

## **SECTION .1100 - CONTROL OF TOXIC AIR POLLUTANTS**

### **15A NCAC 02D .1101 PURPOSE**

This Section sets forth the rules for the control of toxic air pollutants to protect human health.

*History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(1),(3),(4),(5); 143B-282; S.L. 1989, c. 168, s. 45;  
Eff. May 1, 1990.

**15A NCAC 02D .1102 APPLICABILITY**

(a) The toxic air pollutant rules in this Section apply to all facilities that emit a toxic air pollutant that are required to have a permit under 15A NCAC 2Q .0700.

(b) Sources at facilities subject to this Section shall comply with the requirements of this Section as well as with any applicable requirements in Sections .0500, .0900, and .1200 of this Subchapter.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(1),(3),(4),(5); 143B-282; S.L. 1989, c. 168, s. 45; Eff. May 1, 1990; Amended Eff. July 1, 1998; December 1, 1991.*

### 15A NCAC 02D .1103 DEFINITION

For the purpose of this Section, the following definitions apply:

- (1) "Asbestos" means asbestos fibers as defined in 40 CFR 61.141.
- (2) "Bioavailable chromate pigments" means the group of chromium (VI) compounds consisting of calcium chromate (CAS No.13765-19-0), calcium dichromate (CAS No. 14307-33-6), strontium chromate (CAS No. 7789-06-2), strontium dichromate (CAS No. 7789-06-2), zinc chromate (CAS No. 13530-65-9), and zinc dichromate (CAS No. 7789-12-0).
- (3) "CAS Number" means the Chemical Abstract Service registry number identifying a particular substance.
- (4) "Chromium (VI) equivalent" means the molecular weight ratio of the chromium (VI) portion of a compound to the total molecular weight of the compound multiplied by the associated compound emission rate or concentration at the facility.
- (5) "Non-specific chromium (VI) compounds" means the group of compounds consisting of any chromium (VI) compounds not specified in this Section as a bioavailable chromate pigment or a soluble chromate compound.
- (6) "Cresol" means o-cresol, p-cresol, m-cresol or any combination of these compounds.
- (7) "GACT" means any generally available control technology emission standard applied to an area source or facility pursuant to Section 112 of the federal Clean Air Act.
- (8) "Hexane isomers except n-hexane" means 2-methyl pentane, 3-methyl pentane, 2,2-dimethyl butane, 2,3-dimethyl butane, or any combination of these compounds.
- (9) "MACT" means any maximum achievable control technology emission standard applied to a source or facility pursuant to Section 112 of the federal Clean Air Act.
- (10) "Nickel, soluble compounds" means the soluble nickel salts of chloride (NiCl<sub>2</sub>, CAS No. 7718-54-9), sulfate (NiSO<sub>4</sub>, CAS No. 7786-81-4), and nitrate (Ni(NO<sub>3</sub>)<sub>2</sub>, CAS No. 13138-45-9).
- (11) "Polychlorinated biphenyls" means any chlorinated biphenyl compound or mixture of chlorinated biphenyl compounds.
- (12) "Soluble chromate compounds" means the group of chromium (VI) compounds consisting of ammonium chromate (CAS No. 7788-98-9), ammonium dichromate (CAS No. 7789-09-5), chromic acid (CAS No. 7738-94-5), potassium chromate (CAS No. 7789-00-6), potassium dichromate (CAS No. 7778-50-9), sodium chromate (CAS No. 7775-11-3), and sodium dichromate (CAS No. 10588-01-9).
- (13) "Toxic air pollutant" means any of those carcinogens, chronic toxicants, acute systemic toxicants, or acute irritants listed in Rule .1104 of this Section.

*History Note: Authority G.S. 143-213; 143-215.3(a)(1); 143B-282; S.L. 1989, c. 168, s. 45; Eff. May 1, 1990; Amended Eff. April 1, 2001; July 1, 1998.*

**15A NCAC 02D .1104 TOXIC AIR POLLUTANT GUIDELINES**

A facility shall not emit any of the following toxic air pollutants in such quantities that may cause or contribute beyond the premises (adjacent property boundary) to any significant ambient air concentration that may adversely affect human health. In determining these significant ambient air concentrations, the Division shall be guided by the following list of acceptable ambient levels in milligrams per cubic meter at 77° F (25° C) and 29.92 inches (760 mm) of mercury pressure (except for asbestos):

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
acetaldehyde (75-07-0)				27
acetic acid (64-19-7)				3.7
acrolein (107-02-8)				0.08
acrylonitrile (107-13-1)	1.5 x 10 <sup>-4</sup>			
ammonia (7664-41-7)				2.7
aniline (62-53-3)			1	
arsenic and inorganic arsenic compounds	2.3 x 10 <sup>-7</sup>			
asbestos (1332-21-4)	2.8 x 10 <sup>-11</sup> fibers/ml			
aziridine (151-56-4)		0.006		
benzene (71-43-2)	1.2 x 10 <sup>-4</sup>			
benzidine and salts (92-87-5)	1.5 x 10 <sup>-8</sup>			
benzo(a)pyrene (50-32-8)	3.3 x 10 <sup>-5</sup>			
benzyl chloride (100-44-7)			0.5	
beryllium (7440-41-7)	4.1 x 10 <sup>-6</sup>			
beryllium chloride (7787-47-5)	4.1 x 10 <sup>-6</sup>			
beryllium fluoride (7787-49-7)	4.1 x 10 <sup>-6</sup>			
beryllium nitrate (13597-99-4)	4.1 x 10 <sup>-6</sup>			
bioavailable chromate pigments, as chromium (VI) equivalent	8.3 x 10 <sup>-8</sup>			
bis-chloromethyl ether (542-88-1)	3.7 x 10 <sup>-7</sup>			
bromine (7726-95-6)				0.2
1,3-butadiene (106-99-0)	4.4 x 10 <sup>-4</sup>			
cadmium (7440-43-9)	5.5 x 10 <sup>-6</sup>			
cadmium acetate (543-90-8)	5.5 x 10 <sup>-6</sup>			
cadmium bromide (7789-42-6)	5.5 x 10 <sup>-6</sup>			
carbon disulfide (75-15-0)		0.186		
carbon tetrachloride (56-23-5)	6.7 x 10 <sup>-3</sup>			
chlorine (7782-50-5)		0.0375		0.9
chlorobenzene (108-90-7)		2.2		
chloroform (67-66-3)	4.3 x 10 <sup>-3</sup>			
chloroprene (126-99-8)		0.44	3.5	
cresol (1319-77-3)			2.2	
p-dichlorobenzene (106-46-7)				66
dichlorodifluoromethane (75-71-8)		248		
dichlorofluoromethane (75-43-4)		0.5		
di(2-ethylhexyl)phthalate (117-81-7)		0.03		
dimethyl sulfate (77-78-1)		0.003		
1,4-dioxane (123-91-1)		0.56		

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
epichlorohydrin (106-89-8)	$8.3 \times 10^{-2}$			
ethyl acetate (141-78-6)			140	
ethylenediamine (107-15-3)		0.3	2.5	
ethylene dibromide (106-93-4)	$4.0 \times 10^{-4}$			
ethylene dichloride (107-06-2)	$3.8 \times 10^{-3}$			
ethylene glycol monoethyl ether (110-80-5)		0.12	1.9	
ethylene oxide (75-21-8)	$2.7 \times 10^{-5}$			
ethyl mercaptan (75-08-1)			0.1	
fluorides		0.016	0.25	
formaldehyde (50-00-0)				0.15
hexachlorocyclopentadiene (77-47-4)		0.0006	0.01	
hexachlorodibenzo-p-dioxin (57653-85-7)	$7.6 \times 10^{-8}$			
n-hexane (110-54-3)		1.1		
hexane isomers except n-hexane				360
hydrazine (302-01-2)		0.0006		
hydrogen chloride (7647-01-0)				0.7
hydrogen cyanide (74-90-8)		0.14	1.1	
hydrogen fluoride (7664-39-3)		0.03		0.25
hydrogen sulfide (7783-06-4)		0.12		
maleic anhydride (108-31-6)		0.012	0.1	
manganese and compounds		0.031		
manganese cyclopentadienyl tricarbonyl (12079-65-1)		0.0006		
manganese tetroxide (1317-35-7)		0.0062		
mercury, alkyl		0.00006		
mercury, aryl and inorganic compounds		0.0006		
mercury, vapor (7439-97-6)		0.0006		
methyl chloroform (71-55-6)		12		245
methylene chloride (75-09-2)	$2.4 \times 10^{-2}$		1.7	
methyl ethyl ketone (78-93-3)		3.7		88.5
methyl isobutyl ketone (108-10-1)		2.56		30
methyl mercaptan (74-93-1)			0.05	
nickel carbonyl (13463-39-3)		0.0006		
nickel metal (7440-02-0)		0.006		
nickel, soluble compounds, as nickel		0.0006		
nickel subsulfide (12035-72-2)	$2.1 \times 10^{-6}$			
nitric acid (7697-37-2)				1
nitrobenzene (98-95-3)		0.06	0.5	
n-nitrosodimethylamine (62-75-9)	$5.0 \times 10^{-5}$			
non-specific chromium (VI) compounds, as chromium (VI) equivalent	$8.3 \times 10^{-8}$			
pentachlorophenol (87-86-5)		0.003	0.025	
perchloroethylene (127-18-4)	$1.9 \times 10^{-1}$			

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
phenol (108-95-2)			0.95	
phosgene (75-44-5)		0.0025		
phosphine (7803-51-2)				0.13
polychlorinated biphenyls (1336-36-3)	$8.3 \times 10^{-5}$			
soluble chromate compounds, as chromium (VI) equivalent		$6.2 \times 10^{-4}$		
styrene (100-42-5)			10.6	
sulfuric acid (7664-93-9)		0.012	0.1	
tetrachlorodibenzo-p-dioxin (1746-01- 6)	$3.0 \times 10^{-9}$			
1,1,1,2-tetrachloro-2,2,- difluoroethane (76-11-9)		52		
1,1,2,2-tetrachloro-1,2- difluoroethane (76-12-0)		52		
1,1,2,2-tetrachloroethane (79-34-5)	$6.3 \times 10^{-3}$			
toluene (108-88-3)		4.7		56
toluene diisocyanate, 2,4- (584-84-9) and 2,6- (91-08-7) isomers		0.0002		
trichloroethylene (79-01-6)	$5.9 \times 10^{-2}$			
trichlorofluoromethane (75-69-4)			560	
1,1,2-trichloro-1,2,2- trifluoroethane (76-13-1)				950
vinyl chloride (75-01-4)	$3.8 \times 10^{-4}$			
vinylidene chloride (75-35-4)		0.12		
xylene (1330-20-7)		2.7		65

*History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3),(4),(5); 143B-282; S.L. 1989, c. 168, s. 45; Eff. May 1, 1990;  
Amended Eff. September 1, 1992; March 1, 1992;  
Temporary Amendment Eff. July 20, 1997;  
Amended Eff. June 1, 2008; April 1, 2005; April 1, 2001; July 1, 1998.

**15A NCAC 02D .1105 FACILITY REPORTING, RECORDKEEPING**

The Director may require, according to Section .0600 of this Subchapter, the owner or operator of a source subject to this Section to monitor emissions of toxic air pollutants, to maintain records of these emissions, and to report these emissions. The owner or operator of any toxic air pollutant emission source subject to the requirements of this Section shall comply with the monitoring, recordkeeping, and reporting requirements in Section .0600 of this Subchapter.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(4),(5); 143B-282;  
Eff. May 1, 1990;  
Amended Eff. April 1, 1999; October 1, 1991.*

## **15A NCAC 02D .1106 DETERMINATION OF AMBIENT AIR CONCENTRATION**

(a) Modeling shall not be used for enforcement. Modeling shall be used to determine process operational and air pollution control parameters and emission rates for toxic air pollutants to place in the air quality permit for that facility that will prevent any of the acceptable ambient levels in Rule .1104 of this Section from being exceeded, with such exceptions as may be allowed under 15A NCAC 2Q .0700. Enforcing these permit stipulations and conditions shall be the mechanism used to ensure that the requirements of Rule .1104 of this Section, with such exceptions as may be allowed by 15A NCAC 2Q .0700, are met.

(b) The owner or operator of the facility may request the Division to perform a modeling analysis of the facility or provide the analysis himself. If the owner or operator of the facility requests the Division to perform the modeling analysis, he shall provide emissions rates, stack parameters, and other information that the Division needs to do the modeling. The data that the owner or operator of the facility provides the Division to use in the model or in deriving the data used in the model shall be the process, operational and air pollution control equipment parameters and emission rates that will be contained in the facility's permit. If the Division's initial review of the modeling request indicates extensive or inappropriate use of state resources or if the Division's modeling analysis fails to show compliance with the acceptable ambient levels in Rule .1104 of this Section, the modeling demonstration becomes the responsibility of the owner or operator of the facility.

(c) When the owner or operator of the facility is responsible for providing the modeling demonstration and the data used in the modeling, the owner or operator of the facility shall use in the model or in deriving data used in the model the process operational and air pollution control equipment parameters and emission rates that will be contained in his permit. Sources that are not required to be included in the model will not be included in the permit to emit toxic air pollutants.

(d) For the following pollutants, modeled emission rates shall be based on the highest emissions occurring in any single 15 minute period. The resultant modeled 1-hour concentrations shall then be compared to the applicable 1-hour acceptable ambient levels to determine compliance. These pollutants are:

- (1) acetaldehyde (75-07-0)
- (2) acetic acid (64-19-7)
- (3) acrolein (107-02-8)
- (4) ammonia (7664-41-7)
- (5) bromine (7726-95-6)
- (6) chlorine (7782-50-5)
- (7) formaldehyde (50-00-0)
- (8) hydrogen chloride (7647-01-0)
- (9) hydrogen fluoride (7664-39-3)
- (10) nitric acid (7697-37-2)

(e) The owner or operator of the facility and the Division may use any model allowed by 40 CFR 51.166(l) provided that the model is appropriate for the facility being modeled. The owner or operator or the Division may use a model other than one allowed by 40 CFR 51.166(l) provided that the Director determines that the model is equivalent to the model allowed by 40 CFR 51.166(l). Regardless of model used, the owner or operator and the Division shall model for cavity effects and shall comply with the modeling requirements for stack height set out in Rule .0533 of this Subchapter.

(f) Ambient air concentrations are to be evaluated for annual periods over a calendar year, for 24-hour periods from midnight to midnight, and for one-hour periods beginning on the hour.

(g) The owner or operator of the facility shall identify each toxic air pollutant emitted and its corresponding emission rate using mass balancing analysis, source testing, or other methods that the Director may approve as providing an equivalently accurate estimate of the emission rate.

(h) The owner or operator of the facility shall submit a modeling plan to the Director and shall have received approval of that plan from the before submitting a modeling demonstration to the Director. The modeling plan shall include:

- (1) a diagram of the plant site, including locations of all stacks and associated buildings;
- (2) on-site building dimensions;
- (3) a diagram showing property boundaries, including a scale, key and north indicator;
- (4) the location of the site on a United States Geological Survey (USGS) map;
- (5) discussion of good engineering stack height and building wake effects for each stack;
- (6) discussion of cavity calculations, impact on rolling and complex terrain, building wake effects, and urban/rural considerations;
- (7) discussion of reasons for model selection;
- (8) discussion of meteorological data to be used;
- (9) discussion of sources emitting the pollutant that are not to be included in the model with an explanation of why they are being excluded (i.e. why the source will not affect the modeling analysis); and

(10) any other pertinent information.

*History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3),(5); 143B-282; S.L. 1989, c. 168, s. 45;  
Eff. May 1, 1990;  
Amended Eff. July 1, 1998.

**15A NCAC 02D .1107 MULTIPLE FACILITIES**

(a) If an acceptable ambient level in Rule .1104 of this Section is exceeded because of emissions of two or more facilities and if public exposure is such that the commission has evidence that human health may be adversely affected, then the Commission shall require the subject facilities to apply addition controls or to otherwise reduce emissions. The type of evidence that the Commission shall consider shall include one or more of the following:

- (1) emission inventory,
- (2) ambient monitoring,
- (3) modeling, or
- (4) epidemiological study.

(b) The allocation of the additional reductions shall be based on the relative contributions to the pollutant concentrations unless the owners or operators agree otherwise.

(c) The owner or operator of a facility shall not be required to conduct the multi-facility ambient impact analysis described in Paragraph (a) of this Rule. This type of analysis shall be done by the Division of Air Quality. In performing its analysis, the Division shall:

- (1) develop a modeling plan that includes the elements set out in Paragraph (f) of Rule .1106 of this Section;
- (2) use for the source modeling parameters, the modeling parameters used by the owner or operator of the source in his modeling demonstration, or if a modeling demonstration has not been done or if a needed parameter has not been used in the modeling demonstration, parameters contained in, or derived from data contained in, the source's permit;
- (3) use a model allowed by Paragraph (c) of Rule .1106 of this Section;
- (4) model for cavity effects and comply with the modeling requirements for stack height set out in Rule .0533 of this Section;
- (5) use the time periods required by Paragraph (d) of Rule .1106 of this Section; and
- (6) only consider impacts of a facility's emissions beyond the premises of that facility.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3),(5); 143B-282;  
Eff. May 1, 1990;  
Amended Eff. July 1, 1998.*

**15A NCAC 02D .1108    MULTIPLE POLLUTANTS**

If the Commission has evidence that two or more toxic air pollutants being emitted from a facility or combination of facilities act in the same way to affect human health so that their effects may be additive or enhanced and that public exposure is such that human health may be adversely affected, then the Commission will consider developing acceptable ambient levels for the combination of toxic air pollutants or other appropriate control measures.

*History Note:*     *Authority G.S. 143-215.3(a)(1); 143-215.107(a)(3),(5); 143B-282;*  
                          *Eff. May 1, 1990.*

**15A NCAC 02D .1109 112(J) CASE-BY-CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

(a) Applicability. This Rule applies only to sources of hazardous air pollutants required to have a permit under 15A NCAC 02Q .0500 and as described in 40 CFR 63.50. This Rule does not apply to research or laboratory activities as defined in Paragraph (b) of this Rule.

(b) Definitions. For the purposes of this Rule, the definitions in 40 CFR 63.2, 63.51, 15A NCAC 02Q .0526, and the following definitions apply:

- (1) "Affected source" means the collection of equipment, activities, or both within a single contiguous area and under common control that is in a Section 112(c) source category or subcategory that the Administrator has failed to promulgate an emission standard by the Section 112(j) deadline, and that is addressed by an applicable MACT emission limitation established pursuant to 40 CFR Part 63 Subpart B;
- (2) "Control technology" means measures, processes, methods, systems, or techniques to limit the emission of hazardous air pollutants including measures that:
  - (A) reduce the quantity, or eliminate emissions, of such pollutants through process changes, substitution of materials, or other modifications;
  - (B) enclose systems or processes to eliminate emissions;
  - (C) collect, capture, or treat such pollutants when released from a process, stack, storage, or fugitive emission point;
  - (D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in 42 USC 7412(h); or
  - (E) are a combination of Parts (A) through (D) of this definition.
- (3) "EPA" means the United States Environmental Protection Agency or the Administrator of U.S. Environmental Protection Agency.
- (4) "Hazardous air pollutant" means any pollutant listed under Section 112(b) of the federal Clean Air Act.
- (5) "MACT" means maximum achievable control technology.
- (6) "Maximum achievable control technology" means:
  - (A) for existing sources,
    - (i) a MACT standard that EPA has proposed or promulgated for a particular category of facility or source,
    - (ii) the average emission limitation achieved by the best performing 12 percent of the existing facilities or sources for which EPA has emissions information if the particular category of source contains 30 or more sources, or
    - (iii) the average emission limitation achieved by the best performing five facilities or sources for which EPA has emissions information if the particular category of source contains fewer than 30 sources, or
  - (B) for new sources, the maximum degree of reduction in emissions that is deemed achievable but not less stringent than the emission control that is achieved in practice by the best controlled similar source.
- (7) "MACT floor" means:
  - (A) for existing sources:
    - (i) the average emission limitation achieved by the best performing 12 percent of the existing sources (for which EPA has emissions information) excluding those sources that have, within 18 months before the emission standard is proposed or within 30 months before such standard is promulgated, whichever is later, first achieved a level of emission rate or emission reduction which complies, or would comply if the source is not subject to such standard, with the lowest achievable emission rate (as defined in Section 171 of the federal Clean Air Act) applicable to the source category or subcategory for categories and subcategories with 30 or more sources; or
    - (ii) the average emission limitation achieved by the best performing five sources (for which EPA has emissions or could reasonably obtain emissions information), in the category or subcategory, for categories or subcategories with fewer than 30 sources;
  - (B) for new sources, the emission limitation achieved in practice by the best controlled similar source.

- (8) "New affected source" means the collection of equipment, activities, or both, that constructed after the issuance of a Section 112(j) permit for the source pursuant to 40 CFR 63.52, is subject to the applicable MACT emission limitation for new sources. Each permit shall define the term "new affected source," that will be the same as the "affected source" unless a different collection is warranted based on consideration of factors including:
- (A) Emission reduction impacts of controlling individual sources versus groups of sources;
  - (B) Cost effectiveness of controlling individual equipment;
  - (C) Flexibility to accommodate common control strategies;
  - (D) Cost/benefits of emissions averaging;
  - (E) Incentives for pollution prevention;
  - (F) Feasibility and cost of controlling processes that share common equipment (e.g., product recovery devices); and
  - (G) Feasibility and cost of monitoring.
- (9) "New facility" means a facility for which construction is commenced after the Section 112(j) deadline, or after proposal of a relevant standard under Section 112(d) or (h) of the Federal Clean Air Act, whichever comes first.
- (10) "Research or laboratory activities" means activities whose primary purpose is to conduct research and development into new processes and products; where such activities are operated under the supervision of technically trained personnel and are not engaged in the manufacture of products for commercial sale in commerce, except in a de minimis manner; and where the source is not in a source category specifically addressing research or laboratory activities, that is listed pursuant to Section 112(c)(7) of the Clean Air Act.
- (11) "Section 112(j) deadline" means the date 18 months after the date for which a relevant standard is scheduled to be promulgated under 40 CFR Part 63, except that for all major sources listed in the source category schedule for which a relevant standard is scheduled to be promulgated by November 15, 1994, the Section 112(j) deadline is November 15, 1996, and for all major sources listed in the source category schedule for which a relevant standard is scheduled to be promulgated by November 15, 1997, the Section 112(j) deadline is December 15, 1999.
- (12) "Similar source" means that equipment or collection of equipment that, by virtue of its structure, operability, type of emissions and volume and concentration of emissions, is substantially equivalent to the new affected source and employs control technology for control of emissions of hazardous air pollutants that is practical for use on the new affected source.

(c) Missed promulgation dates: 112(j). If EPA fails to promulgate a standard for a category of source under Section 112 of the Federal Clean Air Act by the date established pursuant to Sections 112(e)(1) or (3) of the federal Clean Air Act, the owner or operator of any source in such category shall submit, within 18 months after such date, a permit application, in accordance with the procedures in 15A NCAC 02Q .0526, to the Director and to EPA to apply MACT to such sources. Sources subject to this Paragraph shall be in compliance with this Rule within three years from the date that the permit is issued.

(d) New facilities. The owner or operator of any new facility that is a major source of hazardous air pollutants (HAP) that is subject to this Rule shall apply MACT in accordance with the provisions of Rule .1112 of this Section, 15A NCAC 02Q .0528, and 02Q .0526(e)(2).

(e) Case-by-case MACT determination. The Director shall determine MACT according to 40 CFR 63.55(a).

(f) Monitoring and recordkeeping. The owner or operator of a source subject to this Rule shall install, operate, and maintain monitoring capable of detecting deviations from each applicable emission limitation or other standards with sufficient reliability and timeliness to determine continuous compliance over the applicable reporting period. Such monitoring data may be used as a basis for enforcing emissions limitations established under this Rule.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5), (10);  
Temporary Adoption Eff. March 8, 1994 for a period of 180 days or until the permanent rule is effective, whichever is sooner;  
Eff. July 1, 1994;  
Amended Eff. February 1, 2004; July 1, 1998; July 1, 1996.*

**15A NCAC 02D .1110 NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS**

(a) With the exception of Paragraph (b) of this Rule, sources subject to national emission standards for hazardous air pollutants promulgated in 40 CFR Part 61 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 Section .0500 of this Subchapter that would be in conflict therewith.

(b) 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 national emission standards for hazardous air pollutants promulgated under 40 CFR Part 61, or part thereof, shall be enforced. If the 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.

(c) 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 in violation of the ambient air quality standard for ozone shall comply with the requirements of 40 CFR Part 61 that are not excluded by this Rule, as well as with any applicable requirements in Section .0900 of this Subchapter.

(d) All requests, reports, applications, submittals, and other communications to the administrator required under Paragraph (a) of this Rule shall be submitted to the Director of the Division of Air Quality rather than to the Environmental Protection Agency; except that all such reports, applications, submittals, and other communications to the administrator required by 40 CFR 61.145 shall be submitted to the Director, Division of Epidemiology.

(e) In the application of this Rule, definitions contained in 40 CFR Part 61 shall apply rather than those of Section .0100 of this Subchapter.

(f) 15A NCAC 02Q .0102 and .0302 are 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.

*History Note:* Authority G.S. 143-215.3(a)(1); 143-215.107 (a)(5); 150B-21.6;  
Eff. July 1, 1996;  
Amended Eff. June 1, 2008; July 1, 1997.

**15A NCAC 02D .1111 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

(a) With the exception of Paragraph (b) or (c) of this Rule, sources subject to national emission standards for hazardous air pollutants for source categories promulgated in 40 CFR Part 63 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 Section .0500 of this Subchapter which would be in conflict therewith.

(b) The following are not included under this Rule:

- (1) approval of state programs and delegation of federal authorities (40 CFR 63.90 to 63.96, Subpart E); and
- (2) requirements for control technology determined for major sources in accordance with Clean Air Act Sections 112(g) and 112(j) (40 CFR 63.50 to 63.57, Subpart B).

(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 national emission standard for hazardous air pollutants for source categories promulgated under 40 CFR Part 63, or part thereof, shall be enforced. If the 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 63 that are not excluded by this Rule as well as with any applicable requirements in Section .0900 of this Subchapter.

(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 of the Division of Air Quality rather than to the Environmental Protection Agency; except that all such reports, applications, submittals, and other communications to the administrator required by 40 CFR Part 63, Subpart M for dry cleaners covered under Chapter 143, Article 21A, Part 6 of the General Statutes shall be submitted to the Director of the Division of Waste Management.

(f) In the application of this Rule, definitions contained in 40 CFR Part 63 shall apply rather than those of Section .0100 of this Subchapter when conflict exists.

(g) 15A NCAC 02Q .0102 and .0302 are not applicable to any source to which this Rule applies if the source is required to be permitted under 15A NCAC 02Q .0500, Title V Procedures. The owner or operator of the source shall apply for and receive a permit as required in 15A NCAC 02Q .0300 or .0500. Sources that have heretofore been exempted from needing a permit and become subject to requirements promulgated under 40 CFR 63 shall apply for a permit in accordance to 15A NCAC 02Q .0109.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5); 150B-21.6;  
Eff. July 1, 1996;  
Amended Eff. January 1, 2007; April 1, 1997.*

**15A NCAC 02D .1112 112(G) CASE BY CASE MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY**

- (a) Applicability. This Rule applies to the construction or reconstruction of major sources of hazardous air pollutants unless:
- (1) the major source has been specifically regulated or exempted from regulation under:
    - (A) Rule .1109 or .1111 of this Section; or
    - (B) a standard issued pursuant to Section 112(d), 112(h), or 112(j) of the federal Clean Air Act and incorporated in another Subpart of 40 CFR Part 63; or
  - (2) the owner or operator of such major source has received all necessary air quality permits for such construction or reconstruction project before July 1, 1998.
- (b) Exclusions. The requirements of this Rule shall not apply to:
- (1) electric utility steam generating units unless and until such time as these units are added to the source category list pursuant to Section 112(c)(5) of the federal Clean Air Act.
  - (2) stationary sources that are within a source category that has been deleted from the source category list pursuant to Section 112(c)(9) of the federal Clean Air Act.
  - (3) research and development activities.
- (c) Definitions. For the purposes of this Rule, the following definitions apply:
- (1) "Affected source" means the stationary source or group of stationary sources that, when fabricated (on site), erected, or installed meets the definition of "construct a major source" or the definition of "reconstruct a major source" contained in this Paragraph.
  - (2) "Affected States" means all States or local air pollution agencies whose areas of jurisdiction are:
    - (A) contiguous to North Carolina and located less than  $D=Q/12.5$  from the facility, where:
      - (i) Q = emissions of the pollutant emitted at the highest permitted rate in tons per year, and
      - (ii) D = distance from the facility to the contiguous state or local air pollution control agency in miles; or
    - (B) within 50 miles of the permitted facility.
  - (3) "Available information" means, for purposes of identifying control technology options for the affected source, information contained in the following information sources as of the date of approval of the MACT determination by the Division:
    - (A) a relevant proposed regulation, including all supporting information;
    - (B) background information documents for a draft or proposed regulation;
    - (C) data and information available from the Control Technology Center developed pursuant to Section 113 of the federal Clean Air Act;
    - (D) data and information contained in the Aerometric Informational Retrieval System including information in the MACT data base;
    - (E) any additional information that can be expeditiously provided by the Division and EPA; and
    - (F) for the purpose of determinations by the Division, any additional information provided by the applicant or others, and any additional information considered available by the Division.
  - (4) "Construct a major source" means:
    - (A) To fabricate, erect, or install at any greenfield site a stationary source or group of stationary sources which is located within a contiguous area and under common control and which emits or has the potential to emit 10 tons per year of any HAP's or 25 tons per year of any combination of HAP, or
    - (B) To fabricate, erect, or install at any developed site a new process or production unit which in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP, unless the process or production unit satisfies Subparts (i) through (vi) of this Paragraph:
      - (i) All HAP emitted by the process or production unit that would otherwise be controlled under the requirements of this Rule will be controlled by emission control equipment which was previously installed at the same site as the process or production unit;
      - (ii) The Division:
        - (I) has determined within a period of five years prior to the fabrication, erection, or installation of the process or production unit that the existing emission control equipment represented best available control technology (BACT) under Rule .0530 of this Subchapter or lowest achievable emission rate (LAER) under Rule .0531 of this Subchapter for the category of pollutants which includes those HAP's to be emitted by the process or production unit; or

- (II) determines that the control of HAP emissions provided by the existing equipment will be equivalent to that level of control currently achieved by other well-controlled similar sources (i.e., equivalent to the level of control that would be provided by a current BACT, LAER, or MACT determination under Rule .1109 of this Section);
  - (iii) The Division determines that the percent control efficiency for emissions of HAP from all sources to be controlled by the existing control equipment will be equivalent to the percent control efficiency provided by the control equipment prior to the inclusion of the new process or production unit;
  - (iv) The Division has provided notice and an opportunity for public comment concerning its determination that criteria in Subparts (i), (ii), and (iii) of this Subparagraph apply and concerning the continued adequacy of any prior LAER, BACT, or MACT determination under Rule .1109 of this Section;
  - (v) If any commenter has asserted that a prior LAER, BACT, or MACT determination under Rule .1109 of this Section determination is no longer adequate, the Division has determined that the level of control required by that prior determination remains adequate; and
  - (vi) Any emission limitations, work practice requirements, or other terms and conditions upon which the above determinations by the Division are predicated will be construed by the Division as applicable requirements under Section 504(a) of the federal Clean Air Act and either have been incorporated into an existing permit issued under 15A NCAC 2Q .0500 for the affected facility or will be incorporated into such permit upon issuance.
- (5) "Control technology" means measures, processes, methods, systems, or techniques to limit the emission of hazardous air pollutants including measures that:
- (A) reduce the quantity of, or eliminate emissions of, such pollutants through process changes, substitution of materials or other modifications;
  - (B) enclose systems or processes to eliminate emissions;
  - (C) collect, capture or treat such pollutants when released from a process, stack, storage or fugitive emissions point;
  - (D) are design, equipment, work practice, or operational standards (including requirements for operator training or certification) as provided in 42 U.S.C. 7412(h); or
  - (E) are a combination of Parts (A) through (D) of this definition.
- (6) "Electric utility steam generating unit" means any fossil fuel fired combustion unit of more than 25 megawatts that serves a generator that produces electricity for sale. A unit that co-generates steam and electricity and supplies more than one-third of its potential electric output capacity and more than 25 megawatts electric output to any utility power distribution system for sale shall be considered an electric utility steam generating unit.
- (7) "Greenfield site" means a contiguous area under common control that is an undeveloped site.
- (8) "HAP" means hazardous air pollutants.
- (9) "Hazardous air pollutant" means any pollutant listed under Section 112(b) of the federal Clean Air Act.
- (10) "List of source categories" means the source category list required by Section 112(c) of the federal Clean Air Act.
- (11) "MACT" means maximum achievable control technology.
- (12) "Maximum achievable control technology emission limitation for new sources" means the emission limitation which is not less stringent than the emission limitation achieved in practice by the best controlled similar source, and which reflects the maximum degree of reduction in emissions that the permitting authority, taking into consideration the cost of achieving such emission reduction, and any non-air quality health and environmental impacts and energy requirements, determines is achievable by the constructed or reconstructed major source.
- (13) "Process or production unit" means any collection of structures or equipment, that processes, assembles, applies, or otherwise uses material inputs to produce or store an intermediate or final product. A single facility may contain more than one process or production unit.
- (14) "Reconstruct a major source" means the replacement of components at an existing process or production unit that in and of itself emits or has the potential to emit 10 tons per year of any HAP or 25 tons per year of any combination of HAP, whenever:

- (A) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable process or production unit; and
  - (B) It is technically and economically feasible for the reconstructed major source to meet the applicable maximum achievable control technology emission limitation for new sources established under this Subpart.
- (15) "Research and development activities" means activities conducted at a research or laboratory facility whose primary purpose is to conduct research and development into new processes and products, where such source is operated under the close supervision of technically trained personnel and is not engaged in the manufacture of products for sale or exchange for commercial profit, except in a de minimis manner.
- (16) "Similar source" means a stationary source or process that has comparable emissions and is structurally similar in design and capacity to a constructed or reconstructed major source such that the source could be controlled using the same control technology.
- (d) Principles of MACT determinations. The following general principles shall be used to make a case-by-case MACT determination concerning construction or reconstruction of a major source under this Rule:
- (1) The MACT emission limitation or MACT requirements recommended by the applicant and approved by the Division shall not be less stringent than the emission control that is achieved in practice by the best controlled similar source, as determined by the Division.
  - (2) Based upon available information, the MACT emission limitation and control technology (including any requirements under Subparagraph (3) of this Paragraph) recommended by the applicant and approved by the Division shall achieve the maximum degree of reduction in emissions of HAP that can be achieved by utilizing those control technologies that can be identified from the available information, taking into consideration the costs of achieving such emission reduction and any non-air quality health and environmental impacts and energy requirements associated with the emission reduction.
  - (3) The owner or operator may recommend a specific design, equipment, work practice, or operational standard, or a combination thereof, and the Director may approve such a standard if the Division specifically determines that it is not feasible to prescribe or enforce an emission limitation under the criteria set forth in Section 112(h)(2) of the federal Clean Air Act.
  - (4) If the EPA has either proposed a relevant emission standard pursuant to Section 112(d) or 112(h) of the federal Clean Air Act or adopted a presumptive MACT determination for the source category that includes the constructed or reconstructed major source, then the MACT requirements applied to the constructed or reconstructed major source shall have considered those MACT emission limitations and requirements of the proposed standard or presumptive MACT determination.
- (e) Effective date of MACT determination. The effective date of a MACT determination shall be the date of issuance of a permit under procedures of 15A NCAC 2Q .0300 or .0500 incorporating a MACT determination.
- (f) Compliance date. On and after the date of start-up, a constructed or reconstructed major source that is subject to the requirements of this Rule shall be in compliance with all applicable requirements specified in the MACT determination.
- (g) Compliance with MACT determinations. The owner or operator of a constructed or reconstructed major source that:
- (1) is subject to a MACT determination shall comply with all requirements set forth in the permit issued under 15A NCAC 2Q .0300 or .0500, including any MACT emission limitation or MACT work practice standard, and any notification, operation and maintenance, performance testing, monitoring, reporting, and recordkeeping requirements; or
  - (2) has obtained a MACT determination shall be deemed to be in compliance with Section 112(g)(2)(B) of the federal Clean Air Act only to the extent that the constructed or reconstructed major source is in compliance with all requirements set forth in the permit issued under 15A NCAC 2Q .0300 or .0500. Any violation of such requirements by the owner or operator shall be deemed by the Division and by EPA to be a violation of the prohibition on construction or reconstruction in Section 112(g)(2)(B) of the federal Clean Air Act for whatever period the owner or operator is determined to be in violation of such requirements, and shall subject the owner or operator to appropriate enforcement action under the General Statutes and the federal Clean Air Act.
- (h) Requirements for constructed or reconstructed major sources subject to a subsequently promulgated MACT standard or MACT requirement. If EPA promulgates an emission standard under Section 112(d) or 112(h) of the federal Clean Air Act or the Division issues a determination under Rule .1109 of this Section that is applicable to a stationary source or group of sources that would be deemed to be a constructed or reconstructed major source under this Rule:
- (1) before the date that the owner or operator has obtained a final and legally effective MACT determination under 15A NCAC 2Q .0300 or .0500, the owner or operator of the source(s) shall comply with the

promulgated standard or determination rather than any MACT determination under this Rule by the compliance date in the promulgated standard; or

- (2) after the source has been subject to a prior case-by-case MACT under this Rule, and the owner or operator obtained a final and legally effective case-by-case MACT determination prior to the promulgation date of such emission standard, the Division shall (if the initial permit has not yet been issued under 15A NCAC 2Q .0500) issue an initial permit that incorporates the emission standard or determination, or shall (if the initial permit has been issued under 15A NCAC 2Q .0500) revise the permit according to the reopening procedures in 15A NCAC 2Q .0517, Reopening for Cause, whichever is relevant, to incorporate the emission standard or determination.

(i) Compliance with subsequent 112(d), 112(h), or 112(j) standards. EPA may include in the emission standard established under Section 112(d) or 112(h) of the federal Clean Air Act a specific compliance date for those sources that have obtained a final and legally effective MACT determination under this Rule and that have submitted the information required by 40 CFR 63.43 to EPA before the close of the public comment period for the standard established under section 112(d) of the federal Clean Air Act. Such date shall assure that the owner or operator shall comply with the promulgated standard as expeditiously as practicable, but not longer than eight years after such standard is promulgated. In that event, the Division shall incorporate the applicable compliance date in the permit issued under 15A NCAC 2Q .0500. If no compliance date has been established in the promulgated 112(d) or 112(h) standard or determination under Rule .1109 of this Section, for those sources that have obtained a final and legally effective MACT determination under this Rule, then the Director shall establish a compliance date in the permit that assures that the owner or operator shall comply with the promulgated standard or determination as expeditiously as practicable, but not longer than eight years after such standard is promulgated or a determination is made under Rule .1109 of this Section.

(j) Revision of permit to incorporate less stringent control. Notwithstanding the requirements of Paragraph (h) of this Rule, if the Administrator of EPA promulgates an emission standard under Section 112(d) or Section 112(h) of the federal Clean Air Act or the Division issues a determination under Rule .1109 of this Section that is applicable to a stationary source or group of sources that was deemed to be a constructed or reconstructed major source under this Rule and that is the subject of a prior case-by-case MACT determination pursuant to 40 CFR 63.43, and the level of control required by the emission standard issued under Section 112(d) or 112(h) or the determination issued under Rule .1109 of this Section is less stringent than the level of control required by any emission limitation or standard in the prior MACT determination, the Division is not required to incorporate any less stringent terms of the promulgated standard in the permit issued under 15A NCAC 2Q .0500 applicable to such source(s) and may consider any more stringent provisions of the prior MACT determination to be applicable legal requirements when issuing or revising such an operating permit.

*History Note: Authority G.S. 143-215.3(a)(1); 143-215.107(a)(5),(10);  
Eff. July 1, 1998.*