliability, and environmental impact. The Director shall provide for public notice with an opportunity for a request for public hearing following the procedures pursuant to 15A NCAC 02Q .0300 or .0500, as applicable.
- (1) If a permit containing these conditions is issued pursuant to 15A NCAC 02Q .0300, it shall become a part of the state implementation plan (SIP) as an appendix available for inspection at the Department's regional offices. Until the U.S. Environmental Protection Agency (EPA) approves the SIP revision embodying the permit containing an alternative mix of controls, the facility shall continue to meet the otherwise applicable existing SIP requirements.
 - (2) If a permit containing these conditions is issued pursuant to 15A NCAC 02Q .0500 it shall be available for inspection at the Department's regional offices. Until the EPA approves the Title V permit containing an alternative mix of controls, the facility shall continue to meet the otherwise applicable existing SIP requirements.

The revision shall be submitted for approval by the EPA on the basis of the revision's consistency with EPA's "Policy for Alternative Emission Reduction Options Within State Implementation Plans" as promulgated in the Federal Register of December 11, 1979, pages 71780-71788, and subsequent rulings.

(f) If the owner or operator of any combustion and non-combustion source or control equipment subject to the requirements of this Section is required to demonstrate compliance with a rule in this Section, source testing procedures pursuant to 15A NCAC 02D .2600 shall be used.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. August 1, 1991; October 1, 1989;
Temporary Amendment Eff. March 8, 1994 for a period of 180 days or until the permanent rule is effective, whichever is sooner;
Amended Eff. June 1, 2008; April 1, 2001; April 1, 1999; July 1, 1996; February 1, 1995; July 1, 1994;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0502 PURPOSE

The purpose of the emission control standards set out in this Section is to establish maximum limits on the rate of emission of air contaminants into the atmosphere.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. June 1, 1981;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0503 PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

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

- (1) "Functionally dependent" means that structures, buildings, or equipment are interconnected through common process streams, supply lines, flues, or stacks.
- (2) "Indirect heat exchanger" means any equipment used for the alteration of the temperature of one fluid by the use of another fluid in which the two fluids are separated by an impervious surface such that there is no mixing of the two fluids.
- (3) "Plant site" means any single or collection of structures, buildings, facilities, equipment, installations, or operations that:
 - (A) are located on one or more adjacent properties;
 - (B) are in common legal control; and
 - (C) are functionally dependent in their operations.

(b) The definition contained in Subparagraph (a)(3) of this Rule does not affect the calculation of the allowable emission rate of any indirect heat exchanger permitted prior to April 1, 1999.

(c) The emissions of particulate matter from the combustion of a fuel that are discharged from any stack or chimney into the atmosphere shall not exceed:

Maximum Heat Input In Million Btu/Hour	Allowable Emission Limit For Particulate Matter In Lb/Million Btu
Up to and Including 10	0.60
100	0.33
1,000	0.18
10,000 and Greater	0.10

For a heat input between any two consecutive heat inputs stated in the table set forth in this Paragraph, the allowable emissions of particulate matter shall be calculated by the equation $E = 1.090 * Q^{-0.2594}$. "E" equals the allowable emission limit for particulate matter in lb/million Btu. "Q" equals the maximum heat input in million Btu/hour.

(d) This Rule applies to installations in which fuel is burned for the purpose of producing heat or power by indirect heat transfer. Fuels include those such as coal, coke, lignite, peat, natural gas, and fuel oils, but exclude wood and refuse not burned as a fuel. When any refuse, products, or by-products of a manufacturing process are burned as a fuel rather than refuse, or in conjunction with any fuel, this allowable emission limit shall apply.

(e) For the purpose of this Rule, the maximum heat input shall be the total heat content of all fuels which are burned in a fuel burning indirect heat exchanger, of which the combustion products are emitted through a stack or stacks. The sum of maximum heat input of all fuel burning indirect heat exchangers at a plant site which are in operation, under construction, or permitted pursuant to 15A NCAC 02Q, shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each fuel burning indirect heat exchanger. Fuel burning indirect heat exchangers constructed or permitted after February 1, 1983, shall not change the allowable emission limit of any fuel burning indirect heat exchanger whose allowable emission limit has previously been set. The removal of a fuel burning indirect heat exchanger shall not change the allowable emission limit of any fuel burning indirect heat exchanger whose allowable emission limit has previously been established. However, for any fuel burning indirect heat exchanger constructed after, or in conjunction with, the removal of another fuel burning indirect heat exchanger at the plant site, the maximum heat input of the removed fuel burning indirect heat exchanger shall no longer be considered in the determination of the allowable emission limit of any fuel burning indirect heat exchanger constructed after or in conjunction with the removal. For the purposes of this Paragraph, refuse not burned as a fuel and wood shall not be considered a fuel. For residential facilities or institutions, such as military and educational, whose primary fuel burning capacity is for comfort heat, only those fuel burning indirect heat exchangers located in the same power plant or building or otherwise physically interconnected, such as common flues, steam, or power distribution line, shall be used to determine the total heat input.

(f) The emission limit for fuel burning equipment that burns both wood and other fuels in combination, or for wood and other fuel burning equipment that is operated such that emissions are measured on a combined basis, shall be calculated by the equation $E_c = [(E_w)(Q_w) + (E_o)(Q_o)] / Q_t$.

- (1) E_c = the emission limit for combination or combined emission source(s) in lb/million Btu.

- (2) E_w = plant site emission limit for wood only as determined pursuant to 15A NCAC 02D .0504 in lb/million Btu.
- (3) E_o = the plant site emission limit for other fuels only as determined by Paragraphs (a), (b) and (c) of this Rule in lb/million Btu.
- (4) Q_w = the actual wood heat input to the combination or combined emission source(s) in Btu/hr.
- (5) Q_o = the actual other fuels heat input to the combination or combined emission source(s) in Btu/hr.
- (6) $Q_t = Q_w + Q_o$ and is the actual total heat input to combination or combined emission source(s) in Btu/hr.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Temporary Amendment Eff. March 8, 1994 for a period of 180 days or until the permanent rule is effective, whichever is sooner;
Amended Eff. April 1, 1999; July 1, 1994; August 1, 1991; June 1, 1985; February 1, 1983;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0504 PARTICULATES FROM WOOD BURNING INDIRECT HEAT EXCHANGERS

(a) This Rule applies to fuel burning equipment that burns 100 percent wood. All other fuel burning equipment that burns both wood and other fuels in combination shall be subject to 15A NCAC 02D .0503. For the purpose of this Rule, the following definitions shall apply:

- (1) "Functionally dependent" means that structures, buildings or equipment are interconnected through common process streams, supply lines, flues, or stacks.
- (2) "Indirect heat exchanger" means any equipment used for the alteration of the temperature of one fluid by the use of another fluid in which the two fluids are separated by an impervious surface such that there is no mixing of the two fluids.
- (3) "Plant site" means any single or collection of structures, buildings, facilities, equipment, installations, or operations that:
 - (A) are located on one or more adjacent properties;
 - (B) are under common legal control; and
 - (C) are functionally dependent in their operations.

(b) The definition contained in Subparagraph (a)(3) of this Rule does not affect the calculation of the allowable emission rate of any indirect heat exchanger permitted prior to April 1, 1999.

(c) Emissions of particulate matter from the combustion of wood shall not exceed:

Maximum Heat Input In Million Btu/Hour	Allowable Emission Limit For Particulate Matter In lb/Million Btu
Up to and Including 10	0.70
100	0.41
1,000	0.25
10,000 and Greater	0.15

For a heat input between any two consecutive heat inputs stated in the table set forth in this Paragraph, the allowable emissions of particulate matter shall be calculated by the equation $E=1.1698*Q^{-.2230}$. "E" equals the allowable emission limit for particulate matter in lb/million Btu. "Q" equals the Maximum heat input in million Btu/hour.

(d) This Rule applies to installations in which wood is burned for the primary purpose of producing heat or power by indirect heat transfer.

(e) For the purpose of this Rule, the heat content of wood shall be 8,000 Btu per pound (dry-weight basis). The sum of maximum heat inputs of all wood burning indirect heat exchangers at a plant site that are in operation, under construction, or permitted pursuant to 15A NCAC 02Q, shall be considered as the total heat input for the purpose of determining the allowable emission limit for particulate matter for each wood burning indirect heat exchanger. Wood burning indirect heat exchangers constructed or permitted after February 1, 1983, shall not change the allowable emission limit of any wood burning indirect heat exchanger whose allowable emission limit has previously been set. The removal of a wood burning indirect heat exchanger shall not change the allowable emission limit of any wood burning indirect heat exchanger subject to this Rule whose allowable emission limit has previously been established. However, for any wood burning indirect heat exchanger subject to this Rule constructed after, or in conjunction with, the removal of another wood burning indirect heat exchanger at the plant site, the maximum heat input of the removed wood burning indirect heat exchanger shall no longer be considered in the determination of the allowable emission limit of any wood burning indirect heat exchanger subject to this Rule constructed after or in conjunction with the removal. For facilities or institutions, such as military and educational, whose primary wood burning capacity is for comfort heat, only those wood burning indirect heat exchangers subject to this Rule located in the same power plant or building or otherwise physically interconnected, such as common flues, steam, or power distribution line shall be used to determine the total heat input.

History Note: Authority G.S. 143-213; 143-215.3(a)(1); 143-215.107(a)(5); 143-215.107(h)(1); Eff. February 1, 1976; Amended Eff. August 1, 2002; April 1, 1999; June 1, 1985; February 1, 1983; Readopted Eff. November 1, 2020.

15A NCAC 02D .0505 CONTROL OF PARTICULATES FROM INCINERATORS

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. July 1, 1987; June 1, 1985; February 1, 1983;
Repealed Eff. October 1, 1991.

15A NCAC 02D .0506 PARTICULATES FROM HOT MIX ASPHALT PLANTS

- (a) The allowable emission rate for particulate matter resulting from the operation of a hot mix asphalt plant that are discharged from any stack or chimney into the atmosphere shall not exceed the level calculated with the equation $E = 4.9445(P)^{0.4376}$ calculated to three significant figures, for process rates less than 300 tons per hour, where "E" equals the maximum allowable emission rate for particulate matter in pounds per hour and "P" equals the process rate in tons per hour. The allowable emission rate shall be 60.0 pounds per hour for process rates equal to or greater than 300 tons per hour.
- (b) Visible emissions from stacks or vents at a hot mix asphalt plant shall not exceed 20 percent opacity when averaged over a six-minute period.
- (c) All hot mix asphalt batch plants shall be equipped with a scavenger process dust control system for the drying, conveying, classifying, and mixing equipment. The scavenger process dust control system shall exhaust through a stack or vent and shall be operated and maintained in such a manner as to comply with Paragraphs (a) and (b) of this Rule.
- (d) Fugitive non-process dust emissions shall be controlled by 15A NCAC 02D .0540.
- (e) Fugitive emissions for sources at a hot mix asphalt plant not covered by this Rule shall not exceed 20 percent opacity averaged over six minutes.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. August 1, 2004; July 1, 1998; January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0507 PARTICULATES FROM CHEMICAL FERTILIZER MANUFACTURING PLANTS

The allowable emissions rate for particulate matter resulting from the manufacture, mixing, handling, or other operations in the production of chemical fertilizer materials that are discharged from any stack or chimney into the atmosphere shall not exceed the level calculated with the equation $E = 9.377(P)^{0.3067}$ calculated to three significant figures, where "E" equals the maximum allowable emission rate for particulate matter in pounds per hour and "P" equals the process rate as the sum of the production rate and the recycle rate in tons per hour.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. April 1, 2003; July 1, 1998; January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0508 PARTICULATES FROM PULP AND PAPER MILLS

(a) Emissions of particulate matter from the production of pulp and paper that are discharged from any stack or chimney into the atmosphere shall not exceed:

- (1) 3.0 pounds per equivalent ton of air dried pulp from a recovery furnace stack;
- (2) 0.6 pounds per equivalent ton of air dried pulp from a dissolving tank vent; and
- (3) 0.5 pounds per equivalent ton of air dried pulp from a lime kiln stack.

(b) Emissions from any kraft pulp recovery boiler established after July 1, 1971, shall not exceed an opacity of 35 percent when averaged over a six-minute period. Six-minute averaging periods may exceed 35 percent opacity if:

- (1) no six-minute period exceeds 89 percent opacity;
- (2) no more than one six-minute period exceeds 35 percent opacity in any one hour; and
- (3) no more than four six-minute periods exceed 35 percent opacity in any 24-hour period.

Where the presence of uncombined water vapor is the only reason for failure to meet this opacity limitation, the opacity limitation set forth in this Paragraph shall not apply.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. July 1, 1998; August 1, 1987; April 1, 1986; January 1, 1985; May 30, 1978;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0509 PARTICULATES FROM MICA OR FELDSPAR PROCESSING PLANTS

(a) The allowable emission rate for particulate matter resulting from the processing of mica or feldspar that are discharged from any chimney, stack, vent, or outlet into the atmosphere shall not exceed the level calculated with the equation $E = 4(P)^{0.677}$ calculated to three significant figures for process rates less than or equal to 30 tons per hour. For process rates greater than 30 tons per hour but less than 1,000 tons per hour, the allowable emission rate for particulate matter shall not exceed the level calculated with the equation $E = 20.421(P)^{0.1977}$ calculated to three significant figures. For process rates greater than or equal to 1,000 tons per hour but less than 3,000 tons per hour, the allowable emission rate for particulate matter shall not exceed the level calculated with the equation $E = 38.147(P)^{0.1072}$ calculated to three significant figures. The allowable emission rate shall be 90.0 pounds per hour for process weight rates equal to or greater than 3,000 tons per hour. For the purpose of these equations, "E" equals the maximum allowable emission rate for particulate matter in pounds per hour and "P" equals the process weight rate in tons per hour.

(b) Fugitive non-process dust emissions shall meet the requirements of 15A NCAC 02D .0540.

(c) The owner or operator of any mica or feldspar plant shall control process-generated emissions:

- (1) from crushers with wet suppression, and
- (2) from conveyors, screens, and transfer points,

such that the applicable opacity standards in 15A NCAC 02D .0521 or .0524 are not exceeded.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. April 1, 2003; July 1, 1998; April 1, 1986; January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0510 PARTICULATES FROM SAND, GRAVEL, OR CRUSHED STONE OPERATIONS

(a) The owner or operator of a sand, gravel, or crushed stone operation shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures, such as application of a dust or wet suppressant, soil stabilizers, covers, or add-on particulate control devices, to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter, both PM10 and total suspended particulates.

(b) Fugitive non-process dust emissions from sand, gravel, or crushed stone operations shall be controlled by 15A NCAC 02D .0540.

(c) The owner or operator of any sand, gravel, or crushed stone operation shall control process-generated emissions:

(1) from crushers with wet suppression; and

(2) from conveyors, screens, and transfer points,

such that the applicable opacity standards in 15A NCAC 02D .0521 or .0524 are not exceeded.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. July 1, 1998; January 1, 1985;
Readopted. Eff. November 1, 2020.*

15A NCAC 02D .0511 PARTICULATES FROM LIGHTWEIGHT AGGREGATE PROCESSES

(a) The owner or operator of a lightweight aggregate process shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures, such as wet suppression, to reduce to a minimum any particulate matter from becoming airborne to prevent the ambient air quality standards for particulate matter, both PM10 and total suspended particulates, from being exceeded beyond the property line.

(b) Fugitive non-process dust emissions from lightweight aggregate processes subject to this Rule shall meet the requirement of 15A NCAC 02D .0540.

(c) The owner or operator of any lightweight aggregate process shall control process-generated emissions:

(1) from crushers with wet suppression; and

(2) from conveyors, screens, and transfer points,

such that the applicable opacity standards in 15A NCAC 02D .0521 or .0524 are not exceeded.

(d) Particulate matter from any stack serving any lightweight aggregate kiln or lightweight aggregate dryer shall be reduced by at least 95 percent by weight before being discharged to the atmosphere.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. July 1, 1998; October 1, 1989; January 1, 1985; April 1, 1977;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0512 PARTICULATES FROM WOOD PRODUCTS FINISHING PLANTS

A person shall not cause, allow, or permit particulate matter caused by the working, sanding, or finishing of wood to be discharged from any stack, vent, or building into the atmosphere without providing, as a minimum for its collection, duct work and collectors that are properly designed and adequate to collect particulate to the maximum extent practicable, or such other devices as approved by the Commission. Commission approval of other devices proposed to meet the requirements of this Rule shall occur on a case-by-case basis. In no case shall the ambient air quality standards be exceeded beyond the property line. Collection efficiency shall be determined on the basis of weight.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0513 PARTICULATES FROM PORTLAND CEMENT PLANTS

(a) Particulate matter from any Portland cement kiln shall:

- (1) be reduced by at least 99.7 percent by weight before being discharged to the atmosphere; and
- (2) not exceed 0.327 pounds per barrel.

(b) The emissions of particulate matter from any stacks, vent, or outlets from all processes except Portland cement kilns shall be controlled pursuant to 15A NCAC 02D .0515.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. July 1, 1998; January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0514 PARTICULATES FROM FERROUS JOBBING FOUNDRIES

Particulate emissions from any ferrous jobbing foundry cupola existing before January 2, 1972 shall not exceed:

Process Weight In lb/hr	Maximum Allowable Emission Rate For Particulate In lb/hr
1,000	3.05
2,000	4.70
3,000	6.35
4,000	8.00
5,000	9.65
6,000	11.30
7,000	12.90
8,000	14.30
9,000	15.50
10,000	16.65
12,000	18.70
16,000	21.60
18,000	23.40
20,000	25.10

Any foundry existing before January 2, 1972, having a capacity greater than shown in the table and any new foundry, regardless of size, shall comply with the particulate emission limits pursuant to 15A NCAC 02D .0515(a).

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. July 1, 1998; April 1, 1986; January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0515 PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

(a) The allowable emission rates for particulate matter from any stack, vent, or outlet, resulting from any industrial process for which no other emission control standards are applicable, shall not exceed the level calculated with the equation $E = 4.10(P)^{0.67}$ calculated to three significant figures for process rates less than or equal to 30 tons per hour. For process rates greater than 30 tons per hour, the allowable emission rates for particulate matter shall not exceed the level calculated with the equation $E = 55.0(P)^{0.11} - 40$ calculated to three significant figures. For the purpose of these equations "E" equals the maximum allowable emission rate for particulate matter in pounds per hour and "P" equals the process rate in tons per hour.

(b) Process rate means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Solid fuels charged are considered as part of the process weight, but liquid and gaseous fuels and combustion air are not. For a cyclical or batch operation, the process rate is derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle. For a continuous operation, the process rate is derived by dividing the process weight for a typical period of time by the number of hours in that typical period of time.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. April 1, 2003; July 1, 1998; January 1, 1985; December 1, 1976;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0516 SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

(a) Emission of sulfur dioxide from any source of combustion discharged from any vent, stack, or chimney shall not exceed 2.3 pounds of sulfur dioxide per million BTU input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. Sulfur dioxide formed or reduced as a result of treating flue gases with sulfur trioxide or other materials shall also be accounted for when determining compliance with this standard.

(b) The standard set forth in Paragraph (a) of this Rule shall not apply to sulfur dioxide emission sources already subject to an emission standard for sulfur dioxide in 15A NCAC 02D .0524, .0527, .1110, .1111, .1206, or .1210.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. July 1, 2007; April 1, 2003; July 1, 1996; February 1, 1995; October 1, 1989;
January 1, 1985; April 1, 1977;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0517 EMISSIONS FROM PLANTS PRODUCING SULFURIC ACID

Emissions of sulfur dioxide or sulfuric acid mist from the manufacture of sulfuric acid shall not exceed:

- (1) 27 pounds of sulfur dioxide per ton of sulfuric acid produced; and
- (2) 0.5 pounds of acid mist, expressed as sulfuric acid, per ton of sulfuric acid produced.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. January 1, 1985;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0518 MISCELLANEOUS VOLATILE ORGANIC COMPOUND EMISSIONS

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. April 1, 1997; July 1, 1996; September 1, 1994; December 1, 1993; February 1, 1993;
Repealed Eff. July 1, 2000.

15A NCAC 02D .0519 CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS

(a) The emissions of nitrogen dioxide shall not exceed 5.8 pounds per ton of acid produced from any nitric acid manufacturing plant.

(b) The emissions of nitrogen oxides shall not exceed:

- (1) 0.8 pounds per million BTU of heat input from any oil or gas-fired boiler with a capacity of 250 million BTU per hour or more; or
- (2) 1.8 pounds per million BTU of heat input from any coal-fired boiler with a capacity of 250 million BTU per hour or more.

(c) The emission limit for a boiler burning coal, oil, or gas in combination shall be calculated by the equation:

$$E = \frac{(E_c * Q_c) + (E_o * Q_o)}{Q_t}$$

- (1) E = the emission limit for combination in pounds per million BTU.
- (2) Ec = emission limit for coal only as determined by Paragraph (b) of this Rule in pounds per million BTU.
- (3) Eo = emission limit for oil or gas as determined by Paragraph (b) of this Rule in pounds per million BTU.
- (4) Qc = the actual coal heat input to the combination in BTU per hour.
- (5) Qo = the actual oil and gas heat input to the combination in BTU per hour.
- (6) Qt = Qc + Qo and is the actual total heat input to the combination in BTU per hour.

(d) If a boiler is subject to an emission standard for nitrogen oxides pursuant to 15A NCAC 02D .0524 or 15A NCAC 02D .1418, then the boiler shall meet the standard in that particular rule instead of the standard in Paragraph (b) of this Rule.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);

Eff. February 1, 1976;

Amended Eff. July 1, 2007; January 1, 2005; July 1, 1996; October 1, 1989; January 1, 1985;

Readopted Eff. November 1, 2020.

15A NCAC 02D .0520 CONTROL AND PROHIBITION OF OPEN BURNING

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. January 1, 1985; November 1, 1978; December 1, 1976;
Repealed Eff. July 1, 1996.

15A NCAC 02D .0521 CONTROL OF VISIBLE EMISSIONS

(a) Purpose. The intent of this Rule is to prevent, abate, and control emissions generated from fuel burning operations and industrial processes where an emission can be expected to occur, except during startups, shutdowns, and malfunctions approved according to procedures in 15A NCAC 02D .0535.

(b) Scope. This Rule shall apply to all fuel burning sources and to other industrial processes having a visible emission. Sources subject to a specific visible emission standard in 15A NCAC 02D .0506, .0508, .0524, .1110, .1111, .1206, or .1210 shall meet that standard instead of the standard contained in this Rule. This Rule does not apply to engine maintenance, rebuild, and testing activities where controls are infeasible, but it does apply to the testing of peak shaving and emergency generators. In deciding if controls are infeasible, the Director shall consider emissions, capital cost of compliance, annual incremental compliance cost, and environmental and health impacts.

(c) For sources manufactured as of July 1, 1971, visible emissions shall not be more than 40 percent opacity when averaged over a six-minute period. However, except for sources required to comply with Paragraph (g) of this Rule, six-minute averaging periods may exceed 40 percent opacity if:

- (1) no six-minute period exceeds 90 percent opacity;
- (2) no more than one six-minute period exceeds 40 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 40 percent opacity in any 24-hour period.

(d) For sources manufactured after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period. Except for sources required to comply with Paragraph (g) of this Rule, six-minute averaging periods may exceed 20 percent opacity if:

- (1) no six-minute period exceeds 87 percent opacity;
- (2) no more than one six-minute period exceeds 20 percent opacity in any hour; and
- (3) no more than four six-minute periods exceed 20 percent opacity in any 24-hour period.

(e) Where the presence of uncombined water contributes solely to the failure of an emission to meet the limitations of Paragraph (c) or (d) of this Rule, those requirements shall not apply.

(f) Exception from Opacity Standard in Paragraph (d) of this Rule. Sources subject to Paragraph (d) of this Rule shall be allowed to comply with Paragraph (c) of this Rule if:

- (1) the owner or operator of the source demonstrates compliance with applicable particulate mass emissions standards; and
- (2) the owner or operator of the source submits data to show that emissions up to those allowed by Paragraph (c) of this Rule shall not violate any national ambient air quality standard.

The burden of proving these conditions shall be on the owner or operator of the source and shall be approached in accordance with this Paragraph. The owner or operator of a source seeking an exception shall apply to the Director requesting this modification in its permit. The applicant shall submit the results of a source test within 90 days of application. Source testing shall be by the appropriate procedure as designated by rules in this Subchapter. During this 90-day period the applicant shall submit data necessary to show that emissions up to those allowed by Paragraph (c) of this Rule will not contravene ambient air quality standards. This evidence shall include an inventory of past and projected emissions from the facility. In its review of ambient air quality, the Division may require additional information that it considers necessary to assess the resulting ambient air quality. If the applicant can thus show that it will be in compliance both with particulate mass emissions standards and ambient air quality standards, the Director shall modify the permit to allow emissions up to those allowed by Paragraph (c) of this Rule.

(g) For sources required to install, operate, and maintain continuous opacity monitoring systems (COMS), compliance with the numerical opacity limits in this Rule shall be determined as follows excluding startups, shutdowns, maintenance periods when fuel is not being combusted, and malfunctions approved as such according to procedures approved under 15A NCAC 02D .0535:

- (1) no more than four six-minute periods shall exceed the opacity standard in any one day; and
- (2) the percent of excess emissions, defined as the percentage of monitored operating time in a calendar quarter above the opacity limit, shall not exceed 0.8 percent of the total operating hours. If a source operates less than 500 hours during a calendar quarter, the percent of excess emissions shall be calculated by including hours operated immediately prior to this quarter until 500 operational hours are obtained.

In no instance shall excess emissions exempted pursuant to this Paragraph cause or contribute to a violation of any emission standard in this Subchapter or 40 CFR Part 60, 61, or 63 or any ambient air quality standard in 15A NCAC 02D .0400 or 40 CFR Part 50.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;

Amended Eff. January 1, 2009; July 1, 2007; January 1, 2005; June 1, 2004; April 1, 2003; April 1, 2001; July 1, 1998; July 1, 1996; December 1, 1992; August 1, 1987; January 1, 1985; May 30, 1978;

Readopted Eff. November 1, 2020.

15A NCAC 02D .0522 CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. January 1, 1985;
Repealed Eff. April 1, 2001.

15A NCAC 02D .0523 CONTROL OF CONICAL INCINERATORS

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. February 1, 1976;
Amended Eff. January 1, 1985;
Repealed Eff. July 1, 2000.

15A NCAC 02D .0524 NEW SOURCE PERFORMANCE STANDARDS

(a) With the exception of Paragraph (b) and (c) of this Rule, sources subject to new source performance standards promulgated in 40 CFR Part 60 shall comply with emission standards, monitoring and reporting requirements, maintenance requirements, notification and record keeping requirements, performance test requirements, test method and procedural provisions, and any other provisions, as required therein, rather than with any otherwise-applicable rule in this Section that would be in conflict therewith.

(b) The following are not included pursuant to this Rule:

- (1) 40 CFR Part 60, Subpart AAA;
- (2) 40 CFR Part 60, Subpart B;
- (3) 40 CFR Part 60, Subpart C;
- (4) 40 CFR Part 60, Subpart Cb;
- (5) 40 CFR Part 60, Subpart Cc;
- (6) 40 CFR Part 60, Subpart Cd;
- (7) 40 CFR Part 60, Subpart Ce;
- (8) 40 CFR Part 60, Subpart BBBB;
- (9) 40 CFR Part 60, Subpart DDDD;
- (10) 40 CFR Part 60, Subpart FFFF; or
- (11) 40 CFR Part 60, Subpart HHHH.

(c) Along with the notice appearing in the North Carolina Register for a public hearing to amend this Rule to exclude a standard from this Rule, the Director shall state whether or not the new source performance standards promulgated under 40 CFR Part 60, or part thereof, shall be enforced. If the Environmental Management Commission does not adopt the amendment to this Rule to exclude or amend the standard within 12 months after the close of the comment period on the proposed amendment, the Director shall begin enforcing that standard when 12 months has elapsed after the end of the comment period on the proposed amendment.

(d) New sources of volatile organic compounds that are located in an area designated in 40 CFR 81.334 as nonattainment for ozone or an area identified in accordance with 15A NCAC 02D .0902 as being in violation of the ambient air quality standard for ozone shall comply with the requirements of 40 CFR Part 60 are not excluded by this Rule, as well as with any applicable requirements in 15A NCAC 02D .0900.

(e) All requests, reports, applications, submittals, and other communications to the administrator required under Paragraph (a) of this Rule shall be submitted to the Director rather than to the Environmental Protection Agency.

(f) In the application of this Rule, definitions contained in 40 CFR Part 60 shall apply rather than those in 15A NCAC 02D .0100.

(g) With the exceptions allowed in 15A NCAC 02Q .0102, Activities Exempted from Permit Requirements, the owner or operator of the source shall apply for and receive a permit as required in 15A NCAC 02Q .0300 or .0500.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. June 18, 1976;
Temporary Amendment Eff. January 3, 1988, for a period of 180 days to expire on June 30, 1988;
Amended Eff. December 1, 1992; July 1, 1992;
Temporary Amendment Eff. March 8, 1994, for a period of 180 days or until the permanent rule is effective, whichever is sooner;
Amended Eff. July 1, 2007; January 1, 2007; July 1, 2000; April 1, 1997; July 1, 1996; July 1, 1994;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0525 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

History Note: Filed as a Temporary Amendment Eff. March 8, 1994 for a period of 180 days or until the permanent rule becomes effective, whichever is sooner;
Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 150B-21.6;
Eff. June 18, 1976;
Amended Eff. July 1, 1994; December 1, 1992; July 1, 1992; August 1, 1991;
Repealed Eff. July 1, 1996.

15A NCAC 02D .0526 SULFUR DIOXIDE EMISSIONS FROM FUEL BURNING INSTALLATIONS

History Note: *Filed as an Emergency Regulation Eff. October 28, 1977, for a period of 120 days to expire on February 25, 1978;*
Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 150B-13;
Expired Eff. February 25, 1978.

15A NCAC 02D .0527 EMISSIONS FROM SPODUMENE ORE ROASTING

Emission of sulfur dioxide and sulfuric acid mist from any one kiln used for the roasting of spodumene ore shall not exceed:

- (1) 9.7 pounds of sulfur dioxide per ton of ore roasted; and
- (2) 1.0 pound of sulfuric acid mist, expressed as H₂SO₄, per ton of ore roasted.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. March 15, 1978;
Amended Eff. January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0528 TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

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

- (1) "Black liquor solids" means the dry weight of the solids that enter the recovery furnace in the black liquor.
- (2) "Condensate stripper system" means a column, and associated condensers, used to strip, with air or steam, total reduced sulfur compounds from condensate streams from various processes within a kraft pulp mill.
- (3) "Cross recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains more than seven percent by weight of the total pulp solids from the neutral sulfite semichemical process and has a green liquor sulfidity of more than 28 percent.
- (4) "Digester system" means each continuous digester or each batch digester used for the cooking of wood in white liquor and associated flash tanks, blow tanks, chip steamers, and condensers.
- (5) "Green liquor sulfidity" means the sulfidity of the liquor that leaves the smelt dissolving tank.
- (6) "Kraft pulp mill" means any facility that produces pulp from wood by "cooking", industry term for digesting, wood chips in a water solution of sodium hydroxide and sodium sulfide (white liquor) at high temperature and pressure. Regeneration of cooking chemicals through a recovery process is also considered part of the kraft pulp mill.
- (7) "Lime kiln" means a unit used to calcine lime mud that consists primarily of calcium carbonate, into quicklime, which is calcium oxide.
- (8) "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condensers and hot wells used to concentrate the spent cooking liquid that is separated from the pulp, known in the industry as "black liquor".
- (9) "Neutral sulfite semichemical pulping operation" means any operation in which pulp is produced from wood by "cooking", industry term for digesting, wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating, also called grinding the wood pulp, to separate into its fibrous constituents.
- (10) "New design recovery furnace" means a straight kraft recovery furnace that has both membrane wall or welded wall construction and emission control designed air systems.
- (11) "Old design recovery furnace" means a straight kraft recovery furnace that does not have membrane wall or welded wall construction or emission control designed air systems.
- (12) "Recovery furnace" means either a straight kraft recovery furnace or a cross recovery furnace and includes the direct-contact evaporator for a direct-contact furnace.
- (13) "Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the recovery furnace.
- (14) "Straight kraft recovery furnace" means a furnace used to recover chemicals consisting primarily of sodium and sulfur compounds by burning black liquor which on a quarterly basis contains seven percent by weight or less of the total pulp solids from the neutral sulfite semichemical process or has green liquor sulfidity of 28 percent or less.
- (15) "Total reduced sulfur (TRS)" means the sum of the sulfur compounds hydrogen sulfide, methyl mercaptain, dimethyl sulfide, and dimethyl disulfide, that are released during the kraft pulping operation.

(b) This Rule shall apply to recovery furnaces, digester systems, multiple-effect evaporator systems, lime kilns, smelt dissolving tanks, and condensate stripping systems of kraft pulp mills not subject to 15A NCAC 02D .0524.

(c) Emissions of total reduced sulfur from any kraft pulp mill subject to this Rule shall not exceed:

- (1) 20 parts per million from any old design recovery furnace;
- (2) five parts per million from any new design recovery furnace;
- (3) 25 parts per million from any cross recovery furnace;
- (4) five parts per million from any digester system;
- (5) five parts per million from any multiple-effect evaporator system;
- (6) 20 parts per million from any lime kiln;
- (7) five parts per million from any condensate stripping system; and
- (8) 0.032 pounds per ton of black liquor solids (dry weight) from any smelt dissolving tank.

(d) The emission limitations given in Subparagraphs (c)(1) through (c)(7) of this Rule are measured as hydrogen sulfide on a dry gas basis and are averages of discrete contiguous 12-hour time periods. The emission limitations

given in Subparagraphs (c)(1) through (c)(3) of this Rule are corrected to eight percent oxygen by volume. The emission limitations given in Subparagraph (c)(6) of this Rule is corrected to 10 percent oxygen by volume.

(e) One percent of all 12-hour total reduced sulfur averages per quarter year in excess of the limitations given in Subparagraphs (c)(1) through (c)(3) of this Rule, in the absence of start-ups, shut-downs and malfunctions, shall not be considered in violation. Two percent of all 12-hour total reduced sulfur averages per quarter year in excess of the limitation given in Subparagraph (c)(6) of this Rule, in the absence of start-ups, shut-downs, and malfunctions, shall not be considered in violation.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. June 1, 1980;
Amended Eff. July 1, 1988; July 1, 1987; January 1, 1985; November 1, 1982;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0529 FLUORIDE EMISSIONS FROM PRIMARY ALUMINUM REDUCTION PLANTS

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

- (1) "Fluoride" means elemental fluorine and all fluoride compounds as measured by the methods specified in 15A NCAC 02D .2616 or by other methods demonstrated to be equivalent to those set forth in Rule 15A NCAC 02D .2616 approved by the Director on a case-by-case basis.
- (2) "Prebake cell" is an aluminum reduction pot using carbon anodes formed, pressed, and baked prior to their placement in the pot.
- (3) "Primary aluminum reduction plant" means any facility manufacturing aluminum by electrolytic reduction.

(b) This Rule shall apply to prebake cells at all primary aluminum reduction plants not subject to 15A NCAC 02D .0524.

(c) An owner or operator of a primary aluminum reduction plant subject to this Rule shall not cause, allow, or permit the use of the prebake cells unless:

- (1) 95 percent of the fluoride emissions are captured; and
- (2) 98.5 percent of the captured fluoride emissions are removed before the exhaust gas is discharged into the atmosphere.

(d) The owner or operator of a primary aluminum reduction plant subject to this Rule shall:

- (1) ensure hood covers are in good repair and positioned over the prebake cells;
- (2) minimize the amount of time hood covers are removed during pot working operations;
- (3) if the hooding system is equipped with a dual low and high hood exhaust rate, use the high rate whenever hood covers are removed and return to the normal exhaust rate when the hood covers are replaced;
- (4) minimize the occurrence of fuming pots and correct the cause of a fuming pot as soon as practical; and
- (5) if the tapping crucibles are equipped with hoses that return aspirator air under the hood, ensure the hoses are in good repair and the air return system is functioning by ensuring operation in accordance with the manufacturer's specifications.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. June 1, 1981;
Amended Eff. June 1, 2008; July 1, 1988; January 1, 1985;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0530 PREVENTION OF SIGNIFICANT DETERIORATION

(a) The purpose of the Rule is to implement a program for the prevention of significant deterioration of air quality as required by 40 CFR 51.166. The minimum requirements described in the portions of 40 CFR 51.166 are hereby adopted as requirements under this Rule, except as otherwise provided in this Rule. Wherever the language of the portions of 40 CFR 51.166 adopted in this Rule 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 adopted in this Rule provide that the State plan may exempt or not apply certain requirements in certain circumstances, those exemptions and provisions of non-applicability 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).

(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 following:

(1) "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated new source review (NSR) pollutant, as determined in accordance with Parts (A) through (C) of this Subparagraph:

(A) For an existing emissions unit, baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the five year period immediately preceding the date that a complete permit application is received by the Division for a permit required under this Rule. The Director shall allow a different time period, not to exceed 10 years immediately preceding the date that a complete permit application is received by the Division, 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 apply:

- (i) The average rate shall include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions;
- (ii) 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;
- (iii) 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 must 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 in Title 40 of the Code of Federal Regulations, the baseline actual emissions shall be adjusted to account for such emission reductions;
- (iv) 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;
- (v) For a regulated NSR pollutant, if 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 may be used for each regulated NSR pollutant; and
- (vi) 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 Subparts (ii) and (iii) of this Part;

(B) 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

- (C) 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 Part (A) of this Subparagraph and, for a new emissions unit, in accordance with the procedures contained in Part (B) of this Subparagraph;
- (2) In the definition of "net emissions increase," the reasonable period specified in 40 CFR 51.166(b)(3)(ii) shall be seven years;
 - (3) The limitation specified in 40 CFR 51.166(b)(15)(ii) shall not apply;
 - (4) PM_{2.5} significant levels set forth in 40 CFR 51.166(b)(23)(i) are incorporated by reference. Sulfur dioxide (SO₂) and nitrogen oxides (NO_x) are precursors to PM_{2.5} in all attainment and unclassifiable areas. Volatile organic compounds are not significant precursors to PM_{2.5}; and
 - (5) In 40 CFR 51.166(b)(49)(i)(a), starting January 1, 2011, in addition to PM₁₀ and PM_{2.5}, for particulate matter (PM), condensable particulate matter shall be accounted for in applicability determinations and in establishing emissions limitations for each of these regulated NSR pollutants in PSD permits.
- (c) All areas of the State are classified as Class II, except the following areas, which are designated as Class I:
- (1) Great Smoky Mountains National Park;
 - (2) Joyce Kilmer Slickrock National Wilderness Area;
 - (3) Linville Gorge National Wilderness Area;
 - (4) Shining Rock National Wilderness Area; and
 - (5) Swanquarter National Wilderness Area.
- (d) Redesignations of areas to Class I or II may be submitted as state proposals to the Administrator of the Environmental Protection Agency (EPA) if the requirements of 40 CFR 51.166(g)(2) are met. Areas may be proposed to be redesignated as Class III if the requirements of 40 CFR 51.166(g)(3) are met. Redesignations may not, however, be proposed which would violate the restrictions of 40 CFR 51.166(e). Lands within the boundaries of Indian Reservations may be redesignated only by the appropriate Indian Governing Body.
- (e) In areas designated as Class I, II, or III, increases in pollutant concentration over the baseline concentration shall be limited to the values set forth in 40 CFR 51.166(c). However, concentration of the pollutant shall not exceed standards set forth in 40 CFR 51.166(d).
- (f) Concentrations attributable to the conditions described in 40 CFR 51.166(f)(1) shall be excluded in determining compliance with a maximum allowable increase. However, the exclusions referred to in 40 CFR 51.166(f)(1)(i) or (ii) shall be limited to five years as described in 40 CFR 51.166(f)(2).
- (g) Major stationary sources and major modifications shall comply with the requirements contained in 40 CFR 51.166 (a)(7) and (i) and in 40 CFR 51.166(j) through (r) 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.
- (h) New natural gas-fired electrical utility generating units for which cost recovery is sought pursuant to G.S. 62-133.6 shall install best available control technology for NO_x and SO₂, regardless of the applicability of the rest of this Rule.
- (i) For the purposes of this Rule, 40 CFR 51.166(w)(10)(iv)(a) shall 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 level, the Director shall renew the PAL at the same level." 40 CFR 51.166(w)(10)(iv)(b) is not incorporated by reference.
- (j) 15A NCAC 02Q .0102 shall not be 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 15A NCAC 02Q .0300 or .0500.
- (k) When a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which 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.
- (l) For the purposes of this Rule, 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" shall be replaced with "Director".
- (m) Volatile organic compounds exempted from coverage in 40 CFR 51.100(s) shall be exempted when calculating source applicability and control requirements under this Rule.
- (n) The degree of emission limitation required for control of any air pollutant under this Rule shall not be affected by:
- (1) that amount of a stack height, not in existence before December 31, 1970, that exceeds good engineering practice; or

- (2) any other dispersion technique not implemented before December 31, 1970.
- (o) A substitution or modification of a model as provided in 40 CFR 51.166(l) is subject to public comment procedures in accordance with the requirements of 40 CFR 51.102.
- (p) Permits may be issued on the basis of 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).
- (q) If a source to which this Rule applies impacts an area designated Class I by requirements of 40 CFR 51.166(e), notice to EPA shall be provided as set forth in 40 CFR 51.166(p)(1). If the Federal Land Manager presents a demonstration described in 40 CFR 51.166(p)(3) during the public comment period or public hearing to the Director and if the Director concurs with this demonstration, the permit application shall be denied. Permits may be issued on the basis that the requirements for variances as set forth in 40 CFR 51.166(p)(4), (p)(5) and (p)(7), or (p)(6) and (p)(7) have been satisfied.
- (r) 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 the initial information submitted. Commencement of construction before full prevention of significant deterioration approval is obtained shall constitute a violation of this Rule.
- (s) 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 this Subchapter, Subchapter O2Q of this Title, or any other requirements under local, state, or federal law.
- (t) When a source or modification is subject to this Rule the following procedures apply:
- (1) Notwithstanding any other provisions of this Paragraph, the Director shall, no later than 60 days after receipt of an application, notify the Federal Land Manager with the U.S. Department of Interior and U.S. Department of Agriculture of an application from a source or modification subject to this Rule;
 - (2) If a source or modification may affect visibility of a Class I area, the Director shall provide written notification to all affected Federal Land Managers within 30 days of receiving the permit application or within 30 days of receiving advance notification of an application. The notification shall be given at least 30 days prior to the publication of notice for public comment on the application. The notification shall include a copy of all information relevant to the permit application, including an analysis provided by the source of the potential impact of the proposed source on visibility;
 - (3) The Director shall consider any analysis concerning visibility impairment performed by the Federal Land Manager if the analysis is received within 30 days of notification. If the Director finds that the analysis of the Federal Land Manager fails to demonstrate that an adverse impact on visibility will result in the Class I area, the Director shall follow the public hearing process described in 40 CFR 51.307(a)(3) on the application and include an explanation of the Director's decision or notice as to where the explanation can be obtained; and
 - (4) The Director may require monitoring of visibility in or around any Class I area by the proposed new source or modification if the visibility impact analysis indicates possible visibility impairment, pursuant to 40 CFR 51.307.
- (u) In lieu of the requirements in 40 CFR 51.166(r)(6) and (7), this Paragraph shall apply. If the owner or operator of a source is using projected actual emissions to determine applicability with 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 in Subparagraph (b)(1) of this Rule 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 require a prevention of significant deterioration evaluation, the Director shall notify the owner or operator of his or her findings and the owner or operator shall not make the modification until a prevention of significant deterioration permit has been issued pursuant to this Rule. If the Director finds that the project will not require a prevention of significant deterioration evaluation and the projected actual emissions, calculated pursuant to 40 CFR 51.166(b)(40)(ii)(a) and (b), minus

baseline actual emissions, is 50 percent or greater of the amount that is a significant emissions increase, without reference to the amount that is a significant net emissions increase, for the regulated NSR pollutant, then the Director shall require a permit application to include a permit condition for monitoring, recordkeeping and reporting of the annual emissions related to the project in tons per year, 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 for 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 and the general public, pursuant to the requirements in 40 CFR 70.4(b)(3)(viii). The monitoring, recordkeeping and reporting requirements in this Paragraph shall not apply if the projected actual emissions, calculated pursuant to 40 CFR 51.166(b)(40)(ii)(a) and (b), minus the baseline actual emissions is less than 50 percent of the amount that is a significant emissions increase, without reference to the amount that is a significant net emissions increase, for the regulated NSR pollutant.

(v) Portions of the regulations in the Code of Federal Regulations (CFR) that are referred to in this Rule are incorporated by reference unless a specific reference states otherwise. The version of the CFR incorporated in this Rule, with respect to 40 CFR 51.166, is that as of July 1, 2019 at <https://www.govinfo.gov/content/pkg/CFR-2019-title40-vol2/pdf/CFR-2019-title40-vol2-sec51-166.pdf> and does not include any subsequent amendments or editions. Federal regulations referenced in 40 CFR 51.166 shall include subsequent amendments and editions. The publication may be accessed free of charge.

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); Eff. June 1, 1981; Amended Eff. December 1, 1992; August 1, 1991; October 1, 1989; July 1, 1988; October 1, 1987; June 1, 1985; January 1, 1985; February 1, 1983; Temporary Amendment Eff. March 8, 1994, for a period of 180 days or until the permanent rule is effective, whichever is sooner; Amended Eff. September 1, 2017; September 1, 2013; January 2, 2011; September 1, 2010; May 1, 2008; July 28, 2006; July 1, 1997; February 1, 1995; July 1, 1994; Readopted Eff. October 1, 2020.

15A NCAC 02D .0531 SOURCES IN NONATTAINMENT AREAS

(a) The purpose of this Rule is to implement a program for new source review in nonattainment areas as required by 40 CFR 51.165. The definitions contained in 40 CFR 51.165(a)(1) and 40 CFR 51.301 shall apply, except for the following:

(1) "Baseline actual emissions" means the rate of emissions, in tons per year, of a regulated new source review (NSR) pollutant, as determined in accordance with Parts (A) through (C) of this Subparagraph as follows:

(A) For an existing emissions unit, baseline actual emissions means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the five year period immediately preceding the date that a complete permit application is received by the Division for a permit required under this Rule. The Director shall allow a different time period, not to exceed 10 years immediately preceding the date that a complete permit application is received by the Division, 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 apply:

(i) The average rate shall include fugitive emissions to the extent quantifiable, and emissions associated with startups, shutdowns, and malfunctions;

(ii) 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;

(iii) 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 must 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 in Title 40 of the Code of Federal Regulations, the baseline actual emissions shall be adjusted to account for such emission reductions;

(iv) 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;

(v) 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 can be used for each regulated NSR pollutant; and

(vi) 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 Subparts (ii) and (iii) of this Part;

(B) 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

(C) 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 Part (A) of this Subparagraph, and for a new emissions unit in accordance with the procedures contained in Part (B) of this Subparagraph;

(b) In the definition of "net emissions increase," the reasonable period specified in 40 CFR 51.165(a)(1)(vi)(C)(1) is seven years.

(c) PM_{2.5} significant levels in 40 CFR 51.165(a)(1)(x)(A) are incorporated by reference except as otherwise provided in this Rule. Sulfur dioxide (SO₂) and nitrogen oxides (NO_x) are precursors to PM_{2.5} in all nonattainment areas. Volatile organic compounds and ammonia are not significant precursors to PM_{2.5}.

(d) In 40 CFR 51.165(a)(1)(xxxvii)(D), starting January 1, 2011, in addition to PM₁₀ and PM_{2.5}, for particulate matter (PM), condensable particulate matter shall be accounted for in applicability determinations and in establishing emission limitations for each of these regulated NSR pollutants in nonattainment major NSR permits.

(e) Redesignation to Attainment. If any county or part of a county to which this Rule applies is later designated in 40 CFR 81.334 as attainment, all sources in that county subject to this Rule before the redesignation date shall continue to comply with this Rule.

(f) Applicability. 40 CFR 51.165(a)(2) is incorporated by reference. This Rule applies to areas designated as nonattainment in 40 CFR 81.334, including any subsequent amendments or editions.

(g) This Rule is not applicable to:

- (1) emission of pollutants at the new major stationary source or major modification located in the nonattainment area that are pollutants other than the pollutant or pollutants for which the area is nonattainment. A major stationary source or major modification that is major for volatile organic compounds or nitrogen oxides is also major for ozone;
- (2) emission of pollutants for which the source or modification is not major;
- (3) a new source or modification that qualifies for exemption under the provision of 40 CFR 51.165(a)(4); or
- (4) emission of compounds listed under 40 CFR 51.100(s) as having been determined to have negligible photochemical reactivity except carbon monoxide.

(h) 15A NCAC 02Q .0102 is not applicable to any source to which this Rule applies. The owner or operator of the source shall apply for and receive a permit as required in 15A NCAC 02Q .0300 or .0500.

(i) To issue a permit to a source to which this Rule applies, the Director shall determine that the source meets the following requirements:

- (1) The new major stationary source or major modification will emit the nonattainment pollutant at a rate no more than the lowest achievable emission rate;
- (2) The owner or operator of the proposed new major stationary source or major modification has demonstrated that all major stationary sources in the State that are owned or operated by this person (or any entity controlling, controlled by, or under common control with this person) are subject to emission limitations and are in compliance, or on a schedule for compliance that is federally enforceable or contained in a court decree, with all applicable emission limitations and standards of this Subchapter that EPA has authority to approve as elements of the North Carolina State Implementation Plan for Air Quality;
- (3) The owner or operator of the proposed new major stationary source or major modification will obtain sufficient emission reductions of the nonattainment pollutant from other sources in the nonattainment area so that the emissions from the new major source and any associated new minor sources will be less than the emissions reductions by a ratio of at least 1.00 to 1.15 for volatile organic compounds and nitrogen oxides and by a ratio of less than one to one for carbon monoxide. The baseline for this emission offset shall be the actual emissions of the source from which offset credit is obtained. Emission reductions shall not include any reductions resulting from compliance (or scheduled compliance) with applicable rules in effect before the application. The difference between the emissions from the new major source and associated new minor sources of carbon monoxide and the emission reductions shall be sufficient to represent reasonable further progress toward attaining the National Ambient Air Quality Standards. The emissions reduction credits shall also conform to the provisions of 40 CFR 51.165(a)(3)(ii)(A) through (G) and (J); and
- (4) The North Carolina State Implementation Plan for Air Quality is being carried out for the nonattainment area in which the proposed source is located.

(j) New natural gas-fired electrical utility generating units for which cost recovery is sought pursuant to G.S. 62-133.6 shall install lowest achievable emission rate technology for NO_x and SO₂, regardless of the applicability of the rest of this Rule.

(k) For the purposes of this Rule, 40 CFR 51.165(f) is incorporated by reference except that 40 CFR 51.165(f)(10)(iv)(A) reads: "If the emissions level calculated in accordance with Paragraph (f)(6) of this Section is equal to or greater than 80 percent of the PAL level, the Director shall renew the PAL at the same level." 40 CFR 51.165(f)(10)(iv)(B) is not incorporated by reference.

(l) When a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation 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.

(m) To issue a permit to a source of a nonattainment pollutant, the Director shall determine, in accordance with Section 173(a)(5) of the Clean Air Act and in addition to the other requirements of this Rule, that an analysis (produced by the permit applicant) of alternative sites, sizes, production processes, and environmental control techniques for the source demonstrates that the benefits of the source significantly outweigh the environmental and social costs imposed as a result of its location, construction, or modification.

(n) For the purposes of this Rule, 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."

(o) Approval of an application regarding the requirements of this Rule does not relieve the owner or operator of the responsibility to comply with applicable provisions of other rules of this Chapter and any other requirements in local, State, or federal law.

(p) Except as provided in 40 CFR 52.28(c)(6), for a source or modification subject to this Rule the following procedures shall be followed:

- (1) Notwithstanding any other provisions of this Paragraph, the Director shall, no later than 60 days after receipt of an application, notify the Federal Land Manager with the U.S. Department of Interior and U.S. Department of Agriculture of an application from a source or modification subject to this Rule;
- (2) The owner or operator of the source shall provide an analysis of the impairment to visibility that would occur because of the source or modification and general commercial, industrial and other growth associated with the source or modification;
- (3) When a source or modification may affect the visibility of a Class I area, the Director shall provide written notification to all affected Federal Land Managers within 30 days of receiving the permit application or within 30 days of receiving advance notification of an application. The notification shall be given at least 30 days before the publication of the notice for public comment on the application. The notification shall include a copy of all information relevant to the permit application, including an analysis provided by the source of the potential impact of the proposed source on visibility;
- (4) The Director shall consider any analysis concerning visibility impairment performed by the Federal Land Manager if the analysis is received within 30 days of notification. If the Director finds that the analysis of the Federal Land Manager fails to demonstrate to the Director's satisfaction that an adverse impact on visibility will result in the Class I area, the Director shall follow the public hearing process described in 40 CFR 51.307(a)(3) on the application and include an explanation of the Director's decision or notice where the explanation can be obtained;
- (5) The Director shall issue permits only to those sources whose emissions will be consistent with making reasonable progress, as defined in Section 169A of the Clean Air Act, toward the national goal of preventing any future, and remedying any existing, impairment of visibility in mandatory Class I areas when the impairment results from manmade air pollution. In making the decision to issue a permit, the Director shall consider the cost of compliance, the time necessary for compliance, the energy and nonair quality environmental impacts of compliance, and the useful life of the source; and
- (6) The Director may require monitoring of visibility in or around any Class I area by the proposed new source or modification when the visibility impact analysis indicates possible visibility impairment.

The requirements of this Paragraph do not apply to nonprofit health or nonprofit educational institutions.

(q) In lieu of the requirements in 40 CFR 51.165(a)(6) and (7), this Paragraph shall apply. If the owner or operator of a source is using projected actual emissions to determine applicability with nonattainment new source review 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 51.165(a)(1)(xxviii)(B)(3);
- (4) the calculated baseline actual emissions in Subparagraph (a)(1) of this Rule 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 require a nonattainment new source review evaluation, the Director shall notify the owner or operator of his or her findings and the owner or operator shall not make the modification until a nonattainment new source review permit has been issued pursuant to this Rule. If the Director finds that the project will not require a nonattainment new source review evaluation and the projected actual emissions, calculated pursuant to 40 CFR 51.165(a)(1)(xxviii)(B)(1) and (2) minus the baseline actual emissions is 50 percent or greater of the amount that is a significant emissions increase, without reference to the amount that is a significant net emissions increase, for the regulated NSR pollutant, then, the Director shall require a permit application to include a permit condition for the monitoring, recordkeeping, and reporting of the annual emissions related to the project in tons per years, 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 for 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 51.165(a)(6)(v)(A) through (C). The owner or operator shall make the information documented and maintained under this Paragraph available to the Director and the general public pursuant to the requirements in 40 CFR 70.4(b)(3)(viii). The monitoring, recordkeeping, and reporting requirements in this Paragraph shall not apply if the projected actual emissions calculated pursuant to 40 CFR 51.165(a)(1)(xxviii)(B)(1) and (2), minus the baseline actual emissions, is less than 50 percent of the amount that is a significant emissions increase, without reference to the amount that is a significant net emissions increase, for the regulated NSR pollutant.

(r) Portions of the regulations in the Code of Federal Regulations (CFR) that are referred to in this Rule are incorporated by reference unless a specific reference states otherwise. The version of the CFR incorporated in this Rule, with respect to 40 CFR 51.165, is that as of July 1, 2019, at <https://www.govinfo.gov/content/pkg/CFR-2019-title40-vol2/pdf/CFR-2019-title40-vol2-sec51-165.pdf> and does not include any subsequent amendments or editions. Federal regulations referenced in 40 CFR 51.165 shall include subsequent amendments and editions. The publication may be accessed free of charge.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 143-215.108(b); Eff. June 1, 1981; Amended Eff. December 1, 1993; December 1, 1992; August 1, 1991; December 1, 1989; October 1, 1989; July 1, 1988; October 1, 1987; June 1, 1985; January 1, 1985; February 1, 1983; Temporary Amendment Eff. March 8, 1994 for a period of 180 days or until the permanent rule is effective, whichever is sooner; Amended Eff. September 1, 2013; January 2, 2011; September 1, 2010; May 1, 2008; May 1, 2005; July 1, 1998; July 1, 1996; July 1, 1995; July 1, 1994; Readopted Eff. November 1, 2020.

15A NCAC 02D .0532 SOURCES CONTRIBUTING TO AN AMBIENT VIOLATION

(a) This Rule applies to new major stationary sources and major modifications to which 15A NCAC 02D .0531 does not apply and which would contribute to a violation of a national ambient air quality standard but which would not cause a new violation.

(b) For the purpose of this Rule the definitions contained in Section II.A. of Appendix S of 40 CFR Part 51 shall apply.

(c) The Rule is not applicable to:

- (1) emission of pollutants for which the area in which the new or modified source is located is designated as nonattainment;
- (2) emission of pollutants for which the source or modification is not major;
- (3) emission of pollutants other than sulfur dioxide, nitrogen oxides, and carbon monoxide;
- (4) a new or modified source whose impact will not increase more than:
 - (A) 1.0 $\mu\text{g}/\text{m}^3$ of SO_2 on an annual basis;
 - (B) 5 $\mu\text{g}/\text{m}^3$ of SO_2 on a 24-hour basis;
 - (C) 25 $\mu\text{g}/\text{m}^3$ of SO_2 on a 3-hour basis;
 - (D) 0.3 $\mu\text{g}/\text{m}^3$ of $\text{PM}_{2.5}$ on an annual basis;
 - (E) 1.2 $\mu\text{g}/\text{m}^3$ of $\text{PM}_{2.5}$ on a 24-hour basis;
 - (F) 1.0 $\mu\text{g}/\text{m}^3$ of NO_2 on an annual basis;
 - (G) 0.5 mg/m^3 of carbon monoxide on an 8-hour basis;
 - (H) 2 mg/m^3 of carbon monoxide on a one-hour basis;
 - (I) 1.0 $\mu\text{g}/\text{m}^3$ of PM_{10} on an annual basis; or
 - (J) 5 $\mu\text{g}/\text{m}^3$ of PM_{10} on a 24-hour basisat any locality that does not meet a national ambient air quality standard;
- (5) sources which are not major unless secondary emissions are included in calculating the potential to emit;
- (6) sources which are exempted by the provision in Section II.F. of Appendix S of 40 CFR Part 51;
- (7) temporary emission sources which will be relocated within two years; and
- (8) emissions resulting from the construction phase of the source.

(d) 15A NCAC 02Q .0102 is not applicable to any source to which this Rule applies. The owner or operator of the source shall apply for and receive a permit as required in 15A NCAC 02Q .0300 or .0500.

(e) To issue a permit to a new or modified source to which this Rule applies, the Director shall determine that the source will meet the following conditions:

- (1) The sources will emit the nonattainment pollutant at a rate no more than the lowest achievable emission rate;
- (2) The owner or operator of the proposed new or modified source has demonstrated that all major stationary sources in the State that are owned or operated by this person (or any entity controlling, controlled by, or under common control with this person) are subject to emission limitations and are in compliance, or on a schedule for compliance which is federally enforceable or contained in a court decree, with all applicable emission limitations and standards of this Subchapter which EPA has authority to approve as elements of the North Carolina State Implementation Plan for Air Quality; and
- (3) The source will satisfy one of the following conditions:
 - (A) The source will comply with 15A NCAC 02D .0531(i) when the source is evaluated as if it were in the nonattainment area; or
 - (B) The source will have an air quality offset, i.e., the applicant will have caused an air quality improvement in the locality where the national ambient air quality standard is not met by causing reductions in impacts of other sources greater than any additional impact caused by the source for which the application is being made. The emissions reductions creating the air quality offset shall be placed as a condition in the permit for the source reducing emissions. The requirements of this Part may be partially waived if the source is a resource recovery facility burning municipal solid waste, the source must switch fuels due to lack of adequate fuel supplies, or the source is required to be modified as a result of EPA regulations and no exemption from such regulations is available and if:
 - (i) the permit applicant demonstrates that it made its best efforts to obtain sufficient air quality offsets to comply with this Part;
 - (ii) the applicant has secured all available air quality offsets; and

(iii) the applicant will continue to seek the necessary air quality offsets and apply them when they become available.

(f) At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation 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.

(g) The version of the Code of Federal Regulations incorporated in this Rule is that as of July 1, 2019, at <https://www.govinfo.gov/content/pkg/CFR-2019-title40-vol2/pdf/CFR-2019-title40-vol2-part51-appS.pdf> and does not include any subsequent amendments or editions to the referenced material. The publication may be accessed free of charge.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 143-215.108(b); 150B-21.6;
Eff. June 1, 1981;
Temporary Amendment Eff. March 8, 1994 for a period of 180 days or until the permanent rule becomes effective, whichever is sooner;
Amended Eff. July 1, 1994; December 1, 1993; December 1, 1992; October 1, 1989;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0533 STACK HEIGHT

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

- (1) "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 canceled 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.
- (2) "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 that 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 pursuant to 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.
- (3) "Emission limitation" means a requirement established by this Subchapter or a local air quality program certified by the Commission 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.

- (4) "Excessive concentrations" means, for the purpose of determining good engineering practice stack height in Part (5)(D) of this Paragraph:
- (A) for sources seeking credit for stack height exceeding that established in Part (5)(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 15A NCAC 02D .0530, 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 in 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 in 15A NCAC 02D .0533(a)(5)(B) or (C);
 - (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 by 15A NCAC 02D .0533(a)(5)(B) or (C) 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 15A NCAC 02D .0533(a)(5)(B) or (C), 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.
- (5) "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 pursuant to 15A NCAC 02Q and 40 CFR Parts 51 and 52, provided the owner or operator produces evidence that this equation was relied on in establishing an emission limitation;
 - (C) for stacks not covered by Part (B) of this Subparagraph, the height of nearby structures 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.
- (6) "Nearby" means, for a specific structure or terrain feature:
- (A) in Parts (5)(B) and (C) of this Subparagraph, 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; and

- (B) in Part (5)(D) of this Subparagraph, 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 (5)(C) of this Subparagraph 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.

- (7) "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.

(b) With the exception stated in Paragraphs (c) and (d) of this Rule, the degree of emission limitations required by any rule in this Subchapter 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 15A NCAC 02D .0530(b) and .0531(b) 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 by 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.

History Note:

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

Eff. November 1, 1982;

Temporary Amendment Eff. March 8, 1994 for a period of 180 days or until the permanent rule becomes effective, whichever is sooner;

Amended Eff. July 1, 1994; July 1, 1987; April 1, 1986;

Readopted Eff. November 1, 2020.

15A NCAC 02D .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 curing 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 superphosphate plant.

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

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. November 1, 1982;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .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 15A NCAC 02D .0500, .0900, .1200, or 1400; or by a permit condition; or that exceeds an emission limit established in a permit issued pursuant to 15A NCAC 02Q .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 15A NCAC 02D .0524, .1110, or .1111 applies unless excess emissions exceed an emission limit established in a permit issued under 15A NCAC 02Q .0700 that is more stringent than the emission limit set by 15A NCAC 02D .0524, .1110 or .1111.

(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 owner or operator of a facility shall 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 Division'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 after 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 15A NCAC 02D .2600 to demonstrate compliance.

(g) Start-up and shut-down. Excess emissions during start-up and shut-down are considered a violation of the applicable 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 Subparagraphs (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 if necessary to limit excess emissions and protect the NAAQS. 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.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(4); 143-215.107(a)(5);
Eff. March 1, 1983;
Amended Eff. June 1, 2008; April 1, 2001; July 1, 1998; July 1, 1996; October 1, 1991; May 1,
1990; April 1, 1986; July 1, 1984;
Readopted Eff. November 1, 2020.

15A NCAC 02D .0536 PARTICULATE EMISSIONS FROM ELECTRIC UTILITY BOILERS

History Note: 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;
Repealed Eff. November 1, 2020.

15A NCAC 02D .0537 CONTROL OF MERCURY EMISSIONS

(a) For the purpose of this Rule, the following definitions shall 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, such as stacks, ducts, vents, openings, and fugitives 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 15A NCAC 02D .0530, .1110, or .1111.

(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 of more than 2300 grams per day into the atmosphere.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. June 1, 1985;
Amended Eff. July 1, 1996;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0538 CONTROL OF ETHYLENE OXIDE EMISSIONS

(a) For purposes of this Rule, "medical devices" means instruments, apparatus, implements, machines, implants, in vitro reagents, 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 at facilities for which construction began after August 31, 1992 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;

(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) a reduction in uncontrolled emissions of ethylene oxide of at least 99 percent by weight shall be achieved; or
 - (B) a concentration of no more than one part per million by volume of ethylene oxide shall be achieved;
- (4) sterilized product ethylene oxide residual emissions 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 degrees 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 Part (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 to the Director 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. For the purposes of this Paragraph, "proper operation" means in accordance with the manufacturer's specifications. Such records shall be retained for a period of at least two calendar years and shall be made available for inspection by Division personnel.

(g) If the owner or operator of a facility subject to the Rule demonstrates, using the procedures in 15A NCAC 02D .1106, that the emissions of ethylene oxide from all sources at the facility do not cause the acceptable ambient level of ethylene oxide in 15A NCAC 02D .1104 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 15A NCAC 02D .1104(a).

*History Note: 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;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .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 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 shall control their odorous emissions pursuant to 15A NCAC 02D .1806.

(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 condensible 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 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 to ensure that 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 36 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) A vehicle or container holding raw material, which has not been unloaded inside or parked inside an odor controlled area within the facility, shall be unloaded for processing of the raw material prior to the expiration of the following time limits:

- (1) for feathers with only trace amounts of blood, such as those obtained from slaughtering houses that separate blood from offal and feathers, no later than 48 hours after being weighed upon arrival at the facility; and
- (2) for used cooking oil in sealed tankers, no later than 96 hours after being weighed upon arrival at the facility.

(h) The owner or operator shall notify the regional supervisor of the appropriate regional office within two business days after the provisions of Paragraph (g) of this Rule are not met and the conditions that are encountered that cause or may cause release of excessive and malodorous gases or vapors.

(i) The owner or operator of a facility shall be in compliance with this Rule before beginning operation.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.66; 143-215.107(a)(5);
Eff. July 1, 1996;
Amended Eff. June 1, 2018; April 1, 2001;
Readopted Eff. November 1, 2020.

15A NCAC 02D .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 Division 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, stockpile 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 crops 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 by the Division with physical evidence of excess fugitive dust emissions.

(b) This Rule does not apply to:

- (1) abrasive blasting covered by 15A NCAC 02D .0541;
- (2) cotton ginning operations covered by 15A NCAC 02D .0542;
- (3) non-production military base operations;
- (4) land disturbing activities that do not require a permit pursuant to 15A NCAC 02Q or are not subject to a requirement pursuant to 15A NCAC 02D, such as clearing, grading, or digging, and related activities such as hauling fill and cut material, building material, or equipment; or
- (5) public roads, public parking, timber harvesting, or production of crops.

(c) The owner or operator of a facility required to have a permit pursuant to 15A NCAC 02Q or a source subject to a requirement pursuant to 15A NCAC 02D shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or visible emissions in excess of that allowed pursuant to Paragraph (e) of this Rule.

(d) 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 sources 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 pursuant to Subparagraph (1) of this Paragraph, submit to the Director a fugitive dust control plan as described in Paragraph (f) of this Rule; and
- (3) within 30 days after the Director approves the plan pursuant to Paragraph (g) of this Rule, be in compliance with the plan.

(e) The Director shall require that the owner or operator of a facility covered by Paragraph (c) of this Rule develop and submit a fugitive dust control plan as described in Paragraph (f) of this Rule if:

- (1) ambient air quality measurements or dispersion modeling as provided in 15A NCAC 02D .1106(e) show that the excess fugitive dust emissions cause the ambient air quality standard for particulates in 15A NCAC 02D .0400 to be exceeded; or
- (2) the Division observes excess 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.

(f) 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) propose any methods that will be used to verify compliance with the plan.
- (g) The Director shall approve the plan if he or she finds that:
- (1) the plan contains all required elements in Paragraph (f) of this Rule;
 - (2) the proposed schedule contained in the plan will reduce fugitive dust emissions;
 - (3) the methods used to control fugitive dust emissions prevent fugitive dust emissions from causing or contributing to a violation of the ambient air quality standards for particulates; and
 - (4) the proposed compliance verification methods verify compliance with the fugitive dust control plan.

If the Director finds that the proposed plan does not meet the requirements of this Paragraph, he or she 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.

(h) If after a plan has been implemented, the Director finds that the plan fails to control excess fugitive dust emissions, he or she 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 or her plan to correct the deficiencies.

*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;
Readopted Eff. September 1, 2019.*

15A NCAC 02D .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) "Building" means a structure with four or more sides and a roof used, in whole or in part, to house or contain abrasive blasting.
- (5) "Fugitive dust emissions" means emissions of particulate matter into the outdoor atmosphere that is not vented or captured by a stack or chimney.

(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 15A NCAC 02D .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.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.108(c)(7); 143-215.108(d)(1);
Eff. July 1, 2000;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .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, approximately weighing 500 pounds.
- (4) "Existing facility" means a cotton ginning operation site operating prior to July 1, 2002.
- (5) "Ginning operation" means any facility or plant removing seed, lint, trash, or any 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 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 new, existing, 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 Subparagraph (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 Subparagraph (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 including:
 - (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 including:
 - (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 15A NCAC 02D .2600.

(e) Exhaust Rain Caps. Exhausts from emission points or control devices shall not be equipped with exhaust rain caps or other devices that deflect the emissions downward or outward.

(f) Operation and Maintenance. To ensure 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 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 in accordance with this Paragraph:

- (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.
 - (B) trash stacker and 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 all trucks transporting gin trash material are covered and 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; and
 - (4) a demonstration the alternative control measure's effectiveness is equal to or greater than 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 or she finds:
- (1) all the information required by Paragraph (h) of this Rule has been submitted; and
 - (2) the alternative control measure's effectiveness is equal to or greater than 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 measuring pressures, rates of flow, and other operating conditions necessary to determine if the control devices function in accordance with the engineering specifications set forth in the permit.
 - (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 stay within the design range for each collection device. For 2D-2D cyclones the air flow design range is 2600 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 the Director approves 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 Subparagraph (j)(2) of this Rule;
- (2) results of new baseline studies as specified in Subparagraph (j)(4) of this Rule;
- (3) results of monthly static pressure checks and any corrective action taken as specified in Subparagraph (j)(3) of this Rule;
- (4) observations from daily inspections of the facility and any resulting corrective actions taken as required in Subparagraph (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 Division 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 Subparagraph (j)(6) of this Rule; and
- (4) signature of the responsible official as identified in 15A NCAC 02Q .0303.

(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.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5);
Eff. August 1, 2002;
Amended Eff. June 1, 2008;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .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 pursuant to 40 CFR 51.308 or 40 CFR Part 51, Appendix Y.
- (d) This Rule applies to BART-eligible sources meeting the requirements of 40 CFR Part 51, Appendix Y causing or contributing to any visibility impairment in a mandatory Class I Federal area as determined using 40 CFR Part 51, Subpart P.
- (e) Unless exempted pursuant to 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. 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 the source;
 - (5) the remaining useful life of the source; and
 - (6) the degree of improvement in visibility reasonably 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 factors listed in Paragraph (e) of this Rule and incorporated in the unit's permit issued pursuant to 15A NCAC 02Q.
- (g) 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.
- (h) "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 National Service Center for Environmental Publications (NSCEP) available for free through their online publication search tool at: <https://www.epa.gov/nscep>. The document is also available through the U.S. Department of Commerce, National Technical Information Service located at 5301 Shawnee Road Alexandria, VA 22312.

*History Note: Authority G.S.143-215.3(a)(1); 143-215.107(a)(5),(10);
Eff. September 1, 2006;
Amended Eff. May 1, 2007;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .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. The minimum requirements described in the portions of 40 CFR 51.166 are hereby adopted as requirements under this Rule, except as otherwise provided in this Rule. Wherever the language of the portions of 40 CFR 51.166 adopted in this Rule 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 adopted in this Rule provide that the State plan may exempt or not apply certain requirements in certain circumstances, those exemptions and provisions of non-applicability 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). For purposes of greenhouse gases, the provisions of this Rule shall apply rather than the provisions in 15A NCAC 02D .0530. For all other regulated new source review (NSR) pollutants, the provisions in 15A NCAC 02D .0530 shall apply. 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.

(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 Division 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 Division, 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 (r) and (w).

(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) 15A NCAC 02Q .0102 is 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 15A NCAC 02Q .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 this Subchapter or 15A NCAC 02Q and any other requirements under local, State, or federal law.

(n) In lieu of the requirements in 40 CFR 51.166(r)(6) and (7), this Paragraph shall apply. If the owner or operator of a source is using projected actual emissions to determine applicability with 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 in Subparagraph (b)(1) of this Rule 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 require a prevention of significant deterioration evaluation, then the Director shall notify the owner or operator of his or her findings and the owner or operator shall not make the modification until a prevention of significant deterioration permit has been issued pursuant to this Rule. If the Director finds that the project will not require a prevention of significant deterioration evaluation and the projected actual emissions, calculated pursuant to 40 CFR 51.166(b)(40)(ii)(a) and (b), minus the baseline actual emissions, is 50 percent or greater of the amount that is a significant emissions increase, without reference to the amount that is a significant net emissions increase, for the regulated NSR pollutant, then, the Director shall require a permit application to include a permit condition for the monitoring, recordkeeping, and reporting of the annual emissions related to the project in tons per year, 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 for 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). The monitoring, recordkeeping, and reporting requirements in this Paragraph shall not apply if the projected actual emissions, calculated pursuant to 40 CFR 51.166(b)(40)(ii)(a) and (b), minus the baseline actual emissions, is less than 50 percent of the amount that is a significant emissions increase, without reference to the amount that is a significant net emissions increase, for the regulated NSR pollutant.

(o) Portions of the regulations in the Code of Federal Regulations (CFR) that are referred to in this Rule are incorporated by reference unless a specific reference states otherwise. The version of the CFR incorporated in this Rule, with respect to 40 CFR 51.166, is that as of July 1, 2019 at <https://www.govinfo.gov/content/pkg/CFR-2019-title40-vol2/pdf/CFR-2019-title40-vol2-sec51-166.pdf> and does not include any subsequent amendments or editions. Federal regulations referenced in 40 CFR 51.166 shall include subsequent amendments and editions. This Rule is applicable in accordance with 40 CFR 51.166(b)(48) and (b)(49)(iv) and (v). The publication may be accessed free of charge.

*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;
Readopted Eff. November 1, 2020.*

15A NCAC 02D .0546 CONTROL OF EMISSIONS FROM LOG FUMIGATION OPERATIONS

(a) Purpose. The purpose of this Rule is to establish emission control requirements for hazardous air pollutants and toxic air pollutants from log fumigation operations.

(b) Definitions. For the purpose of this Rule, the following definitions and definitions in this Subchapter or 15A NCAC 02Q apply:

- (1) "Bulk or tarpaulin log fumigation" means the fumigation of logs that are placed in piles on an impermeable surface and covered with a weighted-down tarpaulin.
- (2) "Chamber log fumigation" means the fumigation of logs inside a sealed building or structure that is specifically used for fumigation. Chambers used for fumigation may be either atmospheric or vacuum type.
- (3) "Container log fumigation" means the fumigation of logs inside a container where the doors of the container are closed and sealed.
- (4) "Fumigant" means the hazardous air pollutant or toxic air pollutant that is used to eliminate the pests within the logs.
- (5) "Fumigation operation" means the period of time that the fumigant is injected and retained in the container, chamber, or bulk piles for the purposes of treating the logs for insects and other pests to prevent the transfer of exotic organisms.
- (6) "Hazardous air pollutant" means any pollutant listed under Section 112(b) of the federal Clean Air Act in 42 U.S.C. 7412(b).
- (7) "Public right-of-way" means an access area where people can reasonably be expected to be present for any or all parts of a 24-hour period.
- (8) "Toxic air pollutant" means any of the carcinogens, chronic toxicants, acute systemic toxicants, or acute irritants that are listed in 15A NCAC 02D .1104.

(c) Applicability. This Rule applies to new, existing, and modified bulk, chamber, and container log fumigation operations that use a hazardous air pollutant or toxic air pollutant as a fumigant.

(d) Emission Control Requirements. The owner or operator of a log fumigation operation shall comply with the Toxic Air Pollutant Guidelines specified in 15A NCAC 02D .1104 and follow the procedures specified in 15A NCAC 02D .1106, 15A NCAC 02Q .0709, and .0710.

(e) The owner or operator shall post signs notifying the public of fumigation operations. The signs shall be visible and legible to the public at the fence or property line closest to any public right-of-way. The signs shall remain in place at all times and shall conform to the format for placards mandated by the federally approved fumigant label.

(f) Monitoring, Recordkeeping and Reporting. The owner or operator of a bulk, chamber, or container log fumigation operation shall comply with the requirements pursuant to 15A NCAC 02D .0600:

- (1) The owner or operator shall send an initial notification of commencement of operations to the appropriate Division of Air Quality regional office within 15 days of initial fumigation start-up.
- (2) The owner or operator shall submit a quarterly summary report, with the original signature of the permittee or the authorized responsible official, of the monitoring and recordkeeping activities postmarked no later than 30 days after the end of each calendar year quarter. The report shall contain the following:
 - (A) the company name, address, and facility ID number;
 - (B) the calendar year quarter represented by the report;
 - (C) the daily and total fumigant usage in pounds for each quarter;
 - (D) a summary of the monitoring data required by the permit that was collected during the quarter; and
 - (E) a summary of exceedances from the levels established in the permit that occurred during the quarter of any monitoring parameters.

(g) Compliance Schedule. The owner or operator of an existing log fumigation operation subject to this Rule shall achieve compliance within 60 days after the Rule is effective or in accordance with an alternate compliance schedule approved by the Director. In establishing an alternate compliance schedule, the Director shall consider whether the compliance approach chosen by the facility involves the purchase and installation of a control device. New and modified facilities shall achieve compliance with this Rule upon start-up.

History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(4); 143-215.107(a)(5); Eff. November 1, 2020.