North Carolina Department of Environment and Natural Resources

Pat McCrory
Governor

John E. Skvarla, III
Secretary

November 24, 2014

MEMORANDUM

TO: THE ENVIRONMENTAL REVIEW COMMISSION
The Honorable Mike Hager, Co-Chair
The Honorable Ruth Samuelson, Co-Chair
The Honorable Brent Jackson, Co-Chair

FROM: Neal Robbins, Director of Legislative Affairs

SUBJECT: Air Quality Report on the Act to Exempt from State Air Toxics Emissions

DATE: November 24, 2014

Pursuant to S.L. 2012-91, section 4, the Division of Air Quality in the Department of Environment and Natural Resources shall report on the implementation of this act to the Environmental Review Commission no later than December 1 for the years 2012, 2013, and 2014. Please consider the attached as the formal submission this report.

If you have any questions or need additional information, please contact me by phone at (919) 707-8618 or via e-mail at neal.robbins@ncdenr.gov.

cc: Mitch Gillespie, Assistant Secretary for Environment, NCDENR
Sheila Holman, Director of Air Quality, NCDENR

Implementation of Session Law 2012-91

A Report to the
Environmental Review Commission

Submitted by the Department of Environment and Natural Resources
Division of Air Quality

This report is submitted pursuant to the requirement of Section 4 of Session Law 2012-91, House Bill 952.

December 1, 2014

EXECUTIVE SUMMARY

Session Law 2012-91 exempts certain sources of toxic air pollutants from North Carolina's air toxics rules as long as the Division of Air Quality (DAQ) determines that the emissions from those facilities will not pose unacceptable risks to human health. Additionally, Section 4 of the session law requires a report on the implementation of the act to the Environmental Review Commission including an analysis of air toxic emissions changes and a summary of results of the DAQ's analysis of air quality impacts. This report addresses the Section 4 requirements.

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INTRODUCTION

The state air toxics rules administered by the Division of Air Quality (DAQ) were established in the early 1990s in the absence of an effective federal program to protect citizens from adverse health effects from exposure to toxic air pollutants. In the 20-plus years since, the United States Environmental Protection Agency (USEPA) has issued more than 100 national air toxics standards. The federal standards for existing sources of pollution represent stringent control levels reflecting the 12-percent best-performing units across the nation. For new sources, the federal standards require emissions control currently achieved by the best-controlled similar source. As a result of state and federal actions, toxic air emissions in North Carolina decreased by 82 percent between 2000 and 2013. Facilities required to comply with federal standards rarely have had to install additional pollution control equipment to meet the state air toxics rules.

In 2012, the General Assembly amended the statutes that authorize the state air toxics rules (See Appendix A). Session Law 2012-91 provides an exemption to the air toxics rules for any air emission source that is subject to any requirement under either:

- Regulations established by the USEPA that require sources of toxic air pollutants to control emissions of toxic air pollutants through the use of maximum achievable control technologies or generally available control technologies.
- State permits that established case-by-case emission limits for toxic air pollutants pursuant to Section 112(j) of the Clean Air Act, which requires states to establish toxic emission standards when EPA fails to do so for a given industrial sector.

The session law, however, requires DAQ to review permit applications that result in a net increase in toxic air pollutants to ensure the emissions will not pose an unacceptable risk to human health. If DAQ finds that emissions from a facility will pose an unacceptable risk to human health, the facility must comply with state air toxics rules even if it falls within one of the two exempt categories.

Additionally, Section 4 of S.L. 2012-91 requires DAQ to report on the implementation of the session law including an analysis of air toxics emissions changes and a summary of results of DAQ's analysis of air quality impacts. The review and data analysis contained in this report are pursuant to Section 4 of S.L. 2012-91.

CURRENT AIR TOXICS RULES

The state air toxics rules administered by the Division of Air Quality (DAQ) were established in the early 1990s in the absence of an effective federal program to protect citizens from adverse health effects from exposure to toxic air pollutants. North Carolina's health risk-based air toxics rules provide for local scale evaluation of the maximum impact of air toxic emissions from a facility at or beyond its property boundary through site-specific emissions estimates and modeling. It is designed to protect public health by minimizing exposure to (and the resulting risk from) toxic air pollutants emitted from the entire facility.

The rules are designed around a set of Acceptable Ambient Level (AAL) guidelines. "Acceptable" in this context is intended to be a level "below the concentration that would produce adverse health effects in sensitive subgroups of the general population." Regulated pollution sources are required by North Carolina air toxics rules to reduce emissions of toxic air pollutants below those levels that are predicted to exceed the AAL beyond their property line. The rules allow the use of computer-based air dispersion models to compare the impact of toxic air pollutant emissions to the appropriate AAL.

The state rules that set forth the control of toxic air pollutants to protect human health (including the AALs) are found in the North Carolina Administrative Code at 15A NCAC 02D .1100 (Control of Toxic Air Pollutants). The state rules that set forth the permitting requirements for sources of toxic air pollutants are found at 15A NCAC 02Q .0700 (Toxic Air Pollutant Procedures). Both sections can be found in Appendix B and C, respectively.

IMPLEMENTATION OF S.L. 2012-91

The DAQ began tracking permit actions specifically impacted by the exemptions and process provided in Section 1 of S.L. 2012-91. Starting with the day the bill became law (June 28, 2012), through September 19, 2014, the DAQ and local air quality programs issued, renewed or revised 2,598 air quality permits. Only 55 of those 2,598 (2.1%) permit actions involved a request that could result in an increase in the emission of toxic air pollutants. Each of those 55 permit applications were reviewed to determine if the emission of toxic air pollutants from the facility would present an unacceptable risk to human health. None of the 55 permit applications were determined to pose such a risk. In twelve cases, the proposed emission rates were compared to the toxic permitting emission rate found in 02Q .0700, and were found to be below those levels. In twenty-seven of the cases, modeling had been done previously at these facilities that allowed DAQ or the local air programs to compare the previously modeled emission rate(s) to the emission rate(s) being proposed as a result of the requested modification. In all twenty-seven of those cases, DAQ or the local programs determined that the proposed modification would be below the AAL guidelines without any additional modeling being completed. In eleven cases, the permit applicant voluntarily provided a modeling analysis demonstrating the emissions changes would be below the AAL guidelines. The DAQ or the local programs confirmed the results of those modeling analyses.

Finally, in 5 cases, the agency performed modeling showing no unacceptable risk.
A summary of the results of the division's analysis of air quality impacts is provided in Table 1 below.

Table 1: Analysis of air toxics permit applications: June 28, 2012 through September 19, 2014.

Toxic air emissions below thresholds for further analysis	Modeling done previously for the facility used to determine compliance	Facility voluntarily provided air toxics modeling showing compliance	Air toxics modeling over AAL resulting in Director's Call	Agency performed modeling showing no unacceptable risk.
12	27	11	0	5

ANALYSIS OF AIR TOXIC EMISSIONS CHANGES

Emissions of toxic air pollutants have decreased substantially over the last two decades due to a variety of federal and state emissions reduction measures. Not only have the federal and state rules designed to reduce toxic air pollution been implemented on stationary sources, but toxic air emissions also have dropped as emissions of smog forming pollutants have been reduced from sources like cars and trucks.

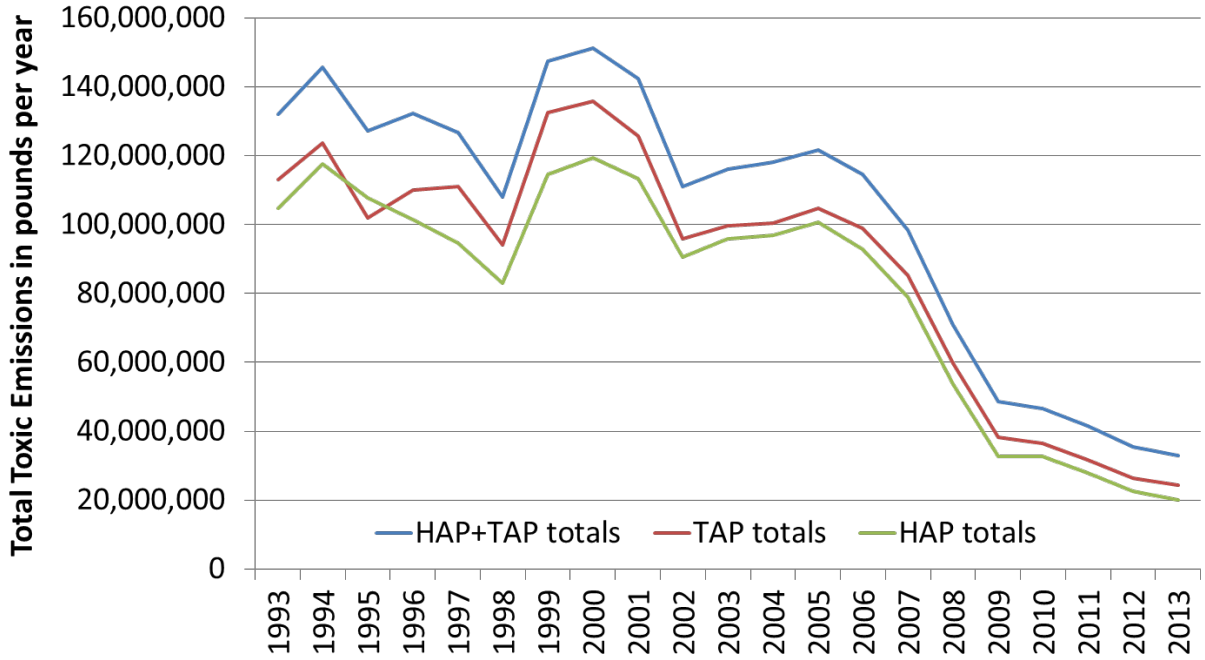
In North Carolina, the state rules identify 97 toxic air pollutants (TAPs) while the USEPA identifies 187 hazardous air pollutants (HAPs). There are 21 unique compounds on the state TAP list that are not on the federal HAP list. Regardless of what list these compounds are on, the reductions in these emissions have been noteworthy. Table 2 provides the five most recent years of air toxics emissions data. Figure 1 illustrates the longer term decreases in HAPs and TAPs in North Carolina over nearly two decades.

Table 2. North Carolina air toxic emissions changes 2009-2012.

	2009	2010	2011	2012	2013
TAP Only (pounds/yr)	38,142,325	36,385,525	31,712,917	26,259,283	24,367,502
HAP Only (pounds/yr)	32,774,769	32,604,346	27,977,691	22,515,772	19,934,880
HAP + TAP (pounds/yr)	48,493,673	46,497,405	41,410,502	35,565,170	33,007,611

TAP = 97 Toxic Air Pollutants regulated by NC State Air Toxics Rule
HAP = 187 Hazardous Air Pollutant regulated under 40 CFR Part 61 & 63
HAP + TAP = 111 unique HAPS added to the 97 TAPs.
Note: 2012 represents emissions reported for 2012 operating year or the most currently reported year.
Source: Annual toxic air emissions reported by North Carolina facilities to the DAQ.

Figure 1. Long-term air toxic emissions changes 1993-2013



Source: Annual toxic air emissions reported by North Carolina facilities to the DAQ.

In summary, the DAQ issued, renewed or revised 2,598 air quality permits between June 28, 2012, and September 19, 2014. Only 55 (2.1%) of those 2,598 permit actions involved a request that could result in an increase in the emission of toxic air pollutants. All of those 55 permit applications were reviewed to determine if the emission of toxic air pollutants from the facility would present an unacceptable risk to human health. None of the 55 permit applications were determined to pose such a risk. Additionally, a review of DAQ's emissions inventory for toxic air pollutants shows a continued downward trend, primarily as a result of federal and state emissions reduction measures. Toxic air emissions in North Carolina decreased by 82 percent between 2000 and 2013.

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2011

SESSION LAW 2012-91
HOUSE BILL 952

AN ACT TO EXEMPT FROM STATE AIR TOXICS EMISSIONS CONTROLS THOSE SOURCES OF EMISSIONS THAT ARE SUBJECT TO CERTAIN FEDERAL EMISSIONS REQUIREMENTS, TO DIRECT THE DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES TO REQUIRE PERMIT CONDITIONS THAT ELIMINATE UNACCEPTABLE RISKS TO HUMAN HEALTH, TO DIRECT THE DIVISION OF AIR QUALITY TO REVIEW THE STATE AIR TOXICS PROGRAM, AND TO REQUIRE REPORTS ON THE IMPLEMENTATION OF THIS ACT, AS RECOMMENDED BY THE ENVIRONMENTAL REVIEW COMMISSION.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 143-215.107(a) reads as rewritten:

"(a) Duty to Adopt Plans, Standards, etc. – The Commission is hereby directed and empowered, as rapidly as possible within the limits of funds and facilities available to it, and subject to the procedural requirements of this Article and Article 21:

…

(5) To develop and adopt emission control standards as in the judgment of the Commission may be necessary to prohibit, abate, or control air pollution commensurate with established air quality standards. ~~This subdivision does not apply to that portion of the National Emission Standards for Hazardous Air Pollutants for asbestos that governs demolition and renovation as set out in 40 C.F.R. § 61.141, 61.145, 61.150, and 61.154 (1 July 1993 edition).~~The Department shall implement rules adopted pursuant to this subsection as follows:

a. Except as provided in sub-subdivision b. of this subdivision, rules adopted pursuant to this subdivision that control emissions of toxic air pollutants shall not apply to an air emission source that is any of the following:

1. Subject to an applicable requirement under 40 C.F.R. Part 61, as amended.
2. An affected source under 40 C.F.R. Part 63, as amended.
3. Subject to a case-by-case maximum achievable control technology (MACT) permit requirement issued by the Department pursuant to 42 U.S.C. § 7412(j), as amended.

b. Upon receipt of a permit application for a new source or facility, or for the modification of an existing source or facility, that would result in an increase in the emission of toxic air pollutants, the Department shall review the application to determine if the emission of toxic air pollutants from the source or facility would present an unacceptable risk to human health. Upon making a written finding that a source or facility presents or would present an unacceptable risk to human health, the Department shall require the owner or operator of the source or facility to submit a permit application for any or all emissions of toxic air pollutants from the facility that eliminates the unacceptable risk to human health. The written finding may be based on modeling, epidemiological studies, actual monitoring data, or other information that indicates an unacceptable

health risk. When the Department requires the owner or operator of a source or facility to submit a permit application pursuant to this sub-subdivision, the Department shall report to the Chairs of the Environmental Review Commission on the circumstances surrounding the permit requirement, including a copy of the written finding.

…."

SECTION 2. The Environmental Management Commission shall amend its rules adopted pursuant to G.S. 143-215.107(a) so that they are consistent with the provisions of Section 1 of this act.

SECTION 3. The Division of Air Quality of the Department of Environment and Natural Resources shall review toxic air pollutant rules adopted pursuant to G.S. 143-215.107(a) and the implementation of those rules to determine whether changes could be made to the rules or their implementation to reduce unnecessary regulatory burden and increase the efficient use of Division resources while maintaining protection of public health. The Division shall conduct this review in consultation with interested parties. The Division shall report the results of its review, including recommendations, if any, to the Environmental Review Commission no later than December 1, 2012.

SECTION 4. The Division of Air Quality in the Department of Environment and Natural Resources shall report on the implementation of this act to the Environmental Review Commission no later than December 1 for the years 2012, 2013, and 2014. The report shall include an analysis of air toxic emissions changes and a summary of results of the Division's analysis of air quality impacts.

SECTION 5. This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 21st day of June, 2012.

s/ Walter H. Dalton
President of the Senate

s/ Thom Tillis
Speaker of the House of Representatives

s/ Beverly E. Perdue
Governor

Approved 1:34 p.m. this 28th day of June, 2012

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 ($NiCl_2$, CAS No. 7718-54-9), sulfate ($NiSO_4$, CAS No. 7786-81-4), and nitrate ($Ni(NO_3)_2$, 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)		0.03	1	
ammonia (7664-41-7)				2.7
aniline (62-53-3)			1	
arsenic and inorganic arsenic compounds	$2.1x10^{-6}$			
asbestos (1332-21-4)	2.8×10^{-6} fibers/ml			
aziridine (151-56-4)		0.006		
benzene (71-43-2)	1.2×10^{-4}			
benzidine and salts (92-87-5)	1.5×10^{-8}			
benzo(a)pyrene (50-32-8)	3.3×10^{-5}			
benzyl chloride (100-44-7)			0.5	
beryllium (7440-41-7)	4.1×10^{-6}			
beryllium chloride (7787-47-5)	4.1×10^{-6}			
beryllium fluoride (7787-49-7)	4.1×10^{-6}			
beryllium nitrate (13597-99-4)	4.1×10^{-6}			
bioavailable chromate pigments, as chromium (VI) equivalent	8.3×10^{-8}			
bis-chloromethyl ether (542-88-1)	3.7×10^{-7}			
bromine (7726-95-6)				0.2
1,3-butadiene (106-99-0)	4.4×10^{-4}			
cadmium (7440-43-9)	5.5×10^{-6}			
cadmium acetate (543-90-8)	5.5×10^{-6}			
cadmium bromide (7789-42-6)	5.5×10^{-6}			
carbon disulfide (75-15-0)		0.186		
carbon tetrachloride (56-23-5)	6.7×10^{-3}			
chlorine (7782-50-5)		0.0375		0.9
chlorobenzene (108-90-7)		2.2		
chloroform (67-66-3)	4.3×10^{-3}			
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		
epichlorohydrin (106-89-8)	8.3×10^{-2}			

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
ethyl acetate (141-78-6)			140	
ethylenediamine (107-15-3)		0.3	2.5	
ethylene dibromide (106-93-4)	4.0×10^{-4}			
ethylene dichloride (107-06-2)	3.8×10^{-3}			
ethylene glycol monoethyl ether (110-80-5)		0.12	1.9	
ethylene oxide (75-21-8)	2.7×10^{-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)	7.6×10^{-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)	2.4×10^{-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)	2.1×10^{-6}			
nitric acid (7697-37-2)				1
nitrobenzene (98-95-3)		0.06	0.5	
n-nitrosodimethylamine (62-75-9)	5.0×10^{-5}			
non-specific chromium (VI) compounds, as chromium (VI) equivalent	8.3×10^{-8}			
pentachlorophenol (87-86-5)		0.003	0.025	
perchloroethylene (127-18-4)	1.9×10^{-1}			
phenol (108-95-2)			0.95	
phosgene (75-44-5)		0.0025		

Pollutant (CAS Number)	Annual (Carcinogens)	24-hour (Chronic Toxicants)	1-hour (Acute Systemic Toxicants)	1-hour (Acute Irritants)
phosphine (7803-51-2)				0.13
polychlorinated biphenyls (1336-36-3)	8.3×10^{-5}			
soluble chromate compounds, as chromium (VI) equivalent		6.2×10^{-4}		
styrene (100-42-5)			10.6	
sulfuric acid (7664-93-9)		0.012	0.1	
tetrachlorodibenzo-p-dioxin (1746-01-6)	3.0×10^{-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)	6.3×10^{-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)	5.9×10^{-2}			
trichlorofluoromethane (75-69-4)			560	
1,1,2-trichloro-1,2,2- trifluoroethane (76-13-1)				950
vinyl chloride (75-01-4)	3.8×10^{-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;*
Eff. May 1, 1990;
Amended Eff. September 1, 1992; March 1, 1992;
Temporary Amendment Eff. July 20, 1997;
Amended Eff. July 7, 2014; May 1, 2014; March 1, 2010; 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 of 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.

SECTION .0700 – TOXIC AIR POLLUTANT PROCEDURES

15A NCAC 02Q .0701 APPLICABILITY

With the exceptions in Rule .0702 of this Section, no person shall cause or allow any toxic air pollutant named in 15A NCAC 02D .1104 to be emitted from any facility into the atmosphere at a rate that exceeds the applicable rate(s) in Rule .0711 of this Section without having received a permit to emit toxic air pollutants as follows:

(1) new facilities according to Rule .0704 of this Section; or

(2) modifications according to Rule .0706 of this Section.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107; 143-215.108; 143B-282;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998;
Amended Eff. May 1, 2014; July 10, 2010; February 1, 2005.

15A NCAC 02Q .0702 EXEMPTIONS

(a) A permit to emit toxic air pollutants shall not be required under this Section for:

(1) residential wood stoves, heaters, or fireplaces;

(2) hot water heaters that are used for domestic purposes only and are not used to heat process water;

(3) maintenance, structural changes, or repairs that do not change capacity of that process, fuel-burning, refuse-burning, or control equipment, and do not involve any change in quality or nature or increase in quantity of emission of any regulated air pollutant or toxic air pollutant;

(4) housekeeping activities or building maintenance procedures, including painting buildings, resurfacing floors, roof repair, washing, portable vacuum cleaners, sweeping, use and associated storage of janitorial products, or non-asbestos bearing insulation removal;

(5) use of office supplies, supplies to maintain copying equipment, or blueprint machines;

(6) paving parking lots;

(7) replacement of existing equipment with equipment of the same size, type, and function if the new equipment:

(A) does not result in an increase to the actual or potential emissions of any regulated air pollutant or toxic air pollutant;

(B) does not affect compliance status; and

(C) fits the description of the existing equipment in the permit, including the application, such that the replacement equipment can be operated under that permit without any changes to the permit;

(8) comfort air conditioning or comfort ventilation systems that do not transport, remove, or exhaust regulated air pollutants to the atmosphere;

(9) equipment used for the preparation of food for direct on-site human consumption;

(10) non-self-propelled non-road engines, except generators, regulated by rules adopted by the Environmental Protection Agency under Title II of the federal Clean Air Act;

(11) stacks or vents to prevent escape of sewer gases from domestic waste through plumbing traps;

(12) use of fire fighting equipment;

(13) the use for agricultural operations by a farmer of fertilizers, pesticides, or other agricultural chemicals containing one or more of the compounds listed in 15A NCAC 02D .1104 if such compounds are applied according to agronomic practices acceptable to the North Carolina Department of Agriculture;

(14) asbestos demolition and renovation projects that comply with 15A NCAC 02D .1110 and that are being done by persons accredited by the Department of Health and Human Services under the Asbestos Hazard Emergency Response Act;

(15) incinerators used only to dispose of dead animals or poultry as identified in 15A NCAC 02D .1201(c)(4) or incinerators used only to dispose of dead pets as identified in 15A NCAC 02D .1208(a)(2)(A);

(16) refrigeration equipment that is consistent with Section 601 through 618 of Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, 40 CFR Part 82, and any other regulations promulgated by EPA under Title VI for stratospheric ozone protection, except those units used as or with air pollution control equipment;

(17) laboratory activities:

(A) bench-scale, on-site equipment used exclusively for chemical or physical analysis for quality control purposes, staff instruction, water or wastewater analyses, or non-production environmental compliance assessments;

(B) bench scale experimentation, chemical or physical analyses, training or instruction from nonprofit, non-production educational laboratories;

(C) bench scale experimentation, chemical or physical analyses, training or instruction from hospital or health laboratories pursuant to the determination or diagnoses of illnesses; and

(D) research and development laboratory activities that are not required to be permitted under Section .0500 of this Subchapter provided the activity produces no commercial product or feedstock material;

(18) combustion sources as defined in Rule .0703 of this Section except new or modified combustion sources permitted on or after July 10, 2010;

(19) storage tanks used only to store:

(A) inorganic liquids with a true vapor pressure less than 1.5 pounds per square inch absolute;

(B) fuel oils, kerosene, diesel, crude oil, used motor oil, lubricants, cooling oils, natural gas, liquefied petroleum gas, or petroleum products with a true vapor pressure less than 1.5 pounds per square inch absolute;

(20) dispensing equipment used solely to dispense diesel fuel, kerosene, lubricants or cooling oils;

(21) portable solvent distillation systems that are exempted under Rule .0102(c)(1)(I) of this Subchapter;

(22) processes:

(A) electric motor burn-out ovens with secondary combustion chambers or afterburners;

(B) electric motor bake-on ovens;

(C) burn-off ovens for paint-line hangers with afterburners;

(D) hosiery knitting machines and associated lint screens, hosiery dryers and associated lint screens, and hosiery dyeing processes where bleach or solvent dyes are not used;

(E) blade wood planers planing only green wood;

(F) saw mills that saw no more than 2,000,000 board feet per year, provided only green wood is sawed;

(G) perchloroethylene drycleaning processes with 12-month rolling total consumption of:

(i) less than 1366 gallons of perchloroethylene per year for facilities with dry-to-dry machines only;

(ii) less than 1171 gallons of perchloroethylene per year for facilities with transfer machines only; or

(iii) less than 1171 gallons of perchloroethylene per year for facilities with both transfer and dry-to-dry machines;

(23) wood furniture manufacturing operations as defined in 40 CFR 63.801(a) that comply with the emission limitations and other requirements of 40 CFR Part 63 Subpart JJ, provided that the terms of this exclusion shall not affect the authority of the Director under Rule .0712 of this Section;

(24) wastewater treatment systems at pulp and paper mills for hydrogen sulfide and methyl mercaptan only;

(25) natural gas and propane fired combustion sources with an aggregate allowable heat input value less than 450 million Btu per hour that are the only source of benzene at the facility;

(26) emergency engines with an aggregate total horsepower less than 4843 horsepower that are the only source of formaldehyde at the facility;

(27) an air emission source that is any of the following:

(A) subject to an applicable requirement under 40 CFR Part 61, as amended;

(B) an affected source under 40 CFR Part 63, as amended; or

(C) subject to a case-by-case MACT permit requirement issued by the Division pursuant to Paragraph (j) of 42 U.S.C. Section 7412, as amended;

(28) gasoline dispensing facilities or gasoline service station operations that comply with 15A NCAC 02D .0928 and .0932 and that receive gasoline from bulk gasoline plants or bulk gasoline terminals that comply with 15A NCAC 02D .0524, .0925, .0926, .0927, .0932, and .0933 via tank trucks that comply with 15A NCAC 02D .0932;

(29) the use of ethylene oxide as a sterilant in the production and subsequent storage of medical devices or the packaging and subsequent storage of medical devices for sale if the emissions from all new and existing sources at the facility described in 15A NCAC 02D .0538(d) are controlled to the degree described in 15A NCAC 02D .0538(d) and the facility complies with 15A NCAC 02D .0538(e) and (f);

(30) bulk gasoline plants, including the storage and handling of fuel oils, kerosenes, and jet fuels but excluding the storage and handling of other organic liquids, that comply with 15A NCAC 02D .0524, .0925, .0926, .0932, and .0933; unless the Director finds that a permit to emit toxic air pollutants is required under Paragraph (b) of this Rule or Rule .0712 of this Section for a particular bulk gasoline plant; or

(31) bulk gasoline terminals, including the storage and handling of fuel oils, kerosenes, and jet fuels but excluding the storage and handling of other organic liquids, that comply with 15A NCAC 02D .0524, .0925, .0927, .0932, and .0933 if the bulk gasoline terminal existed before November 1, 1992, unless:

(A) the Director finds that a permit to emit toxic air pollutants is required under Paragraph (b) of this Rule or Rule .0712 of this Section for a particular bulk gasoline terminal; or

(B) the owner or operator of the bulk gasoline terminal meets the requirements of 15A NCAC 02D .0927(i).

(b) Emissions from the activities identified in Subparagraphs (a)(28) through (a)(31) of this Rule shall be included in determining compliance with the toxic air pollutant requirements in this Section and shall be included in the permit if necessary to assure compliance. Emissions from the activities identified in Subparagraphs (a)(1) through (a)(27) of this Rule shall not be included in determining compliance with the toxic air pollutant requirements in this Section provided that the terms of this exclusion shall not affect the authority of the Director under Rule .0712 of this Section.

(c) The addition or modification of an activity identified in Paragraph (a) of this Rule shall not cause the source or facility to be evaluated for emissions of toxic air pollutants.

(d) An activity that is exempt from being permitted under this Section is not exempt from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107; 143-215.108; 143B-282;*
Rule originally codified as part of 15A NCAC 02H .0610;
Eff. July 1, 1998;
Amended Eff. May 1, 2014; July 10, 2010; April 1, 2005; July 1, 2002; July 1, 2000.

15A NCAC 02Q .0703 DEFINITIONS

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

(1) "Actual rate of emissions" means:

(a) for existing sources:

(i) for toxic air pollutants with an annual averaging period, the average rate or rates at which the source actually emitted the pollutant during the two-year period preceding the date of the particular modification and that represents normal operation of the source. If this period does not represent normal operation, the Director may allow the use of a different, more representative, period.

(ii) for toxic air pollutants with a 24-hour or one-hour averaging period, the maximum actual emission rate at which the source actually emitted for the applicable averaging period during the two-year period preceding the date of the particular modification and that represents normal operation of the source. If this period does not represent normal operation, the Director may require or allow the use of a different, more representative, period.

(b) for new or modified sources, the average rate or rates, determined for the applicable averaging period(s), that the proposed source will actually emit the pollutant as determined by engineering evaluation.

(2) "Applicable averaging period" means the averaging period for which an acceptable ambient limit has been established by the Commission in Rule 15A NCAC 02D .1104.

(3) "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).

(4) "CAS Number" means the Chemical Abstract Service registry number identifying a particular substance.

(5) "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.

(6) "Combustion sources" means boilers, space heaters, process heaters, internal combustion engines, and combustion turbines, which burn only wood or unadulterated fossil fuel. It does not include incinerators, waste combustors, kilns, dryers, or direct heat exchange industrial processes.

(7) "Creditable emissions" means actual decreased emissions that have not been previously relied on to comply with Subchapter 15A NCAC 02D. All creditable emissions shall be enforceable by permit condition.

(8) "Cresol" means o-cresol, p-cresol, m-cresol, or any combination of these compounds.

(9) "Evaluation" means:

(a) a determination that the emissions from the facility, including emissions from sources exempted by Rule .0702(a)(28) through (31) of this Section, are less than the rate listed in Rule .0711 of this Section; or

(b) a determination of ambient air concentrations as described under 15A NCAC 02D .1106, including emissions from sources exempted by Rule .0702(a)(28) through (31) of this Section.

(10) "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.

(11) "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.

(12) "MACT" means any maximum achievable control technology emission standard applied to a source or facility pursuant to Section 112 federal Clean Air Act.

(13) "Maximum feasible control" means the maximum degree of reduction for each pollutant subject to regulation under this Section using the best technology that is available taking into account, on a case-by-case basis, human health, energy, environmental, and economic impacts and other costs.

(14) "Modification" means any physical changes or changes in the methods of operation that result in a net increase in emissions or ambient concentration of any pollutant listed in Rule .0711 of this Section or that result in the emission of any pollutant listed in Rule .0711 of this Section not previously emitted.

(15) "Net increase in emissions" means for a modification the sum of any increases in permitted allowable and decreases in the actual rates of emissions from the proposed modification from the sources at the facility for which the air permit application is being filed. If the net increase in emissions from the proposed modification is greater than zero, all other increases in permitted allowable and decreases in the actual rates of emissions at the facility within five years immediately preceding the filing of the air permit application for the proposed modification that are otherwise creditable emissions may be included.

(16) "Nickel, soluble compounds" means the soluble nickel salts of chloride ($NiCl_2$, CAS No. 7718-54-9), sulfate ($NiSO_4$, CAS No. 7786-81-4), and nitrate ($Ni(NO_3)_2$, CAS No. 13138-45-9).

(17) "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.

(18) "Polychlorinated biphenyls" means any chlorinated biphenyl compound or mixture of chlorinated biphenyl compounds.

(19) "Pollution prevention plan" means a written description of current and projected plans to reduce, prevent, or minimize the generation of pollutants by source reduction and recycling and includes a site-wide assessment of pollution prevention opportunities at a facility that addresses sources of air pollution, water pollution, and solid and hazardous waste generation.

(20) "SIC" means standard industrial classification code.

(21) "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).

(22) "Toxic air pollutant" means any of those carcinogens, chronic toxicants, acute systemic toxicants, or acute irritants listed in 15A NCAC 02D .1104.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107; 143-215.108; 143B-282;*
Rule originally codified as part of 15A NCAC 02H .0610;
Eff. July 1, 1998;
Amended Eff. May 1, 2014; April 1, 2001.

15A NCAC 02Q .0704 NEW FACILITIES

(a) This Rule applies only to new facilities.

(b) The owner or operator of a facility required to have a permit because of applicability of a Section in 15A NCAC 02D, other than 15A NCAC 02D .1100, are required to receive a permit to emit toxic air pollutants before beginning construction, and shall comply with the permit when beginning operation. This Paragraph does not apply to facilities whose emissions of toxic air pollutants result only from sources exempted under Rule .0102 of this Subchapter.

(c) The owner or operator of the facility shall submit a permit application to comply with 15A NCAC 02D .1100 if emissions of any toxic air pollutant exceed the levels contained in Rule .0711 of this Section.

(d) The permit application filed pursuant to this Rule shall include an evaluation for all toxic air pollutants listed in 15A NCAC 02D .1104. All sources at the facility, excluding sources exempt from evaluation in Rule .0702 of this Section, emitting these toxic air pollutants shall be included in the evaluation.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107; 143-215.108; 143B-282;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998;
Amended Eff. May 1, 2014.

15A NCAC 02Q .0705 EXISTING FACILITIES AND SIC CALLS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.108; 143B-282; S.L. 1989, c. 168, s. 45;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998;
Repealed Eff. May 1, 2014.

15A NCAC 02Q .0706 MODIFICATIONS

(a) The owner or operator shall comply with Paragraphs (b) and (c) of this Rule for modification of any facility required to have a permit because of applicability of a Section in 15A NCAC 02D, other than 15A NCAC 02D .1100. This Paragraph does not apply to facilities whose emissions of toxic air pollutants result only from insignificant activities, as defined in Rule .0103(20) of this Subchapter, or sources exempted under Rule .0102 of this Subchapter.

(b) The owner or operator of the facility shall submit a permit application to comply with 15A NCAC 02D .1100 if the modification results in:

(1) a net increase in emissions or ambient concentration of any toxic air pollutant that the facility was emitting before the modification; or

(2) emissions of any toxic air pollutant that the facility was not emitting before the modification if such emissions exceed the levels contained in Rule .0711 of this Section.

(c) The permit application filed pursuant to this Rule shall include an evaluation for all toxic air pollutants covered under 15A NCAC 02D .1104 for which there is:

(1) a net increase in emissions of any toxic air pollutant that the facility was emitting before the modification; and

(2) emission of any toxic air pollutant that the facility was not emitting before the modification if such emissions exceed the levels contained in Rule .0711 of this Section.

All sources at the facility, excluding sources exempt from evaluation in Rule .0702 of this Section, emitting these toxic air pollutants shall be included in the evaluation.

(d) If a source is included in an air toxic evaluation, but is not the source that is being added or modified at the facility, and if the emissions from this source must be reduced in order for the facility to comply with the rules in this Section and 15A NCAC 02D .1100, then the emissions from this source shall be reduced by the time that the new or modified source begins operating such that the facility shall be in compliance with the rules in this Section and 15A NCAC 02D .1100.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107; 143-215.108; 143B-282;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998;
Amended Eff. May 1, 2014; July 10, 2010; December 1, 2005; April 1, 2005.

15A NCAC 02Q .0707 PREVIOUSLY PERMITTED FACILITIES

Any facility with a permit that contains a restriction based on the evaluation of a source exempted under Rule .0702 of this Section may request a permit modification to adjust the restriction by removing from consideration the portion of emissions resulting from the exempt source unless the Director determines that the removal of the exempt source will result in an acceptable ambient level in 15A NCAC 2D .1104 being exceeded. The Director shall modify the permit to remove the applicability of the air toxic rules to the exempt source. No fee shall be charged solely for such permit modification.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.108; 143B-282; S.L. 1989, c. 168, s. 45;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998.

15A NCAC 02Q .0708 COMPLIANCE SCHEDULE FOR PREVIOUSLY UNKNOWN TOXIC AIR POLLUTANT EMISSIONS

(a) The owner or operator of a facility permitted to emit toxic air pollutants shall submit a permit application within six months after the owner or operator learns of an emission of a previously unknown toxic air pollutant from a permitted source that would have been included in the permit when it was issued. The application shall include the information required by Paragraph (b) of this Rule.

(b) When an application to revise a permit is submitted under this Rule, the owner or operator shall in addition to the application, submit to the Director:

(1) an evaluation for the pollutant according to this Section and 15 NCAC 2D .1100 that demonstrates compliance with the acceptable ambient level in 15A NCAC 2D .1104; or

(2) a compliance schedule containing the information required under Paragraph (c) of this Rule for the proposed modifications to the facility required to comply with the acceptable ambient level according to this Section and Section 15A NCAC 2Q .1100.

(c) The compliance schedule required under Subparagraph (b)(2) of this Rule shall contain the following increments of progress as applicable:

(1) a date by which contracts for emission control and process equipment shall be awarded or orders shall be issued for the purchase of component parts;

(2) a date by which on-site construction or installation of the emission control and process equipment shall begin;

(3) a date by which on-site construction or installation of the emission control and process equipment shall be completed; and

(4) the date by which final compliance shall be achieved.

(d) Final compliance shall be achieved no later than:

(1) six months after the permit modification or renewal is issued if construction or installation of emission control or process equipment is not required;

(2) one year after the permit modification or renewal is issued if construction or installation of emission control or process equipment is required; or

(3) the time that is normally required to construct a stack or install other dispersion enhancement modifications but not more than one year after the permit modification or renewal is issued.

(e) The owner or operator shall certify to the Director within 10 days after each applicable deadline for each increment of progress required under Paragraph (c) of this Rule whether the required increment of progress has been met.

History Note: *Authority G.S. 143-215.3(a)(1); 43-215.107(a)(3),(5); 143B-282; S.L. 1989, c. 168, s. 45; Eff. July 1, 1998.*

15A NCAC 02Q .0709 DEMONSTRATIONS

(a) Demonstrations. The owner or operator of a source who is applying for a permit or permit modification to emit toxic air pollutants shall:

(1) demonstrate to the satisfaction of the Director through dispersion modeling that the emissions of toxic air pollutants from the facility will not cause any acceptable ambient level listed in 15A NCAC 02D .1104 to be exceeded beyond the premises (adjacent property boundary); or

(2) demonstrate to the satisfaction of the Commission or its delegate that the ambient concentration beyond the premises (adjacent property boundary) for the subject toxic air pollutant shall not adversely affect human health (*e.g.*, a risk assessment specific to the facility) though the concentration is higher than the acceptable ambient level in 15A NCAC 02D .1104 by providing one of the following demonstrations:

(A) the area where the ambient concentrations are expected to exceed the acceptable ambient levels in 15A NCAC 02D .1104 is not inhabitable or occupied for the duration of the averaging time of the pollutant of concern; or

(B) new toxicological data that show that the acceptable ambient level in 15A NCAC 02D .1104 for the pollutant of concern is too low and the facility's ambient impact is below the level indicated by the new toxicological data.

(b) Technical Infeasibility and Economic Hardship. This Paragraph shall not apply to any incinerator covered under 15A NCAC 02D .1200. The owner or operator of any source constructed before May 1, 1990, or a perchloroethylene dry cleaning facility subject to a GACT standard under 40 CFR 63.320 through 63.325, or a combustion source as defined in Rule .0703 of this Section permitted before July 10, 2010, who cannot supply a demonstration described in Paragraph (a) of this Rule shall:

(1) demonstrate to the satisfaction of the Commission or its delegate that complying with the guidelines in 15A NCAC 02D .1104 is technically infeasible, as the technology necessary to reduce emissions to a level to prevent the acceptable ambient levels in 15A NCAC 02D .1104 from being exceeded does not exist; or

(2) demonstrate to the satisfaction of the Commission or its delegate that complying with the guidelines in 15A NCAC 02D .1104 would result in serious economic hardship. In deciding if a serious economic hardship exists, the Commission or its delegate shall consider market impact; impacts on local, regional and state economy; risk of closure; capital cost of compliance; annual incremental compliance cost; and environmental and health impacts.

If the owner or operator makes a demonstration to the satisfaction of the Commission or its delegate pursuant to Subparagraphs (1) or (2) of this Paragraph, the Director shall require the owner or operator of the source to apply maximum feasible control. Maximum feasible control shall be in place and operating within three years from the date that the permit is issued for the maximum feasible control.

(c) Pollution Prevention Plan. The owner or operator of any facility using the provisions of Part (a)(2)(A) or Paragraph (b) of this Rule shall develop and implement a pollution prevention plan consisting of the following elements:

(1) statement of corporate and facility commitment to pollution prevention;

(2) identification of current and past pollution prevention activities;

(3) timeline and strategy for implementation;

(4) description of ongoing and planned employee education efforts; and

(5) identification of internal pollution prevention goal selected by the facility and expressed in either qualitative or quantitative terms.

The facility shall submit the pollution plan along with the permit application. The pollution prevention plan shall be maintained on site. A progress report on implementation of the plan shall be prepared by the facility annually and be made available to Division personnel for review upon request.

(d) Modeling Demonstration. If the owner or operator of a facility demonstrates by modeling that no toxic air pollutant emitted from the facility exceeds the acceptable ambient level values set out in 15A NCAC 02D .1104 beyond the facility's premises, further modeling demonstration is not required with the permit application. However, the Commission may still require more stringent emission levels according to its analysis under 15A NCAC 02D .1107.

(e) Change in Acceptable Ambient Level. When an acceptable ambient level for a toxic air pollutant in 15A NCAC 02D .1104 is changed, any condition that has previously been put in a permit to protect the previous acceptable ambient level for that toxic air pollutant shall not be changed until:

(1) The permit is renewed, at which time the owner or operator of the facility shall submit an air toxic evaluation, excluding sources exempt from evaluation in Rule .0702 of this Section, showing that the new acceptable ambient level will not be exceeded. If additional time is needed to bring the facility into compliance with the new acceptable ambient level, the owner or operator shall negotiate a compliance schedule with the Director. The compliance schedule shall be written into the facility's permit and final compliance shall not exceed two years from the effective date of the change in the acceptable ambient level; or

(2) The owner or operator of the facility requests that the condition be changed and submits along with that request an air toxic evaluation, excluding sources exempt from evaluation in Rule .0702 of this Section, showing that the new acceptable ambient level shall not be exceeded.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.107; 143-215.108; 143B-282;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998;
Amended Eff. May 1, 2014; July 10, 2010; February 1, 2005.

15A NCAC 02Q .0710 PUBLIC NOTICE AND OPPORTUNITY FOR PUBLIC HEARING

(a) If the owner or operator of a facility chooses to make a demonstration pursuant to Rule .0709 (a)(2) or (b) of this Section, the Commission or its delegate shall approve or disapprove the permit after a public notice with an opportunity for a public hearing.

(b) The public notice shall be given by publication in a newspaper of general circulation in the area where the facility is located and shall be mailed to persons who are on the Division's mailing list for air quality permit notices.

(c) The public notice shall identify:

(1) the affected facility;

(2) the name and address of the permittee;

(3) the name and address of the person to whom to send comments and requests for public hearing;

(4) the name, address, and telephone number of a Divisional staff person from whom interested persons may obtain additional information, including copies of the draft permit, the application, compliance plan, pollution prevention plan, monitoring and compliance reports, all other relevant supporting materials, and all other materials available to the Division that are relevant to the permit decision;

(5) the activity or activities involved in the permit action;

(6) any emissions change involved in any permit modification;

(7) a brief description of the public comment procedures;

(8) the procedures to follow to request a public hearing unless a public hearing has already been scheduled; and

(9) the time and place of any hearing that has already been scheduled.

(d) The notice shall allow at least 30 days for public comments.

(e) If the Director determines that significant public interest exists or that the public interest will be served, the Director shall require a pubic hearing to be held on a draft permit. Notice of a public hearing shall be given at least 30 days before the public hearing.

(f) The Director shall make available for public inspection in at least one location in the region affected, the information submitted by the permit applicant and the Division=s analysis of that application.

(g) Any persons requesting copies of material identified in Subparagraph (b)(4) of this Rule shall pay ten cents ($0.10) a page for each page copied. Confidential material shall be handled in accordance with Rule .0107 of this Subchapter.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.108; 143B-282; S.L. 1989, c. 168, s. 45;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998.

15A NCAC 02Q .0711 EMISSION RATES REQUIRING A PERMIT

(a) A permit to emit toxic air pollutants is required for any facility where one or more emission release points are obstructed or non-vertically oriented whose actual rate of emissions from all sources are greater than any one of the following toxic air pollutant permitting emissions rates:

Pollutant (CAS Number)	Carcinogens lb/yr	Chronic Toxicants lb/day	Acute Systemic Toxicants lb/hr	Acute Irritants lb/hr
acetaldehyde (75-07-0)				6.8
acetic acid (64-19-7)				0.96
acrolein (107-02-8)				0.02
acrylonitrile (107-13-1)		0.4	0.22	
ammonia (7664-41-7)				0.68
aniline (62-53-3)			0.25	
arsenic and inorganic arsenic compounds	0.053			
asbestos (1332-21-4)	5.7×10^{-3}			
aziridine (151-56-4)		0.13		
benzene (71-43-2)	8.1			
benzidine and salts (92-87-5)	0.0010			
benzo(a)pyrene (50-32-8)	2.2			
benzyl chloride (100-44-7)			0.13	
beryllium (7440-41-7)	0.28			
beryllium chloride (7787-47-5)	0.28			
beryllium fluoride (7787-49-7)	0.28			
beryllium nitrate (13597-99-4)	0.28			
bioavailable chromate pigments, as chromium (VI) equivalent	0.0056			
bis-chloromethyl ether (542-88-1)	0.025			
bromine (7726-95-6)				0.052
1,3-butadiene (106-99-0)	11			
cadmium (7440-43-9)	0.37			
cadmium acetate (543-90-8)	0.37			
cadmium bromide (7789-42-6)	0.37			
carbon disulfide (75-15-0)		3.9		
carbon tetrachloride (56-23-5)	460			
chlorine (7782-50-5)		0.79		0.23
chlorobenzene (108-90-7)		46		
chloroform (67-66-3)	290			
chloroprene (126-99-8)		9.2	0.89	
cresol (1319-77-3)			0.56	
p-dichlorobenzene (106-46-7)				16.8
dichlorodifluoromethane (75-71-8)		5200		
dichlorofluoromethane (75-43-4)		10		
di(2-ethylhexyl)phthalate (117-81-7)		0.63		
dimethyl sulfate (77-78-1)		0.063		
1,4-dioxane (123-91-1)		12		
epichlorohydrin (106-89-8)	5600			
ethyl acetate (141-78-6)			36	
ethylenediamine (107-15-3)		6.3	0.64	
ethylene dibromide (106-93-4)	27			
ethylene dichloride (107-06-2)	260			
ethylene glycol monoethyl ether (110-80-5)		2.5	0.48	

ethylene oxide (75-21-8)	1.8			
ethyl mercaptan (75-08-1)			0.025	
fluorides		0.34	0.064	
formaldehyde (50-00-0)				0.04
hexachlorocyclopentadiene (77-47-4)		0.013	0.0025	
hexachlorodibenzo-p-dioxin (57653- 85-7)	0.0051			
n-hexane (110-54-3)		23		
hexane isomers except n-hexane				92
hydrazine (302-01-2)		0.013		
hydrogen chloride (7647-01-0)				0.18
hydrogen cyanide (74-90-8)		2.9	0.28	
hydrogen fluoride (7664-39-3)		0.63		0.064
hydrogen sulfide (7783-06-4)		1.7		
maleic anhydride (108-31-6)		0.25	0.025	
manganese and compounds		0.63		
manganese cyclopentadienyl tricarbonyl (12079-65-1)		0.013		
manganese tetroxide (1317-35-7)		0.13		
mercury, alkyl		0.0013		
mercury, aryl and inorganic compounds		0.013		
mercury, vapor (7439-97-6)		0.013		
methyl chloroform (71-55-6)		250		64
methylene chloride (75-09-2)	1600		0.39	
methyl ethyl ketone (78-93-3)		78		22.4
methyl isobutyl ketone (108-10-1)		52		7.6
methyl mercaptan (74-93-1)			0.013	
nickel carbonyl (13463-39-3)		0.013		
nickel metal (7440-02-0)		0.13		
nickel, soluble compounds, as nickel		0.013		
nickel subsulfide (12035-72-2)	0.14			
nitric acid (7697-37-2)				0.256
nitrobenzene (98-95-3)		1.3	0.13	
n-nitrosodimethylamine (62-75-9)	3.4			
non-specific chromium (VI) compounds, as chromium (VI) equivalent	0.0056			
pentachlorophenol (87-86-5)		0.063	0.0064	
perchloroethylene (127-18-4)	13000			
phenol (108-95-2)			0.24	
phosgene (75-44-5)		0.052		
phosphine (7803-51-2)				0.032
polychlorinated biphenyls (1336-36- 3)	5.6			
soluble chromate compounds, as chromium (VI) equivalent		0.013		
styrene (100-42-5)			2.7	
sulfuric acid (7664-93-9)		0.25	0.025	
tetrachlorodibenzo-p-dioxin (1746- 01-6)	0.00020			
1,1,1,2-tetrachloro-2,2,-difluoroethane (76-11-9)		1100		
1,1,2,2-tetrachloro-1,2-difluoroethane (76-12-0)		1100		
1,1,2,2-tetrachloroethane (79-34-5)	430			
toluene (108-88-3)		98		14.4

toluene diisocyanate,2,4-(584-84-9) and 2,6-(91-08-7) isomers		0.003		
trichloroethylene (79-01-6)	4000			
trichlorofluoromethane (75-69-4)			140	
1,1,2-trichloro-1,2,2-trifluoroethane (76-13-1)				240
vinyl chloride (75-01-4)	26			
vinylidene chloride (75-35-4)		2.5		
xylene (1330-20-7)		57		16.4

(b) A permit to emit toxic air pollutants is required for any facility where all emission release points are unobstructed and vertically oriented whose actual rate of emissions from all sources are greater than any one of the following toxic air pollutant permitting emissions rates:

Pollutant (CAS Number)	Carcinogens lb/yr	Chronic Toxicants lb/day	Acute Systemic Toxicants lb/hr	Acute Irritants lb/hr
acetaldehyde (75-07-0)				28.43
acetic acid (64-19-7)				3.90
acrolein (107-02-8)				0.08
acrylonitrile (107-13-1)		1.3	1.05	
ammonia (7664-41-7)				2.84
aniline (62-53-3)			1.05	
arsenic and inorganic arsenic compounds	0.194			
asbestos (1332-21-4)	7.748×10^{-3}			
aziridine (151-56-4)		0.3		
benzene (71-43-2)	11.069			
benzidine and salts (92-87-5)	1.384×10^{-3}			
benzo(a)pyrene (50-32-8)	3.044			
benzyl chloride (100-44-7)			0.53	
beryllium (7440-41-7)	0.378			
beryllium chloride (7787-47-5)	0.378			
beryllium fluoride (7787-49-7)	0.378			
beryllium nitrate (13597-99-4)	0.378			
bioavailable chromate pigments, as chromium (VI) equivalent	0.008			
bis-chloromethyl ether (542-88-1)	0.034			
bromine (7726-95-6)				0.21
1,3-butadiene (106-99-0)	40.585			
cadmium (7440-43-9)	0.507			
cadmium acetate (543-90-8)	0.507			
cadmium bromide (7789-42-6)	0.507			
carbon disulfide (75-15-0)		7.8		
carbon tetrachloride (56-23-5)	618.006			
chlorine (7782-50-5)		1.6		0.95
chlorobenzene (108-90-7)		92.7		
chloroform (67-66-3)	396.631			
chloroprene (126-99-8)		18.5	3.69	
cresol (1319-77-3)			2.32	
p-dichlorobenzene (106-46-7)				69.50
dichlorodifluoromethane (75-71-8)		10445.4		
dichlorofluoromethane (75-43-4)		21.1		
di(2-ethylhexyl)phthalate (117-81-7)		1.3		

dimethyl sulfate (77-78-1)		0.1		
1,4-dioxane (123-91-1)		23.6		
epichlorohydrin (106-89-8)	7655.891			
ethyl acetate (141-78-6)			147.41	
ethylenediamine (107-15-3)		12.6	2.63	
ethylene dibromide (106-93-4)	36.896			
ethylene dichloride (107-06-2)	350.511			
ethylene glycol monoethyl ether (110-80-5)		5.1		2.00
ethylene oxide (75-21-8)	2.490			
ethyl mercaptan (75-08-1)			0.11	
fluorides		0.7	0.26	
formaldehyde (50-00-0)				0.16
hexachlorocyclopentadiene (77-47-4)		2.5×10^{-2}	0.01	
hexachlorodibenzo-p-dioxin (57653- 85-7)	0.007			
n-hexane (110-54-3)		46.3		
hexane isomers except n-hexane				379.07
hydrazine (302-01-2)		2.5×10^{-2}		
hydrogen chloride (7647-01-0)				0.74
hydrogen cyanide (74-90-8)		5.9	1.16	
hydrogen fluoride (7664-39-3)		1.3		0.26
hydrogen sulfide (7783-06-4)		5.1		
maleic anhydride (108-31-6)		0.5	0.11	
manganese and compounds		1.3		
manganese cyclopentadienyl tricarbonyl (12079-65-1)		2.5×10^{-2}		
manganese tetroxide (1317-35-7)		0.3		
mercury, alkyl		2.5×10^{-3}		
mercury, aryl and inorganic compounds		2.5×10^{-2}		
mercury, vapor (7439-97-6)		2.5×10^{-2}		
methyl chloroform (71-55-6)		505.4		257.98
methylene chloride (75-09-2)	2213.752		1.79	
methyl ethyl ketone (78-93-3)		155.8		93.19
methyl isobutyl ketone (108-10-1)		107.8		
methyl mercaptan (74-93-1)			0.05	
nickel carbonyl (13463-39-3)		2.5×10^{-2}		
nickel metal (7440-02-0)		0.3		
nickel, soluble compounds, as nickel		2.5×10^{-2}		
nickel subsulfide (12035-72-2)	0.194			
nitric acid (7697-37-2)				1.05
nitrobenzene (98-95-3)		2.5	0.53	
n-nitrosodimethylamine (62-75-9)	4.612			
non-specific chromium (VI) compounds, as chromium (VI) equivalent	0.008			
pentachlorophenol (87-86-5)		0.1	0.03	
perchloroethylene (127-18-4)	17525.534			
phenol (108-95-2)			1.00	
phosgene (75-44-5)		0.1		
phosphine (7803-51-2)				0.14
polychlorinated biphenyls (1336-36- 3)	7.656			
soluble chromate compounds, as chromium (VI) equivalent		2.6×10^{-2}		
styrene (100-42-5)			11.16	
sulfuric acid (7664-93-9)		0.5	0.11	
tetrachlorodibenzo-p-dioxin (1746- 01-6)	2.767×10^{-4}			

1,1,1,2-tetrachloro-2,2,-difluoroethane (76-11-9)		2190.2		
1,1,2,2-tetrachloro-1,2-difluoroethane (76-12-0)		2190.2		
1,1,2,2-tetrachloroethane (79-34-5)	581.110			
toluene (108-88-3)				58.97
toluene diisocyanate,2,4-(584-84-9) and 2,6-(91-08-7) isomers		8.4×10^{-3}		
trichloroethylene (79-01-6)	5442.140			
trichlorofluoromethane (75-69-4)			589.66	
1,1,2-trichloro-1,2,2-trifluoroethane (76-13-1)				1000.32
vinyl chloride (75-01-4)	35.051			
vinylidene chloride (75-35-4)		5.1		
xylene (1330-20-7)		113.7		68.44

(c) For the following pollutants, the highest emissions occurring for any 15-minute period shall be multiplied by four and the product shall be compared to the value in Paragraph (a) or (b) as applicable. 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); and
(10) nitric acid (7697-37-2).

History Note: *Authority G.S. 143-215.3(a)(1); 143-215-107; 143-215.108; 143B-282;*
Rule originally codified as part of 15A NCAC 02H .0610;
Eff. July 1, 1998;
Amended Eff. July 7, 2014; May 1, 2014; January 1, 2010; June 1, 2008; April 1, 2005; February 1, 2005; April 1, 2001.

15A NCAC 02Q .0712 CALLS BY THE DIRECTOR

Notwithstanding any other provision of this Section or 15A NCAC 2D .1104, upon a written finding that a source or facility emitting toxic air pollutants presents an unacceptable risk to human health based on the acceptable ambient levels in 15A NCAC 2D .1104 or epidemiology studies, the Director may require the owner or operator of the source or facility to submit a permit application to comply with 15A NCAC 2D .1100 for any or all of the toxic air pollutants emitted from the facility.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.108; 143B-282; S.L. 1989, c. 168, s. 45;*
Rule originally codified as part of 15A NCAC 2H .0610;
Eff. July 1, 1998.

15A NCAC 02Q .0713 POLLUTANTS WITH OTHERWISE APPLICABLE FEDERAL STANDARDS OR REQUIREMENTS

(a) This Rule applies to the establishment of emission limitations or any other requirements pursuant to the requirements of this Section or 15A NCAC 2D .1100 for which a standard or requirement has been promulgated under Section 112 of the federal Clean Air Act including those contained in 15A NCAC 2D .1110 and .1111.

(b) For each facility subject to emission standards or requirements under Section 112 of the federal Clean Air Act, permits issued or revised according to Section .0500 of this Subchapter shall contain specific conditions that:

(1) reflect applicability criteria no less stringent than those in the otherwise applicable federal standards or requirements;

(2) require levels of control for each affected facility and source no less stringent than those contained in the otherwise applicable federal standards or requirements;

(3) require compliance and enforcement measures for each facility and source no less stringent than those in the otherwise applicable federal standards or requirements;

(4) express levels of control, compliance, and enforcement measures in the same form and units of measure as the otherwise applicable federal standards or requirements; and

(5) assure compliance by each affected facility no later than would be required by the otherwise applicable federal standard or requirement.

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.108; 143B-282; S.L. 1989, c. 168, s. 45; Eff. July 1, 1998.*

15A NCAC 02Q .0714 WASTEWATER TREATMENT SYSTEMS AT PULP AND PAPER MILLS

History Note: *Authority G.S. 143-215.3(a)(1); 143-215.65; 143-215.66; 143B-282;*
Eff. April 1, 2005;
Repealed Eff. May 1, 2014.