

APPENDICES

TO THE

FORSYTH COUNTY, NORTH CAROLINA

AIR QUALITY CONTROL ORDINANCE

AND

TECHNICAL CODE

PROVIDING ADDITIONAL

INFORMATION AND EXPLANATION

by the

Environmental Affairs Department
537 N. Spruce Street
Winston-Salem, NC 27101
Phone 336/703-2440 Fax 336/703-2456

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APPENDICES

CONTENTS

INTRODUCTION x

LIST OF ACRONYMS x

APPENDIX 1 - GENERAL DEFINITIONS AND GENERAL PROVISIONS A-1-1

 DEFINITIONS A-1-1

 Control Device: 3D .0101(9) A-1-1

 MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY A-1-1

 PROPER OPERATION AND MAINTENANCE A-1-1

APPENDIX 2 - REGISTRATION [no text at this time] A-2-1

APPENDIX 3 - AIR POLLUTION EMERGENCIES [no text at this time] A-3-1

APPENDIX 4 - AMBIENT AIR QUALITY STANDARDS A-4-1

 SULFUR DIOXIDE A-4-1

APPENDIX 5 - PARTICULATE EMISSIONS STANDARDS A-5-1

 TOTAL SUSPENDED PARTICULATE A-5-1

 Determination of Aerodynamic Diameter A-5-1

 TRANSFER CYCLONES A-5-1

 INDIRECT HEAT EXCHANGERS: 3D .0503 AND .0504 A-5-2

 Applicability with Reference to Types of Fuels A-5-2

 Averaging Time and Recordkeeping for Heat Input A-5-2

 Aggregation of Fuel Burning Equipment at Military Installations,
 Educational Institutions, etc. A-5-2

 Plant Site and Aggregation of Fuel Burning Equipment at Industrial Sites A-5-2

 Allowable Particulate Limits Remain Fixed A-5-3

 Burning of Waste Derived Fuels and Materials Including Oils, Solvents,
 and Chemicals A-5-3

 Uncontaminated or Unadulterated Fuel A-5-4

 Laminate Combustion A-5-4

 PARTICULATES FROM MICA OR FELDSPAR PROCESSING PLANTS:
 3D .0509 A-5-4

 SAND, GRAVEL, CRUSHED STONE: 3D .0510 A-5-5

 Ambient Dispersion Modeling Requirements A-5-5

 Recycled Asphalt Product Crushers A-5-5

 Wet Suppression at Crushers A-5-5

 LIGHTWEIGHT AGGREGATE: 3D .0511 A-5-5

 WOOD PRODUCTS FINISHING: 3D .0512 A-5-6

 Finishing of Wood A-5-6

 Spray Booths A-5-6

Direct Wood-fired Wood Chip Dryers	A-5-6
PORTLAND CEMENT PLANTS: 3D .0512	A-5-6
MISCELLANEOUS INDUSTRIAL PROCESSES: 3D .0515	A-5-6
Spray Booths: Wood Products	A-5-6
Spray Booths: Non-wood Products	A-5-6
Internal Combustion Engines	A-5-6
Process Weight Rate	A-5-7
Emission Control Standards	A-5-7
CONTROL OF VISIBLE EMISSIONS: 3D .0521	A-5-7
Rock Cutting Operations	A-5-7
PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION	
SOURCES: 3D .0540	A-5-7
APPENDIX 6 - SULFUR DIOXIDE EMISSION STANDARDS	A-6-1
SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES 3D .0516	A-6-1
SULFUR DIOXIDE SOURCES WITH SPECIAL SIP CONDITIONS	A-6-1
APPENDIX 7 - NITROGEN OXIDE EMISSIONS STANDARDS	
INCLUDING NO_x RACT	A-7-1
OVERVIEW OF NITROGEN OXIDE REQUIREMENTS	A-7-1
APPLICABILITY: 3D .1402	A-7-1
Exemptions	A-7-1
APPENDIX 8 - VOLATILE ORGANIC COMPOUND EMISSION STANDARDS	
INCLUDING VOC RACT	A-8-1
OVERVIEW OF VOC CONTROL PROGRAM	A-8-1
MISCELLANEOUS VOC: 3D .0518	A-8-1
Determining If a Material is Photochemically Reactive	A-8-1
Determining If the 40 Pounds-per-day Reactive Material is Exceeded	A-8-2
Compliance on Formulation Basis	A-8-2
Water as a Solvent	A-8-3
Gum Turpentine	A-8-3
Cleanup Solvents	A-8-3
Gluing Operations	A-8-3
Air Stripping	A-8-3
Architectural Coatings	A-8-3
Styrene from Fiberglass Product Manufacturing	A-8-3
Paint Manufacturing	A-8-3
List of Compounds that are Non-photochemically Reactive (N) and	
Photochemically reactive (R)	A-8-4
Transition from 3D .0518 to 3D .1111	A-8-8
Furniture MACT	A-8-8
Loading of Volatile Organic Compounds	A-8-8
SOIL REMEDIATION AND AIR STRIPPING	A-8-8
DEFINITIONS: 3D .0901	A-8-9
Coating Line	A-8-9
Solvent	A-8-9

Volatile Organic Compounds	A-8-9
BULK GASOLINE TERMINALS: 3D .0927	A-8-10
Calculating Throughput	A-8-10
Self-Supporting Structure	A-8-11
Tank out of Service	A-8-11
SOLVENT METAL CLEANING: 3D .0930	A-8-11
GASOLINE TRUCK TANKS AND VAPOR COLLECTION SYSTEMS:	
3D .0932	A-8-11
COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS:	
3D .0934	A-8-11
GRAPHIC ARTS: 3D .0936	A-8-11
VOC EMISSIONS FROM TRANSFER OPERATIONS: 3D .0948	A-8-12
VAPOR RETURN PIPING FOR STAGE II VAPOR RECOVERY: 3D .0953	A-8-12
TRANSFER EFFICIENCY	A-8-12
EMISSIONS TRADING (BUBBLING)	A-8-13
COMPUTING EMISSION RATES	A-8-14
Computing Emission Rate When Two or More Coatings are Combined	A-8-14
CONVERSION FROM LB VOC/GAL COATING TO LB VOC/GAL SOLIDS	A-8-15
APPENDIX 9 - 111(d) - F⁻, TRS, H₂SO₄ [no text at this time]	A-9-1
APPENDIX 10 - PSD AND NSR	A-10-1
OVERVIEW OF PSD PROGRAM	A-10-1
EPA Involvement in Forsyth County's PSD Program	A-10-1
Public Involvement in PSD Program	A-10-1
Federal Land Manager Involvement in PSD Program	A-10-2
Class I Area Contacts	A-10-3
PSD Applicability	A-10-4
Modifications	A-10-6
PSD Significance Levels	A-10-7
Major and Minor Source Baseline Dates	A-10-7
Major Source Baseline	A-10-8
Minor Source Baseline	A-10-8
Pre and Post Construction Ambient Monitoring	A-10-8
Best Available Control Technology	A-10-9
CONSTRUCTION ACTIVITIES BEFORE RECEIPT OF PSD PERMIT	A-10-9
REACTIVATION OF SHUTDOWN SOURCE	A-10-10
PSD AVOIDANCE	A-10-10
APPENDIX 11 NSPS	A-11-1
PART 60 NSPS ADOPTED BY THE COUNTY	A-11-1
RECONSTRUCTION	A-11-4
SUBPART Db – INDUSTRIAL-COMMERCIAL-	
INSTITUTIONAL STEAM GENERATING UNITS	A-11-5
Applicability to Kilns and Process Dryers	A-11-5
Avoiding Applicability by Permit Limitation	A-11-5

SUBPART Dc – SMALL INDUSTRIAL-COMMERCIAL- INSTITUTIONAL STEAM GENERATING UNITS	A-11-5
Reporting	A-11-5
Applicability to Direct Fired Water Heaters	A-11-5
Applicability to Kilns and Process Dryers	A-11-6
SUBPART E AND Ea – MUNICIPAL WASTE COMBUSTORS	A-11-6
Air Curtain Burners	A-11-6
SUBPART I - ASPHALT BATCH PLANTS	A-11-6
Recycle Asphalt Product Crushers	A-11-6
New Silos at Asphalt Concrete Plants	A-11-6
Lime Storage Silo	A-11-6
Pugmill Dump	A-11-6
SUBPART EE – SURFACE COATING OF METAL FURNITURE	A-11-7
Industries Covered	A-11-7
Coating Lines	A-11-7
SUBPART FFF – FLEXIBLE VINYL COATING AND URETHANE COATING AND PRINTING	A-11-7
SUBPART OOO - NONMETALLIC MINERAL PROCESSING PLANTS	A-11-8
SUBPART VVV - POLYMERIC COATING OF SUPPORTING SUBSTRATES FACILITIES	A-11-9
APPENDIX 12 NESHAP, MACT, GACT	A-12-1
LIST OF HAZARDOUS AIR POLLUTANTS	A-12-1
MACT PROMULGATION SCHEDULE	A-12-4
Categories of Sources and Regulation Promulgation Schedule by Industry Group	A-12-4
Categories of Sources of Hazardous Air Pollutants and Regulation Promulgation Schedule by Regulatory Deadlines	A-12-9
PART 63 NESHAP ADOPTED BY FORSYTH COUNTY	A-12-13
PART 61 NESHAP ADOPTED BY THE COUNTY	A-12-15
TRANSITION FROM 3D .0518 TO 3D .1111	A-12-16
APPENDIX 13 SUBSTITUTE MACT [no text at this time]	A-13-1
APPENDIX 14 AIR TOXIC INCLUDING AIR TOXIC PERMITTING	A-14-1
CONTROL OF MERCURY EMISSIONS: 3D .0537	A-14-1
TOXIC AIR POLLUTANT GUIDELINES: 3D .1104	A-14-1
DETERMINATION OF AMBIENT AIR CONCENTRATION: 3D .1106	A-14-1
Department Modeling Option	A-14-1
Modeling Peak 15-Minute Emission Rates for Certain Pollutants	A-14-1
Modeling Plan	A-14-2
APPLICABILITY: 3Q .0701	A-14-2
Restarted Facilities	A-14-2
EXEMPTIONS: 3Q .0702	A-14-2
Combustion Sources	A-14-2
Gasoline Dispensing Facilities	A-14-3
Bulk Gasoline Terminals	A-14-3
Affects of Modifications on Exempted Sources	A-14-3

DEFINITIONS: 2Q .0703	A-14-3
Actual Rate of Emissions	A-14-3
Normal Operation	A-14-4
Net Increase in Emissions	A-14-4
Unadulterated Fossil Fuel	A-14-4
MODIFICATIONS: 3Q .0706	A-14-5
PREVIOUSLY PERMITTED FACILITIES: 3Q .0707	A-14-5
COMPLIANCE SCHEDULE FOR PREVIOUSLY UNKNOWN	
TOXIC AIR POLLUTANT EMISSIONS: 3Q .0708	A-14-5
DEMONSTRATIONS: 3Q .0709	A-14-6
EMISSION RATES REQUIRING A PERMIT: 3Q .0711	A-14-6
Calculation of Toxics Permitting Exemption Rates	A-14-6
Original Calculations – May 1990 to July 1996	A-14-6
Calculations from July 1998	A-14-7
POLLUTANTS WITH OTHERWISE APPLICABLE	
FEDERAL STANDARDS OR REQUIREMENTS: 3Q .0713	A-14-8
APPENDIX 15 OPEN BURNING	A-15-1
PERMIT REQUIREMENTS	A-15-1
Permissible Open Burning	A-15-1
Open Burning Requiring Permission But Not a Permit	A-15-1
Air Curtain Burners	A-15-1
DEFINITIONS	A-15-2
Occupied Structure	A-15-2
FIRE TRAINING	A-15-2
3D .1903(b)(10)	A-15-2
3D .1903(b)(11)	A-15-2
Asbestos	A-15-2
PERMISSIBLE OPEN BURNING: 3D .1903	A-15-3
Public Pickup: 3D .1903(b)(1)	A-15-3
Setback from Roadway: 3D .1903(b)(2)	A-15-3
Right-of-way: 3D .1903(b)(2)	A-15-3
AIR CURTAIN BURNERS	A-15-3
Visible Emissions	A-15-3
Certified Visible Emissions Reader and Operator	A-15-4
Setback Requirements for Temporary Air Curtain Burners: 3D .1903 and .1904	A-15-4
Recordkeeping Requirements	A-15-4
APPENDIX 16 ODOR	A-16-1
OVERVIEW OF ODOR CONTROL PROGRAM	A-16-1
CONTROL AND PROHIBITION OF ODOROUS EMISSIONS: 3D .0522	A-16-1
Air Stripping	A-16-1
Farm Operations	A-16-1
ODOR CONTROL FOR FEED INGREDIENT MANUFACTURING PLANTS: 3D .0530	A-16-1
Overview	A-16-1
Equivalent Control Devices	A-16-2
Storage and Handling of Raw Material	A-16-2

Excess Emissions Reporting	A-16-2
APPENDIX 17 EMISSIONS TRADING	A-17-1
EMISSIONS TRADING: BUBBLES	A-17-1
APPENDIX 18 MALFUNCTION, EXCESS EMISSIONS [no text at this time]	A-18-1
APPENDIX 19 STACK TESTING	A-19-1
PARTICULATE EMISSIONS TEST METHODS	A-19-1
SULFUR DIOXIDE TEST METHODS	A-19-2
Fuel Analysis	A-19-2
DETERMINATION OF CONTROL SYSTEM EFFICIENCY: 3D .0914	A-19-2
APPENDIX 20 MONITORING, RECORDKEEPING, REPORTING	A-20-1
FUEL ANALYSES	A-20-1
Sulfur Content	A-20-1
COMPLIANCE ASSURANCE MONITORING	A-20-1
APPENDIX 21 MODELING [no text at this time]	A-21-1
APPENDIX 22 TRANSPORTATION FACILITIES INCLUDING PERMITTING [no text at this time]	A-22-1
APPENDIX 23 INSPECTION/MAINTENANCE	A-23-1
INSPECTION/MAINTENANCE REQUIREMENTS FOR VEHICLES OPERATED ON FEDERAL FACILITIES	A-23-1
APPENDIX 24 OXYGENATED GASOLINE AND OTHER FUEL REQUIREMENTS .	A-24-1
OVERVIEW OF OXYGENATED GASOLINE STANDARD RULES	A-24-1
REID VAPOR PRESSURE FOR GASOLINE DURING OZONE SEASON	A-24-1
APPENDIX 25 TRANSPORTATION AND GENERAL CONFORMITY [no text at this time]	A-25-1
APPENDIX 26 GENERAL PERMIT PROVISIONS	A-26-1
OVERVIEW OF GENERAL PROVISION SECTION	A-26-1
ORDERING EQUIPMENT BEFORE OBTAINING A PERMIT	A-26-1
Facility Subject to Prevention of Significant Deterioration	A-26-1
Facility Not Subject to Prevention of Significant Deterioration	A-26-1
PERMITTING AIR POLLUTION CONTROL EQUIPMENT	A-26-1
POTENTIAL EMISSIONS	A-26-1
SIP Allowable Limits Methodology	A-26-1
Concrete Batch Plants	A-26-2
Historical Actual Maximum Methodology	A-26-2
MODIFICATIONS	A-26-2

APPENDIX 27 PERMIT EXEMPTIONS	A-27-1
OVERVIEW OF PERMIT EXEMPTIONS	A-27-1
Activities Exempted by Category	A-27-1
Activities Exempted by Size or Production Rate	A-27-1
Determining if a Source Qualifies for an Exemption	A-27-2
Exemption of Non-Title V Facilities	A-27-2
SPECIFIC EXEMPTIONS	A-27-2
Maintenance, Upkeep, and Replacement: 3Q .0102(c)(1)(A)	A-27-2
Hush House	A-27-2
Laboratory Activities: 3Q .0102(c)(1)(C)	A-27-3
Research and Development Activities	A-27-3
Demonstration Coaters	A-27-3
Storage Tanks Storing Inorganic Liquids: 3Q .0102(c)(1)(D)(iii)	A-27-3
Aqueous Solutions of Organic Compounds	A-27-3
Combustion and Heat Transfer Equipment: 3Q .0102(c)(1)(E)(i)	A-27-3
Wastewater Treatment Processes: 3Q .0102(c)(1)(F)	A-27-3
Does Not Emit Any Regulated Air Pollutants: 3Q .0102(c)(1)(L)(ix)	A-27-3
Mineral Processing Equipment (Stone Crushing Operations)	A-27-3
No Applicable Requirement: 3Q .0102(c)(1)(L)(xi)	A-27-4
Paint Spray Booths	A-27-4
Cooling Towers	A-27-4
Fuel Combustion Exemption: 3Q .0102(c)(2)(B)(i) and (ii)	A-27-4
Emergency Use Generators: 3Q .0102(c)(2)(B)(iv)	A-27-4
Printing and Coating Operations: 3Q .0102(c)(2)(D)(i)	A-27-5
Gluing Operations	A-27-5
Process Ovens and Dryers	A-27-5
The Miscellaneous 5-ton Potential Exemption: 3Q .0102(c)(2)(E)(i)	A-27-5
Definition of Source	A-27-5
Nonmetallic Mineral Processing Equipment (Stone Crushing Operations)	A-27-5
Incinerators	A-27-6
Case-by-Case Exemption: 3Q .0102(c)(2)(F)	A-27-6
Storage Tanks	A-27-6
Petroleum Dry Cleaners	A-27-6
 APPENDIX 28 EXCLUSIONARY RULES (PROHIBITORY RULES)	 A-28-1
COATING, SOLVENT, GRAPHIC ARTS OPERATIONS: 3Q .0803	A-28-1
EMERGENCY GENERATORS: 3Q .0807	A-28-1
Storage Tanks Subject to NSPS	A-28-1
 APPENDIX 29 NON-TITLE V PERMITTING PROCEDURES	 A-29-1
RETURN OF INCOMPLETE PERMIT APPLICATIONS	A-29-1
SOURCE REDUCTION AND RECYCLING PLAN	A-29-1
GENERAL PERMITS	A-29-1
APPLICATION PROCESSING SCHEDULE	A-29-2

APPENDIX 30 TITLE V PERMITTING PROCEDURES	A-30-1
DEFINITIONS	A-30-1
Major Source	A-30-1
Responsible Official	A-30-2
APPLICATIONS	A-30-3
Emissions Estimates	A-30-3
Trace Amounts of HAP	A-30-3
Cross Referencing	A-30-3
Description of Significant Emissions Units	A-30-3
Insignificant Activities	A-30-3
Tons-Per-Year Limits	A-30-4
PERMIT AND APPLICATION SHIELDS	A-30-4
Application Shields	A-30-4
Permit Shields	A-30-4
ADMINISTRATIVE PERMIT AMENDMENTS: 3Q .0514	A-30-4
MINOR PERMIT MODIFICATIONS: 3Q .0515	A-30-4
SIGNIFICANT PERMIT MODIFICATIONS: 3Q .0516	A-30-4
CHANGES NOT REQUIRING PERMIT REVISIONS: 3Q .0523	A-30-5
Section 502(b)(10) Modifications	A-30-5
Off-Permit Changes	A-30-5
FUGITIVE EMISSIONS	A-30-5
Definition	A-30-5
Applicability	A-30-5
APPLICATION PROCESSING SCHEDULE	A-30-5
APPENDIX 31 ACID RAIN PROGRAM AND PERMITTING PROCEDURES	
[no text at this time]	A-31-1
APPENDIX 32 PERMIT FEES	A-32-1
APPLICATION FEES	A-32-1
CALCULATION OF TITLE V FEES	A-32-1
Reduction of Emissions	A-32-1
Particulates	A-32-1
FUGITIVE EMISSIONS	A-32-1
Definition	A-32-1
Applicability	A-32-1
Fees	A-32-2
Fugitives; Non-HAPs	A-32-2
Fugitives; Hazardous Air Pollutants	A-32-2
APPENDIX 33 CONFIDENTIALITY	A-33-1
CONFIDENTIAL INFORMATION	A-33-1

APPENDIX 34 INCINERATORS	A-34-1
AIR CURTAIN BURNERS	A-34-1
PET INCINERATORS	A-34-1
CREMATORY INCINERATORS	A-34-1
HYDROGEN CHLORIDE EMISSION STANDARD: 3D .1205(f)	A-34-1
APPENDIX 35 MUNICIPAL SOLID WASTE LANDFILLS [no text at this time]	A-35-1
APPENDIX 36 LOCAL PROGRAMS [no text at this time]	A-36-1
APPENDIX 37 MISCELLANEOUS	A-37-1
OZONE MAINTENANCE AREA	A-37-1
CARBON MONOXIDE MAINTENANCE AREA	A-37-1
REDESIGNATION DATES	A-37-1
Ozone Redesignation	A-37-1
Carbon Monoxide Redesignation	A-37-1
FORSYTH COUNTY’S STEPS IN DEVELOPING AND ADOPTING A RULE	A-37-2

INTRODUCTION

The purpose of these appendices is to provide information to make the air quality rules more useful. They provide further explanation, clarification, and information. These Appendices are based on the Appendices developed by the NC DAQ and has been localized for use in Forsyth County. Any Department policy or procedure overrules any conflicting interpretations in the appendices. **These appendices are not rules and therefore are not enforceable. They may be changed without notification.**

LIST OF ACRONYMS

AAL	acceptable ambient levels
AQAU	Air Quality Analysis Unit
AQRV	air quality related values
BACT	best available control technology
BART	best available retrofit technology
BDT	best demonstrated technology
CAM	compliance assurance monitoring
CFR	Code of Federal Regulations
EMC	Environmental Management Commission
EPA	United States Environmental Protection Agency
FLM	federal land manager
FR	Federal Register
GACT	generally available control technology
HAM	historical actual maximum
HAP	hazardous air pollutants
ICCR	Industrial Combustion Coordinated Rulemaking
LAER	lowest achievable emission rate
LIP	local implementation plan

MACT	maximum achievable control technology
MEER	modeling exemption emission rate
MFC	maximum feasible control
MFCT	maximum feasible control technology
MSRU	mobile source remediation units
NAAQS	national ambient air quality standards
NESHAP	national emission standards for hazardous air pollutants
NO _x	nitrogen oxides
NPS	National Park Service
NSPS	new source performance standards
NSR	new source review
PEER	permit exemption emission rate
PEL	permit exemption level
PM	particulate matter
PM	particulate matter
PM ₁₀	particulate matter with an aerodynamic diameter of 10µm or less
PSD	prevention of significant deterioration
PSEU	pollution specific emission unit
RACM	regulated asbestos-containing material
RACT	reasonably available control technology
RAP	recycle asphalt product
SIC	Standard Industrial Classification
SIP	state implementation plan
TAP	toxic air pollutants

TPER	toxic permitting exemption rate
TRS	total reduced sulfur (compounds)
TSP	total suspended particulate
VOC	volatile organic compounds

**APPENDIX 1
GENERAL DEFINITIONS AND GENERAL PROVISIONS**

DEFINITIONS

Control Device: 3D .0101(9)

A secondary combustion chamber that is an integral part of a combustion device used for energy production, or for cleaning or waste disposal purposes, is not considered a control device under **3D .0101(9)**. An integral part is one without which the unit cannot be manufactured, purchased, or operated. Add-on thermal or catalytic controls, such as fume incinerators or flares, are considered control devices. (For pyrolysis ovens, the oven and afterburner must essentially be inseparable to consider the afterburner as part of the unit and to exclude it as a control device.)

MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

3D .0502, Purpose, requires all sources of air pollution emissions to install maximum achievable control technology. The Department may decide what constitutes maximum feasible control for a particular source and require such control. The rules contained in Subchapter **3D** are minimum control requirements. Where these minimum requirements are not maximum feasible control technology, maximum feasible control technology may be required.

PROPER OPERATION AND MAINTENANCE

If a permit contains a specific condition that cites **3D .0521**, Control of Visible Emissions, this specific condition takes precedence over the “general” permit recitation “properly operate and maintain.” That is, in effect a baghouse or cyclone can emit up to 20 or 40 percent opacity, and short of that, there can be no assessment for failing to “properly operate and maintain.”

Air Quality

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Air Quality

**APPENDIX 2
REGISTRATION**

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Air Quality

**APPENDIX 3
AIR POLLUTION EMERGENCIES**

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Air Quality

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Air Quality

**APPENDIX 4
AMBIENT AIR QUALITY STANDARDS**

SULFUR DIOXIDE

Block averages are to be used for ambient sulfur dioxide standards.

Air Quality

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APPENDIX 5 PARTICULATE EMISSIONS STANDARDS

TOTAL SUSPENDED PARTICULATE

All of the particulate emissions standards, except some new source performance standards, are in terms of total suspended particulate.

Total suspended particulate (TSP) has an aerodynamic diameter of 100 μm or less. Particles with an aerodynamic diameter greater than 100 μm will not remain suspended in air for any significant length of time and, therefore, need not be regulated. That is, such particulate matter is not considered to be TSP.

With this definition, that part of a facility's gas stream that contains particulate matter with an aerodynamic diameter greater than 100 μm should not be considered a regulated pollutant. This means that, if the facility can demonstrate that this is the case, a facility's before control potential emissions (of regulated pollutants) would be less than that derived from a material balance or by other means.

Determination of Aerodynamic Diameter

The following equation, adapted from Cooper and Alley's discussion of the terminal velocity of a particle, may be used to calculate a particle's aerodynamic diameter,

$$d_{p,a} = d_{p,eff} \sqrt{S_p}$$

Where: $d_{p,a}$ = aerodynamic diameter (μm)
 $d_{p,eff}$ = effective diameter (μm) (diameter of sphere of equal volume)
 S_p = specific gravity of the particle (dimensionless)

For example, cherry wood ($S_p = 0.43$) with an effective diameter greater than 153 μm would not be considered TSP.

TRANSFER CYCLONES

A cyclone has two possible configurations irrespective of use: discharging and closed-loop. The employment of a closed-loop cyclone, i.e., one in which the air discharge opening is routed back to the fan without discharging to the atmosphere, is not an air quality issue. The discharging-type cyclone is an emission source, by definition, and should be considered for permitting.

Many facilities discharge solid particulates as a product or by-product of their manufacturing processes. For a variety of reasons, these facilities employ cyclones to capture this matter. In certain cases, the particles do not present an air pollution problem and, thus, the device used to capture them cannot be considered an air cleaning device. The definition of TSP can be used to identify these cases. If the particulate matter being conveyed is TSP and a discharge cyclone is used to disengage the air stream from the particulate matter, the cyclone is an air cleaning device and is permitted as such.

INDIRECT HEAT EXCHANGERS: 3D .0503 AND .0504

Applicability with Reference to Types of Fuels

Rule 3D .0504, Particulates from Wood Burning Indirect Heat Exchangers, applies to the combustion of wood. Rule 3D .0503 applies to the combustion of coal, coke, lignite, peat, natural gas, fuel oils, and all other types of fuels except wood and refuse not burned as a fuel. Rule 3D .0503 applies to refuse, products, and by-products of a manufacturing process that are burned as a fuel rather than refuse.

Averaging Time and Recordkeeping for Heat Input

Under 3D .0503 and .0504 the current policy on averaging time and recordkeeping for heat input is as follows:

1. A one-hour averaging time shall be used for determining the total Btu heat input and shall begin on the hour (for example 7 to 8). However, a company may specifically request a different one-hour period. The subsequent permit issued would specify this one-hour time period.
2. For the one-hour period designated, each company shall keep firing records for the Department's inspection to ensure that the maximum permitted rate is not exceeded.

Where a one-hour averaging time is not feasible, then a different averaging time may be allowed. The permit should specify the averaging time.

Aggregation of Fuel Burning Equipment at Military Installations, Educational Institutions, etc.

For apartment complexes, military installations, and educational institutions whose primary fuel burning capacity is for comfort heat, only heat inputs of fuel burning units that are located in the same power plant or building, or are physically interconnected by common flues, steam lines, power distribution lines, etc. are to be combined to determine the allowable emission rate. For example, a single fuel burning unit serving dormitories or barracks and not connected with any other fuel burning equipment has an emission limit based on its size only.

Plant Site and Aggregation of Fuel Burning Equipment at Industrial Sites

Under Rules 3D .0503 and .0504, the heat input of all fuel burning indirect heat exchangers at the plant site that are in operation, under construction, or permitted, are summed to obtain the heat input to determine the allowable particulate rate. Common sense should be used to determine exactly what constitutes the "plant site." Several factors should be considered in determining what constitutes a "plant site":

1. Are the fuel burning units physically interconnected by common flue, common steam lines, or common air pollution controls? (A "yes" answer means that they are at one plant site.)
2. How have the units been historically permitted? Does the facility have separate permits for different divisions located on contiguous or adjacent property? (Historically these plant sites have been permitted separately and the allowable particulate rate has been based on the total heat input for all boilers on a permit.)
3. Where are the units located in relation to one another? Are they located in separate and distinct buildings?

Air Quality

4. Is the applicant attempting to circumvent control intended by claiming that several boilers are not part of the same operation?

At this time, the definition of "plant site" under **3D .0503** and **.0504** is not equivalent to the definition of "facility" as defined for Title V, PSD, or air toxic purposes.

Allowable Particulate Limits Remain Fixed

Once the allowable particulate emission rate has been determined for an indirect heat exchanger, it remains fixed. The addition or removal of other indirect heat exchangers does not change the allowable emission rate of the remaining or existing indirect heat exchangers.

Burning of Waste Derived Fuels and Materials Including Oils, Solvents, and Chemicals

As a minimum the following information is needed to permit burning of waste derived materials including oils, solvents, and chemicals:

1. type of waste
2. density (pounds/gallon)
3. Btu content (Btu/gallon)
4. ash content (% by weight)
5. sulfur content (% by weight)
6. lead content (% by weight)
7. mercury content

(For uncontaminated lubricating oils, the lead and mercury information is not needed if 100 gallons or less is burned per 24 hours.) If the equipment is subject to the air toxic rules, air toxic emissions also need to be addressed.

Except for waste oil, the owner or operator of the source must obtain a ruling from the NC Division of Waste Management, Hazardous Waste Branch on whether or not RCRA regulations apply. A copy of this ruling needs to be submitted with the application for the air permit.

Air Quality

Uncontaminated or Unadulterated Fuel

Unadulterated fossil fuel means fuel oils, coal, natural gas, liquefied petroleum gas, and wood in which no toxic substances has been added. The term toxic substance refers to substances or contaminants that could result in the emissions of toxic air pollutants regulated under the County air toxic rules or hazardous air pollutants regulated under the federal hazardous air pollutant rules.

Used oil is considered equivalent to unadulterated fuel oil if the toxics are shown to be at a level of no greater concern than those of unadulterated oil. For fuel oil the following parameters should be met:

<u>CONSTITUENT/PROPERTY</u>	<u>ALLOWABLE LEVEL</u>
Arsenic	1 ppm maximum
Cadmium	2 ppm maximum
Chromium	5 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	100°F minimum
Sulfur	1.0% maximum
Ash	1.0% maximum

Laminate Combustion

Rule **3D .0503**, Particulates from Fuel Burning Indirect Heat Exchangers, applies to the combustion of laminate composed of layers of kraft paper and resins. This material is paper and resin waste from the manufacturing process. It is not wood waste. Therefore, Rule 3D .0503 applies.

Paper is not wood. The pulping process changes the property of wood such that it can no longer be considered wood. Wood consists of cells cemented together by intercellular material; lignin is a primary constituent of this intercellular material. The pulping process separates intercellular material from the cells. Much of the lignin found naturally in wood is removed during the pulping process. Wood is reacted with various chemicals that change its physical properties. The wood is chemically changed into pulp. Paper is made from this pulp.

PARTICULATES FROM MICA OR FELDSPAR PROCESSING PLANTS: 3D .0509

Crushing at mica or feldspar processing plants is subject to the same ambient dispersion modeling requirements as quarries.

SAND, GRAVEL, CRUSHED STONE: 3D .0510

Ambient Dispersion Modeling Requirements

Ambient dispersion modeling is required for crushed stone operations if:

1. The crushed stone facility has a crushing capacity of 400 tons per hour in a county where the PSD baseline date has been triggered, or
2. The crushed stone facility has a crushing capacity of 1000 tons per hour in any county.

These criteria are guidelines and may be deviated from in a particular situation for good reason.

Recycled Asphalt Product Crushers

Recycled asphalt product (RAP) crushers manufactured, reconstructed, or modified after August 31, 1983, are subject to 40 CFR Part 60, Subpart OOO (**3D .0524**). If the RAP crusher is not covered under the new source performance standard, it is covered under **3D .0510**. Under **3D .0510** RAP crushers are not considered stone crushing operations and, therefore, are not required to employ water spray.

Wet Suppression at Crushers

3D .0510(c) requires the use of wet suppression at the crusher. According to the hearing record, the phrase “crushers with wet suppression” is synonymous with “use wet suppression at the crusher.” If the material being crushed is not naturally wet, spray bars should be employed to wet the material. If the material being crushed is naturally wet, no spray bars are required. (A material is naturally wet if it is noticeably saturated with water as mined.) In any event, the material should be sufficiently wet such that the visible emissions standard is not violated at the crusher or at any conveyor, screen, or transfer point. This same interpretation applies to crushers covered under **3D .0509**, Particulates from Mica or Feldspar Processing Plants, and **.0511**, Particulates from Lightweight Aggregate Processes.

For the purposes of Title V applicability, potential emissions from rock quarries have been calculated assuming water spray at the crusher. Inspectors should ask the facility to explain the procedures for activating its water suppression system. If the facility does not turn on the water spray until visible emissions are present, its operation is dry, and its potential emissions need to be recalculated accordingly. Any facility that does not run wet material at all times should have its potential emissions calculated on a dry basis. If any quarry insists on operating its crusher without water spray, then its potential emissions need to be recalculated to account for the lack of water spray. The exception would be crushing material that is naturally wet. Wet suppression needs to be used at all times for potential emissions to be calculated on a wet basis.

LIGHTWEIGHT AGGREGATE: 3D. 0511

Crushing at lightweight aggregate facilities are subject to the same ambient dispersion modeling requirements as quarries.

WOOD PRODUCTS FINISHING: 3D .0512

Finishing of Wood

Finishing of wood includes giving final touches to embellish or perfect; giving a desired surface effect; anything used to give a desired surface effect, as paint, varnish, etc.; the way in which the surface, as of furniture, is painted, varnished, smoothed, etc.

Spray Booths

Uncontrolled spray booths in existence (September 6, 1984) may be permitted in compliance with **3D .0512** if the ambient standards and PSD increments are protected and the Department's evaluation indicates no excessive particulate off property. If off property impacts are causing an ambient or nuisance problem, the Department should use monitoring or modeling to resolve the problem. Modeling should be done on a case-by-case basis.

New booths should have particulate controls such as baffles, water wash systems, or filters. For water wash systems, check with the NC Regional Water Quality Section for proper disposal of waste water.

Direct Wood-fired Wood Chip Dryers

Particulate emissions from direct wood-fired wood chip dryers are regulated under **3D .0515** and not under **3D .0512**.

PORTLAND CEMENT PLANTS: 3D .0512

One barrel of cement weighs 376 pounds.

MISCELLANEOUS INDUSTRIAL PROCESSES: 3D .0515

Spray Booths: Wood Products

3D .0512 applies to particulate emissions from painting or finishing of wood or wood products; **3D .0515** does not apply to such processes.

Spray Booths: Non-wood Products

Stack testing is not required for spray booths with acceptable particulate filter systems that are properly operated.

When computing an allowable particulate emission rate for a spray booth, the process rate is determined by adding the weight of all materials entering the process including the weight of the materials being coated.

Internal Combustion Engines

Rule **3D .0515** does not apply to internal combustion engines.

Air Quality

Process Weight Rate

Process weight rate is determined on a unit basis and not a stack basis. The weight of all materials entering a process should be included in determining the allowable emission rate.

Emission Control Standards

Rule **3D .0515** applies to “emissions of particulate matter from any stack, vent, or outlet of any industrial process for which no other *emission control standards* are applicable.” *Emission control standards* means any particulate emission standard found in **3D**. It does not include limits taken to avoid the applicability of any federal or State rule regardless of the averaging time of the limit.

CONTROL OF VISIBLE EMISSIONS: 3D .0521

Rock Cutting Operations

The visible emission limitations of **3D .0521** apply to rock cutting operations.

PARTICULATES FROM FUGITIVE NON-PROCESS DUST EMISSION SOURCES: 3D .0540

Rule **3D .0540** applies only to non-process portions of industries that are required to comply with **3D .0506**, Hot Mix Asphalt Plants, **3D .0509**, Mica and Feldspar Processing, **3D .0510**, Sand, Gravel, or Crushed Stone, or **3D .0511**, Lightweight Aggregate. After the *second* substantive complaint, the owner or operator of a facility subject to this rule has 30 days from receipt of a Director’s letter notifying him of the second complaint to submit a written description of what has been done in the short term to reduce fugitive emissions. The owner or operator has 90 days after receipt of the Director’s letter to submit a control plan that includes all the requirements of Paragraph (e). The facility must be in compliance with the plan within 30 days of the Director’s approval. Being in compliance with the plan does not necessarily mean that any equipment has to be installed and running. Compliance can include an approved schedule for installation or purchase of any necessary equipment. The plan has to include this schedule to be approved. After implementation, if the plan is found not to adequately control emissions, the Director shall require the owner or operator to resubmit the plan with changes to address the deficiencies. A revised plan must be submitted within 90 days of receipt of notification.

Paragraph (d) of **3D .0540** offers the Division of Air Quality the opportunity to bring facilities under this Rule without waiting for two substantive complaints within a year. The Division has two methods: (1) ambient air quality measurements or dispersion modeling that show a violation or potential for violation or (2) Division staff observation of excessive non-process emissions beyond the property line. Division staff determines excessive emissions using common sense and experience with that facility. Factors such as weather should be considered in making an excessive emissions determination.

Air Quality

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**APPENDIX 6
SULFUR DIOXIDE EMISSION STANDARDS**

SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES 3D .0516

In **3D .0516** the emissions limit of 2.3 pounds of sulfur dioxide per million Btu is a stack limitation and not a fuel sulfur-content limitation.

SULFUR DIOXIDE SOURCES WITH SPECIAL SIP CONDITIONS

In Forsyth County R. J. Reynolds Tobacco Co. (Permit #00339R5) operates under special SIP permit conditions for sulfur dioxide emissions.

Air Quality

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**APPENDIX 7
NITROGEN OXIDE EMISSIONS STANDARDS INCLUDING NO_x RACT**

OVERVIEW OF NITROGEN OXIDE REQUIREMENTS

Steam generating units for which construction, modification, or reconstruction commences after June 9, 1989, and that have a maximum design heat input capacity of 100 million Btu/hr or less, but greater than or equal to 10 million Btu/hr are to comply with 40 CFR Part 60, Subpart Dc. Steam generating units for which construction, modification, or reconstruction commences after June 19, 1984, and that have a heat input from fuels combusted in the steam generating unit of greater than 100 million Btu/hr are to comply with 40 CFR Part 60, Subpart Db. Electric utility steam generating units for which construction or modification commences after September 18, 1978, and that are capable of combusting more than 250 million Btu/hr heat input of fossil fuel are to comply with 40 CFR Part 60, Subpart Da. All other coal, gas, or oil-fired boilers in the County with a capacity of 250 million Btu or more are required to comply with **3D .0519**, Control of Nitrogen Dioxide and Nitrogen Oxide Emissions.

Nitric acid plants for which construction or modification commences after August 17, 1971, are to comply with 40 CFR Part 60, Subpart G. All other nitric acid plants and sulfuric acid plants are required to comply with **3D .0519**.

The reasonably available control technology rules for nitrogen oxides contained in Section **3D .1400**, Nitrogen Oxides, apply only in ozone maintenance areas. Currently no sources are required to comply with any of the rules in this Section. Rules in this Section would be implemented in ozone maintenance areas if a violation of the ozone standard is measured. They would be implemented in accordance with the procedures in **3D .1402**, Applicability.

APPLICABILITY: 3D .1402

Exemptions

A facility can be exempted from the requirements of Section **3D .1400** by taking federally enforceable permit limits to limit its potential emissions of nitrogen oxides to less than 100 tons per year and to less than 560 pounds per day from April 1 through October 31.

Air Quality

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**APPENDIX 8
VOLATILE ORGANIC COMPOUND EMISSION STANDARDS
INCLUDING VOC RACT**

OVERVIEW OF VOC CONTROL PROGRAM

There are several air quality regulations which could be applicable to emissions of volatile organic compounds (VOC), such as solvents, chemicals, fuels, etc.

The "general" rule, **3D .0518**, has several provisions. Certain VOC storage and loading operations require controls. Emissions of photochemically reactive solvents, as defined by certain chemical compositions, are limited to 40 pounds per site per day unless the discharge is reduced by 85 percent or unless the source chooses to comply with reasonably available control technology (RACT) or best available control technology (BACT) levels. A source may choose to use RACT or BACT to comply with **3D .0518** instead of reformulating or reducing emissions by 85 percent.

All gasoline service stations and dispensing facilities, gasoline bulk plants, and gasoline bulk terminals in the County are required to comply with the requirements of Section **3D .0900**.

In areas not in compliance with the ozone ambient air quality standards (ozone nonattainment areas), certain categories of existing major sources of VOC are required to comply with the RACT rules contained in Section **3D .0900**. New or modified major VOC sources in ozone nonattainment areas must be controlled to the lowest achievable emission rate (LAER) and provide reductions at existing sources to offset new emissions (**3D .0531**).

In ozone attainment areas, major new or modified VOC sources are required to install BACT to comply with the prevention of significant deterioration requirements in Rule **3D .0530**.

Certain new sources of VOC are required to comply with new source performance standards (NSPS) contained in 40 CFR Part 60, which are adopted by reference in **3D .0524**. Certain sources of VOC are required to comply with the national emission standards for hazardous air pollutants (NESHAP) contained in 40 CFR Part 61 and Part 63. The NESHAP in 40 CFR Part 61 are adopted by reference in **3D .1110**. The requirements in 40 CFR Part 63 are adopted by reference in Rule **3D .1111**. Sources of VOC may also be subject to the requirements of the State's air toxic rules in Section **3D .1100**.

MISCELLANEOUS VOC: 3D .0518

Determining If a Material is Photochemically Reactive

To determine if a solvent is photochemically reactive under **3D .0518**, use the following procedure:

1. Determine the volume percent of all the liquid components, including water, of the solvent as applied. (This should total to 100%.)
2. Determine the structure (or name in some cases) of each component.
3. Group the components according to whether or not they fit the description in Paragraph (d)(1), (d)(2), (d)(3) or none of them. If a component could fall in two groups, it is placed in the more limited group.
4. Total the volume percent for each Paragraph [(d)(1), (d)(2), (d)(3)].

Air Quality

5. If the volume percent for any group exceeds the percent limit for that group or if the total for groups (d)(1), (d)(2), and (d)(3) exceeds 20 percent, then the material is reactive. If none of the limits are exceeded, the material is nonreactive.

Determining If the 40 Pounds-per-day Reactive Material is Exceeded

To determine if more than 40 pounds per day of reactive solvent are emitted,

1. Determine whether a solvent as applied is reactive or nonreactive using the procedures above.
2. Determine the maximum weight of reactive solvent used daily. All reactive solvents used are added together. Compare this weight to 40 pounds per day. [NOTE: If a solvent is determined to be photochemically reactive, all that solvent is considered photochemically reactive; and all the weight of that solvent, including any non-photochemical compounds that it may contain, is used to compare to the 40 pounds per day. Once a solvent is determined to be nonreactive, none of its weight is used in determining total reactive emissions. The presence of a reactive component in a nonreactive solvent does not constitute a reactive emission.]
3. Solvents used in sources to which Reasonably Available Control Technology, New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants, Maximum Achievable Control Technology, Generally Available Control Technology, and Best Available Control Technology are applied to control emissions of volatile organic compounds or hazardous air pollutants that are also volatile organic compounds are not used in determining the total reactive emissions.

Only photochemically reactive solvent losses occurring during the application and drying process are considered. Solvent emissions in preparation of application, including storage, handling, or mixing, are not included in determining compliance with the 40-pounds-per-day limit. However, solvent emissions resulting from cleanup are included in determining compliance. (Purchase records may be used as a conservative estimate of photochemically reactive solvent emissions; however, they are not definitive of noncompliance with **3D .0518(d)**. The facility may use purchase records as a baseline and then subtract out the solvent losses that occurred outside of the application and drying process.)

Compliance on Formulation Basis

As an alternative to complying with **3D .0518(d)**, a facility may opt under **3D .0518(e)** to comply with a reasonably available control technology (RACT) requirement under **3D .0900**, Volatile Organic Compounds. Compliance may be determined on a formulation-by-formulation basis such that the facility may use RACT compliant formulations, non-photochemically reactive formulations, and limit VOC emissions from photochemically reactive formulation to 40 pounds per day. RACT compliant formulations that are also photochemically reactive formulations should not be considered when determining compliance with the 40-pound-per-day limit for photochemically reactive formulations under **3D .0518(d)**.

If a source is demonstrating compliance with **3D .0518(d)** by reducing facility-wide VOC emissions from photochemically reactive formulation by 85 percent, RACT compliance formulation should only be excluded on a source-by-source basis. That is, if an individual source is controlling VOC emissions from photochemically formulations, the control device must be operated continuously, including the periods when RACT compliant formulations are being used.

Air Quality

Water as a Solvent

Water is counted as a solvent. Organic liquid compounds that EPA has determined to have negligible photochemical reactivity (v.i.) are also counted as solvents. (Note: Under Section **3D .0900**, Volatile Organic Compounds, water is not considered a solvent according to the definition of “solvent” in Rule **3D .0901**, Definitions.)

Gum Turpentine

If gum turpentine is used as a solvent, **3D .0518** applies.

Cleanup Solvents

Solvents used for cleanup are included in the 40 pounds-per-day limit.

Gluing Operations

If an organic liquid is used as a carrier in a glue, it is considered a solvent and is regulated under **3D .0518(d)**. If an organic liquid is used as a reactant in a glue, it is not a solvent and is not covered under **3D .0518(d)**. If part of the organic liquid is used as a carrier and part as a reactant, that part used as a carrier, and only that part, is covered under **3D .0518(d)**.

Air Stripping

3D .0518 does not apply to air-strippers.

Air stripping operations are required to be permitted unless they qualify for an exemption under **3Q .0102**.

Architectural Coatings

Architectural coatings for construction and maintenance are not covered under **3D .0518** or any other VOC rule.

Styrene from Fiberglass Product Manufacturing

3D .0518 does not apply to styrene emissions from the manufacturing of fiberglass products because styrene is a by-product of a chemical reaction. It is not being used as a solvent.

Paint Manufacturing

3D .0518(d) does not apply to paint manufacturing facilities. They are covered under **3D .0518(a)**.

Air Quality

List of Compounds that are Non-photochemically Reactive (N) and Photochemically reactive (R)

[NOTE: N means non-photochemically reactive; R1 means photochemically reactive under ¶(d)(1); R2 means photochemically reactive under ¶(d)(2); R3 means photochemically reactive under ¶(d)(3)]

N	A-2 Acetylated Tributyl Citrate	R1	Butadiene
N	A-4 Acetylated Tributyl Citrate	N	Butanol
N	Acetic Acid	N	Butyl Acetate
R1	Acetic Acid Ethenyl Ester	R1	Butyl Acrylate
N	Acetic Anhydride	N	Butyl Aldehyde
N	Acetaldehyde	N	Butyl Benzoate
N	Acetone	N	Butyl Benzyl Phthalate
N	Acetonyl Acetone	N	Butyl Carbitol
N	Acetylated Tributyl Citrate	N	Butyl Carbitol Acetate
N	Acetylene	N	Butyl Cellosolve
R1	Acrolein	N	Butyl Ester
R1	Acrylic Aldehyde	N	Butyl Glycidyl Ether
N	Acrylonitrile	N	Butyl Stearate
R1	Allyl Alcohol	N	Butylated Hydroxytoluene
R1	Allyl Ether	N	Butyne
R1	Allyl Glycidyl Ether	N	Butyraldehyde
N	Aluminum and Compounds	N	C-4-Tributyl Citrate
N	Ammonia	N	Carbitol
N	Ammonium Stearate	N	Carbitol Solvent
N	Amyl Acetate	N	Carbon Disulfide
N	Amyl Alcohol	N	Carbon Tetrachloride
N	Amyl Butyrate	N	Cellosolve
N	Amyl Dimethamino Benzoate	N	Cellosolve Acetate
N	Amyl Ester	N	Chlorobenzene
N	Aniline	N	Chlorodifluoromethane
N	Aziridine	N	Chloroform
N	Benzene	N	Chlorofluorocarbon 11
R2	Benzene Dimethyl	N	Chlorofluorocarbon 113
R1	Benzene Ethenyl	N	Chlorofluorocarbon 114
R1	Benzene Ethenyl Methyl	N	Chlorofluorocarbon 115
N	Benzidine	N	Chlorofluorocarbon 12
N	Benzyl Alcohol (7 Carbons)	N	Chlorofluorocarbon 22
N	Benzyl Chloride	N	Chloropentafluoroethane
N	Benzyl Peroxide	N	Chloroprene
N	BNT	N	Citric Acid
N	Biphenyl	N	Cresols
N	Biphenyl Butyl Benzoate	R2	Cumene
N	Bis (2-Chloroethyl)Ether	N	Cyclohexane
N	Bis (2-Chloroisopropyl)Ether	N	Cyclohexanol
N	Bis (Chloromethyl)Ether	N	Cyclohexanone
N	Borneol	N	Cyclohexylamine

Air Quality

N	C1-C5- N-Paraffins	R3	Ethylbenzene
N	Denatured Ethyl Alcohol	R1	Ethylene
N	Di-Chloroethane	N	Ethylene Diamine
R3	Di-Isobutyl Ketone	N	Ethylene Dibromide
N	Diacetone	N	Ethylene Dichloride
N	Diacetone Alcohol	N	Ethylene Glycol
N	Diallyl Ether	N	Ethylene Glycol Butyl Ester
N	Dichlorobenzene	N	Ethylene Glycol Ethyl Ester
N	Dichlorodifluoromethane	N	Ethylene Glycol Mono Butyl Ether
N	Dichlorotetrafluoroethane	N	Ethylene Glycol Monoethyl Ether Acetate
N	Diethyl Amine	N	Ethylene Glycol Monomethyl Ether
N	Diethyl Aniline	N	Ethylene Glycol N-Butyl Ether
N	Diethyl Cellosolve	N	Ethyne
N	Diethyl Ethanol Amine	N	Fluorocarbon 23
N	Diethyl Ketone	N	Formaldehyde
N	Diethylene Glycol	N	Furfural
N	Diethylene Glycol Monoethyl Ether	R1	Furfuryl Alcohol
N	Diethylene Glycol N-Butyl Ether	R1	Gasoline
N	Diethylheptane	N	Glycol Ether
N	Diisobutyl Carbinol	N	Glycol Monophenyl Ether
R3	Diisobutyl Ketone	N	Guaiacol
N	Diisopropyl Ketone	R1	Gum Turpentine
N	Dimethyl Ether	N	Heptane
N	Dimethyl Formamide	N	Hexane
N	Dimethyl Isophthalate	N	Hexanol
N	Dimethyl Phthalate	N	Hexachlorocyclopentadiene
N	Dimethyl Sulfate	N	Hexamethylenetetramine
N	Dimethyl Terephthalate	R1	Hexene
N	Dimethylacetamide	R2	Indan
N	Dioctyl Phthalate	N	Isobutyl Acetate
N	Dioxane	N	Isobutyl Alcohol
N	Dioxins	N	Isobutyl Isobutyrate
R1	Dipentene	N	Isodecanol
N	Epichlorohydrin	N	Isohexanol
N	Ethane	N	Isooctane
N	Ethanol	R1	Isophorone
N	Ethanol Amides	N	Isopropanol
N	Ethanonitrile	N	Isopropyl Acetate
N	Ethyl Acetate	N	Isopropyl Alcohol
N	Ethyl Alcohol	N	Isopropyl Amine
N	Ethyl Butyl Carbinol	R2	Isopropyl Benzene
N	Ethyl Ester	N	Isopropyl Cellosolve
R3	Ethyl Isoamyl Ketone	N	Isopropyl Ether
N	Ethyl N-Amyl Ketone	N	Kerosene
N	Ethyl N-Butyl Ketone		

Air Quality

N	Ketone	N	N-Butyl Ether
N	Lactol Spirits	N	N-Butyl Propionate
R1	Limonene	N	N-Heptane
N	M-Cresol	N	N-Hexane
N	Maleic Anhydride	N	N-Hexanol
R1	Maleic Diester	N	N-Nitrosodimethylamine
R2	Medium Boiling Aromatic Solvent	N	N-Pentane
R1	Menthadiene	N	N-Propanol
N	Methane	N	N-Propyl Acetate
N	Methanol	N	N-Propyl Alcohol
N	Methyl Acetate	N	N-Propyl Chloride
N	Methyl Alcohol	N	N,N-Diethyl Toluamide
N	Methyl Amine	N	Naphtha (Unless Submitted Otherwise)
N	Methyl Amyl Acetate	N	Naphtha 58 Degrees (Mobil Corp.)
N	Methyl Amyl Alcohol	R2	Naphthalene
N	Methyl Benzene	R2	Naphthol Spirits 66/3
N	Methyl Benzoate	N	Nitrobenzene
N	Methyl Carbitol	N	Nitroethane
N	Methyl Cellosolve	N	Nitromethane
N	Methyl Cellosolve Acetate	N	Nitrosomorpholine
N	Methyl Chloride	N	O-Cresol
N	Methyl Chloroform	N	Octanol
N	Methyl Cyclohexanone	N	Octyl Alcohol
N	Methyl Ethyl Ketone	N	Orthodichlorobenzene
N	Methyl Ethyl Ketoxime	N	P-Dichlorobenzene
R3	Methyl Isoamyl Ketone	R1	Pentadiene
N	Methyl Isobutyl Carbinol	N	Pentane
R3	Methyl Isobutyl Ketone	R3	Pentoxene
N	Methyl N-Amyl Ketone	N	Pentachlorophenol
N	Methyl N-Butyl Ketone	N	Perchloroethylene
N	Methyl N-Heptyl Ketone	N	Phenol
N	Methyl N-Propyl Ketone	N	Phenyl Acetate
R2	Methyl Naphthalene	N	Phenyl Cellosolve
N	Methyl Propane	R1	Phenyl Ethylene
R1	Methyl Propene	N	Phosphine
N	Methyl Stearate	N	Phosgene
N	Methylene Chloride	R2	Pine Oil
R3	MIBK	N	Polychlorinated Biphenyls
N	Mineral Spirits	N	Polycyclic Organic Matter
R2	Mineral Spirits 66/3	N	Polyethylene
N	Monochlorobenzene	N	Polypropylene
N	N-Amyl Butyrate	N	Propanol
N	N-Butyrate Acetate	N	Propylene Dichloride
N	N-Butyl Alcohol	N	Propylene Glycol
N	N-Butyl Cellosolve	N	Propylene Glycol Methyl Ether

Air Quality

N	Polyvinyl Chloride	N	Vinyl Cyanide
N	Radionuclides	N	Vinylidene Chloride
N	Resorcinol	N	VM & P Naphtha
N	Sec Amyl Acetate	R2	Xylene
N	Sec Butyl Ethanol	R2	Xylol
N	Sec-Butyl Acetate	N	1 Nitro Propane
N	Sec-Butyl Alcohol	N	1,1,1-Trichloroethane
R2	Solv G	N	1,3 Butadiene
R2	Solv H-SB	N	1,3 Butylene Glycol
R2	Solvesso 100	N	1,3 Monoisobutylate
R2	Solvesso 150	R2	100 Aromatic Solvent
N	Stearic Acid	R1	100 Solvent
R2	Stoddard Solvent	R1	140 Flash Solvent
R1	Styrene	N	140 Solvent Naphtha
R2	Super Hi Flash Naphtha	R2	150 Aromatic Solvent
R1	Terpenes	R1	150 Solvent
R1	Terpineol	N	2 - Nitro Propane
N	Tetrachloroethane	N	2 Butoxy Ethanol
N	Tetrachloroethylene	N	2 Ethoxy Diethylene Glycol
N	Tetrahydrofuran	N	2 Ethoxy Ethanol
N	Tetrahydrofurfuryl Alcohol	N	2 Isopropoxy Ethanol
R2	Tetralin	R3	2 Pentanone 4 Methyl
N	Textile Spirits 9300	N	2 Butanone Oxime
R3	Toluene	N	2 Butoxyethyl Acetate
R1	Toluene Vinyl	N	2,2,4 Trimethylpentanediol
N	Trichlorobenzene	N	2,4 Pentanedione
N	Trichloroethane	N	2-Ethyl Hexyl Alcohol
N	Trichloroethane 1,1,2	N	2-Ethyl Hexyl D Methamino Benzoate
R3	Trichloroethylene	N	2-Ethyl Hexyl Ester
N	Trichlorofluoromethane	N	2-Ethylhexyl Acetate
N	Trichlorotrifluoroethane	N	2-Methoxyphenol
N	Triethanolamine	N	2-Methylphenol
N	Triethylamine	N	2-Methyl, 1-Propanol
R2	Triethylbenzene	N	2-Methyl Propane
N	Triethylene Glycol	R1	2-Methyl Propene
N	Trifluoromethane	N	2-Nitro Propane
N	Trimethyl Amine	R3	4 Methoxy-4 Methyl-Pentanone-2
N	Tripropylene Glycol Methyl Ether	R2	460 Solvent
R1	Turpentine		
N	Urea		
R1	Varsol (Except No. 18)		
N	Varsol-1		
N	Varsol #18		
R1	Vinyl Acetate		
N	Vinyl Chloride		

Air Quality

Transition from 3D .0518 to 3D .1111

Sources covered under **3D .1111**, Maximum Achievable Control Technology (40 CFR Part 63), are not covered under **3D .0518**. Rule **3D .0518(g)** specifically excludes sources subject to MACT requirements from **3D .0518(d)**. Whenever a MACT standard is promulgated, existing facilities are required to comply by a date specified in the rule. During the period between promulgation of the standard and full compliance with the standard, sources are required to be in compliance with the substantive requirements of **3D .0518(d)** or **(g)**.

Furniture MACT

The wood furniture MACT requires hazardous air pollutant limitations based on the amount of coating applied. In the vast majority of cases, compliance is expected to be achieved by compliant coatings or averaging or a combination of these two. Consequently, compliance with **3D .0518(d)** should be determined on a formulation-by-formulation basis. A facility may use MACT compliant formulations (or a MACT compliant average) for some materials while complying with **3D .0518(d)** for the remaining materials at the facility. MACT compliant formulations or averages that are also photochemically reactive should not be considered when determining facility-wide compliance with **3D .0518(d)**.

For facilities covered under 40 CFR Part 63, Subpart JJ, solvents subject to Subpart JJ used in finishing, contact adhesive, cleaning, and washoff operations are not subject the **3D .0518(d)** and are excluded from **3D .0518** calculations. However, other emission sources, e.g., metal parts degreasing operations not already subject to a MACT, using solvents at a Subpart JJ affected facility that are not in any way subject to Subpart JJ (listed in JJ, emission limits, work practices, etc.) are subject to **3D .0518**.

Loading of Volatile Organic Compounds

To determine if submerged loading or other equivalent emissions reduction technique is needed under **3D .0518(c)**, all loading racks and booms are added for each individual volatile organic compound. If the throughput of any volatile organic compound exceeds 20,000 gallons in any one day, then submerge loading or equivalent is required.

SOIL REMEDIATION AND AIR STRIPPING

Both air strippers and mobile source remediation units (MSRU) should be permitted according to the current rules as emission sources. Either of these sources may take advantage of the insignificant activity exemption provided by **3Q .0102(c)(2)(E)(i)**, the miscellaneous exemption, if the before control potential emissions are below five tons per year and the potential emissions of hazardous air pollutants are below the lesser quantity cutoff emission rate. This exemption is available to sources regardless of whether a control device is installed. Air strippers may also qualify for exemption under **3Q .0102(c)(1)(L)(ix)**, no applicable requirement, if there are no applicable requirements for the unit and if the unit is not at a facility required to have a permit under Title V.

In evaluating the permitting applicability for MSRU, potential emissions should be determined separately for each site, i.e., emissions should not be aggregated to determine applicability. If the MSRU requires permitting, soil at each site should be characterized and compliance demonstrated for each site. If a multiple site permit is issued pursuant to **3Q .0311**, Permitting Facilities at Multiple Temporary Sites, the permit should be issued where the initial site is located. As required by the rules, the permit holder has to notify the Department at least 10 days before each change of site.

DEFINITIONS: 3D .0901

Coating Line

If the coating applicators have a common flashoff area and oven or if coating applicators and their flashoff areas have a common drying oven, then the coating operations are considered to be one coating line. If each coating operation has its own applicator, flashoff area and oven, the coating operation is still considered to be one coating line if the material coated on one is then coated on the other line. If there is a physical connection between coating lines, they are considered to be one line. The connection can be the use of common equipment, flashoff area, or drying oven. The connection can be the article being coated, that is, the same article is coated on each line. However, if each coating line operates independent of the others, then each is considered a different coating line.

Solvent

For the purpose of Section **3D .0900**, “solvent” does not include water. Only organic liquid compounds are considered solvents under this Section.

Volatile Organic Compounds

The following compounds are listed either as not being a volatile organic compound or as having negligible photochemical reactivity:

- carbon monoxide
- carbon dioxide
- carbonic acid
- metallic carbides or carbonates
- ammonium carbonate
- methane
- ethane
- trichlorofluoromethane (chlorofluorocarbon 11, CFC-11)
- dichlorodifluoromethane (chlorofluorocarbon 12, CFC-12)
- chlorodifluoromethane (chlorofluorocarbon 22, HCFC-22)
- trifluoromethane (fluorocarbon 23, HFC-23)
- 1,1,2-trichloro-1,2,2-trifluoroethane (chlorofluorocarbon 113, CFC-113)
- 1,2-dichloro 1,1,2,2-tetrafluoroethane (chlorofluorocarbon 114, CFC-114)
- chloropentafluoroethane (chlorofluorocarbon 115, CFC-115)
- 1,1,1-trichloroethane (methyl chloroform)
- dichloromethane (methylene chloride)
- 1,1,1-trifluoro 2,2-dichloroethane (hydrochlorofluorocarbon 123, HCFC-123)
- 1,1,1,2-tetrafluoroethane (hydrofluorocarbon 134a, HFC-134a)
- 1,1-dichloro 1-fluoroethane (hydrochlorofluorocarbon 141b, HCFC-141b)
- 1-chloro 1,1-difluoroethane (hydrochlorofluorocarbon 142b, HCFC-142b)
- 2-chloro-1,1,1,2-tetrafluoroethane (hydrochlorofluorocarbon 124, HCFC-124)
- pentafluoroethane (hydrofluorocarbon 125, HFC-125)
- 1,1,2,2-tetrafluoroethane (hydrofluorocarbon 134, HFC-134)
- 1,1,1-trifluoroethane (hydrofluorocarbon 143a, HFC-143a)
- 1,1 difluoroethane (hydrofluorocarbon 152a, HFC-152a)

Air Quality

parachlorobenzotrifluoride (PCBTF)
acetone
cyclic, branched, or linear completely methylated siloxanes
perchloroethylene (tetrachloroethylene)
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10mee)
difluoromethane (HFC-32)
ethylfluoride (HFC-161)
1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
1,1,2,2,3-pentafluoropropane (HFC-245ca)
1,1,2,3,3-pentafluoropropane (HFC-245ea)
1,1,1,2,3-pentafluoropropane (HFC-245eb)
1,1,1,3,3-pentafluoropropane (HFC-245fa)
1,1,1,2,3,3-hexafluoropropane (HFC-236ea)
1,1,1,3,3-pentafluorobutane (HFC-365mfc)
chlorofluoromethane (HCFC-31)
1-chloro-1-fluoroethane (HCFC-151a)
1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)
1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane
2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-heptafluoropropane
1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane
2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-heptafluoropropane
methyl acetate
perfluorocarbon compounds that fall into these classes:

- (1) cyclic, branched, or linear completely fluorinated alkanes;
- (2) cyclic, branched, or linear completely fluorinated ethers with no unsaturations;
- (3) cyclic, branched, or linear completely fluorinated tertiary amines with no unsaturations; and
- (4) sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

BULK GASOLINE TERMINALS: 3D .0927

Calculating Throughput

The key in determining whether a facility is a bulk gasoline plant or bulk gasoline terminal is an average daily throughput. If the average daily throughput is more than 20,000 gallons of gasoline, then the facility is a bulk gasoline terminal. If the average daily throughput is less than 20,000 gallons of gasoline, then the facility is a bulk gasoline plant.

Rule **3D .0926**, Bulk Gasoline Plants, describes how to calculate average daily throughput. Average daily throughput of gasoline equals the annual throughput of gasoline divided by 312 days. Rule **3D .0927**, Bulk Gasoline Terminals, does not describe the method to use to calculate average daily throughput. Therefore, to be consistent, average daily throughput of gasoline under Rule **3D .0927** should be calculated by dividing the annual throughput of gasoline by 312 days.

Air Quality

Self-Supporting Structure

A gasoline storage tank with an external steel roof, with a center column and an internal floating roof, equipped with primary and rim-mounted secondary seals satisfies the requirements of **3D .0927(f)**.

Tank out of Service

Under **3D .0927**, Bulk Gasoline Terminals, a tank is considered to have been taken out of service once it has been degassed. A tank that has been emptied so that it may be filled with a different product is not considered to have been taken out of service if it is not degassed.

SOLVENT METAL CLEANING: 3D .0930

In **3D .0930 (e)(2)(B) and (f)(4)(B)** the 10 inches are measured from the top of the design operating level of the vapor zone. The purpose of this requirement is to prevent spraying above the vapor level.

In **3D .0930(e)(2)(C) and (f)(4)(C)** the vapor level control thermostat should be activated when the solvent vapor rises above the design operating level of the vapor zone.

GASOLINE TRUCK TANKS AND VAPOR COLLECTION SYSTEMS: 3D .0932

Under **3D .0932 (d)(5)** the owner or operators of bulk gasoline plants and bulk gasoline terminals are required to monitor (test) their vapor collection systems at least once every year. If after two complete annual checks, no more than 10 leaks are found, the Director may allow a decrease in the frequency of monitoring. If more than 20 leaks are found, the Director may require the frequency of monitoring to be increased. Gasoline service stations and gasoline dispensing facilities are not required to monitor their vapor recovery systems regularly. The Director may require monitoring of gasoline service stations and dispensing facilities on a case-by-case basis when there is cause to believe that the equipment is not properly working.

COATING OF MISCELLANEOUS METAL PARTS AND PRODUCTS: 3D .0934

Lawn mower paints are considered extreme performance coatings. Therefore, the 6.7 pound VOC per gallon of solids standard applies.

GRAPHIC ARTS: 3D .0936

For the purposes of **3D .0936**, a "printing system" referred to in Subparagraph (d)(4) consists of all connected stages in which ink is applied or evaporated, i.e., it includes all interim stages in a continuous process. The combined emissions of all solvents emitted from each such printing system could not exceed 30 percent of what would have been emitted if solvent-borne inks had been used. There is no averaging time; the amount of solvent by volume in the inks, as formulated to comply with Subparagraph (d)(4), must be 30 percent or less of that amount by volume in the inks utilizing solvent

Air Quality

formulation. The formulations of multiple inks may be added together to determine the compliance status of any printing system.

To determine the allowable pounds of solvent per gallon of ink under Subparagraph (d)(4), the following should be used:

$$0.30 \frac{(S_1)(a_1)\%(S_2)(a_2)}{(a_1)\%(a_2)}, \text{ gal of solvents/gal of ink}$$

where S_1 = % solvent by volume of ink 1;

S_2 = % solvent by volume of ink 2;

and inks are mixed at a ratio of $a_1:a_2$.

The permit of a source seeking to comply with **3D .0936** using Subparagraph (d)(4) must go through the public comment process.

VOC EMISSIONS FROM TRANSFER OPERATIONS: 3D .0948

To determine if submerged loading or other equivalent emissions reduction technique is needed under **3D .0948** all loading racks and booms are added for each individual volatile organic compound with a vapor pressure of 1.5 psi or greater. If the throughput of any volatile organic compound exceeds 20,000 gallons in any one day, then submerge loading or equivalent is required.

VAPOR RETURN PIPING FOR STAGE II VAPOR RECOVERY: 3D .0953

3D .0953(d)(5) requires all vapor return and vent piping to be provided with flexible joints or swing joints at each tank connection and at the base of the vent pipe riser where it fastens to a building or other structure. The swing joint is satisfied by 90E elbows with a straight pipe at least four feet long between the two elbows.

TRANSFER EFFICIENCY

The rules in Section **3D .0900** do not account for transfer efficiency. If the owner or operator of a source wants to use transfer efficiency to comply with VOC RACT, he may use the procedures in **3D .0952**, Petition for Alternative Controls. The latest EPA policies and guidance on transfer efficiency should be used.

EMISSIONS TRADING (BUBBLING)

With the exception of **3D .0937**, Manufacture of Pneumatic Rubber Tires, some control strategy in **3D .0936**, Graphic Arts, and possibly **3D .0935**, Factory Surface Coating of Flat Wood Paneling, emissions trading (bubbling) is not allowed in the rules in Section **3D .0900**. If the owner or operator of a source wants to use emissions trading to comply with VOC RACT, he may use the procedures in **3D .0952**, Petition for Alternative Controls. He must follow the procedures in **3D .0501** and the latest EPA policies and guidance on emissions trading.

COMPUTING EMISSION RATES

Computing Emission Rate When Two or More Coatings are Combined

Computing emission rate in lb VOC/gal solids when two or more coatings are combined when applied:

	coating 1	coating 2
Weight of volatiles (lb VOC/gal coating)	V ₁	V ₂
Volume of solids (gal solids/gal coating)	S ₁	S ₂
f ₁ = fraction of final coating as applied composed of coating 1		
f ₂ = fraction of final coating as applied composed of coating 2		
f ₁ + f ₂ = 1		

$$\frac{[(V_1)(f_1)]\%[(V_2)(f_2)]}{[(S_1)(f_1)]\%[(S_2)(f_2)]} \cdot \text{lb VOC/gal solids}$$

or alternatively, if coating as applied is a mixture at the ratio of a₁:a₂

$$\frac{[(V_1)(a_1)]\%[(V_2)(a_2)]}{[(S_1)(a_1)]\%[(S_2)(a_2)]} \cdot \text{lb VOC/gal solids}$$

NOTE: This method works if one of the coatings is 100% solids or 100% solvent.

CONVERSION FROM LB VOC/GAL COATING TO LB VOC/GAL SOLIDS

Given: lb VOC / gal coating (less water) = **A**

Given: VOC density 6 lb VOC / gal VOC = **B**

Step 1 Calculate volume of VOC in 1 gal of coating
gal VOC / gal coating = **J** = **A / B**

Step 2 Calculate volume of solids in 1 gal of coating
gal solids = **K** = **1 - J**

Step 3 Calculate number of gal of coating it takes to get 1 gal of solids
gal coating / gal solids = **L** = **1 / K**

Step 4 Convert lb VOC / gal coating to lb VOC / gal solids
lb VOC / gal solids = **M** = **A (L**

or **M = A * {1 / [1 - (A / B)]}**

Air Quality

APPENDIX 9
111(d) - F, TRS, H₂SO₄

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Air Quality

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**APPENDIX 10
PSD AND NSR**

OVERVIEW OF PSD PROGRAM

EPA Involvement in Forsyth County's PSD Program

Pursuant to the Federal Register notice on February 23, 1982, Forsyth County has been granted full authority by the EPA to implement PSD regulations in Forsyth County, effective May 25, 1982. This means that the Forsyth County Environmental Affairs Department performs the full PSD review and drafts and issues the PSD permit. While Forsyth County has the sole authority to issue or deny the PSD permit, the Department does submit the PSD applications along with the reviews and draft permits to EPA Region 4 for review and comment. These comments are considered by the Department in making a final decision but do not prevent the permit from being issued. The EPA cannot prevent the permit from being issued, but can find Forsyth County's local implementation plan (LIP) deficient if they find the PSD review process does not meet the minimum PSD criteria. A finding of deficiency of a Local program could result in the Regional EPA office taking over the PSD program. The EPA review ensures that the PSD program is being consistently administered throughout the region and nation.

Public Involvement in PSD Program

The PSD regulation specifically addresses the need for public involvement in the decision making process. Once the technical and regulatory review has been performed the Department will draft a "preliminary determination." This includes the application review, draft permit, and a recommendation of whether to issue or deny the permit. The preliminary determination is made available to the public at the Department. Additionally, the Department notifies the public through a newspaper advertisement in a paper of general circulation in the area of the proposed project. This notice includes a brief description of the project, the expected air quality impacts and 30 days to submit written comment. Based on the written public comment a public hearing could be held to discuss possible concerns.

Based on the public comment or hearing, and the EPA comments, the Department will make a "final determination." This final determination is also made available to the public at the Department.

Air Quality

Federal Land Manager Involvement in PSD Program

One of the more recent developments in the PSD program is the active involvement of the Federal Land Managers (FLM). The PSD program was developed to preserve, protect and enhance the air quality in areas of special natural, scenic, or historic value such as national parks and wilderness areas. These protected areas are designated as Class I areas and are afforded additional protection under the PSD program. For example, the allowable increment consumption for Class I areas are lower than Class II or III areas. The Federal Land Managers have an affirmative responsibility to protect air quality related values in these Class I areas. The EPA requires that the Federal Land Manager be notified if the proposed project may impact a Class I area. One of the initial questions that arises is how a proposed project's impact to a Class I area is determined.

The Department notifies the FLM within 30 days of receiving an application if the proposed PSD project is within 200 km of a Class I area. The Department notifies the FLM in order to avoid potential conflict and delay in the latter PSD review stages. The FLM could require additional impacts analysis or air dispersion modeling which could stop the review process and delay a final permit decision for several months.

After notifying the FLM, the Department will act as an intermediary between the applicant and FLM. The Department must concur on any additional analysis that the FLM requires which may be outside the specific act requirements. This is important to note because many of the standards used to protect air quality related values (AQRVs) and estimate impacts are difficult to define; and, therefore, any analysis recommended by the FLM to evaluate impacts, may be somewhat ambiguous and resource intensive. It is the Department's responsibility to decide what analyses are ultimately required.

To determine whether further impact analysis must be performed for a Class I area the Department uses what are referred to as the "Virginia" Class I significance levels. If the modeled impacts at the Class I area are below these significance levels, typically no further analysis is required by the applicant. However, if the Department or the FLM determines that an AQRV will be impacted, regardless of the modeled impacts, they can require the applicant to perform an adverse impact analysis.

Air Quality

The National Park Service (NPS) and the EPA have recently proposed their own Class I significance levels. As stated above the Department typically uses the Virginia Department of Environmental Quality levels, but does recognize the other proposed levels and might compare impacts to these on a case-by-case basis. The following Table summarizes the current Class I proposed impact levels.

Class I Significant Impact Levels (all concentrations in ug/m³)*

Pollutant	Averaging Times	Virginia DEQ Class I Sig. Levels	EPA (4%) Draft Class I Sig. Levels	NPS/FWS Class I Sig. Levels
Sulfur Dioxide	Annual	0.1	0.08	0.025
	24-Hour	0.275	0.2	0.07
	3-Hour	1.23	1.0	0.48
Particulate Matter (PM-10)	Annual	0.27	0.16	0.08
	24-Hour	1.35	0.32	0.27
Nitrogen Dioxide	Annual	0.1	0.1	0.025

* All of these concentrations are recommended (i.e, non-regulatory) values. The PSD regulation does not contain specific significance levels for Class I areas.

As with the EPA comment, the Department has the final decision on permit issuance. The Department prefers to work closely with the FLM in order to avoid unnecessary delays in application review and potential future environmental concerns in North Carolina's Class I areas.

Class I Area Contacts

Joyce Kilmer Slickrock National Wilderness Area

Linville Gorge National Wilderness Area

Shining Rock National Wilderness Area

Contact: Bill Jackson

Phone: (704) 257-4815

Address: USDA Forest Service

Post and Otis Street

Post Office Box 2750

Asheville, North Carolina 28802

Air Quality

James River Face

Contact: Cindy Huber
Phone: (703) 265-6068
Address: USDA Forest Service
5162 Valley Point Parkway
Roanoke, Virginia 24019

Great Smoky Mountains National Park Swan Quarter National Wilderness Area

Contact: John Bunyak
Phone: (303) 969-2818
Address: National park Service
Post Office Box 25287
Denver, Colorado 80255

PSD Applicability

PSD requirements apply to a "major stationary source" or a "major modification."

"Major stationary source" means (40CFR 51.166(b)(1)): (i) (a) *any of the following stationary sources of air pollutants that emit, or has the potential to emit, 100 tons per year or more of any pollutant subject to regulation under the Act: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants, primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants, fossil fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants;*

(b) *Notwithstanding the stationary source size specified in paragraph (b)(1)(i)(a) of this section, any stationary source that emit, or has the potential to emit, 250 tons per year or more of any air pollutant subject to regulation under the Act; or*

(c) *Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source, if the change would constitute a major stationary source by itself.*

(ii) *A major source that is major for volatile organic compounds shall be considered major for ozone.*

(iii) *The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this section whether it is a major stationary source, unless the source belongs to one of the following categories of stationary sources:*

(a) *Coal cleaning plants (with thermal dryers),*

(b) *Kraft pulp mills;*

(c) *Portland cement plants;*

Air Quality

- (d) *Primary zinc smelters;*
- (e) *Iron and steel mills;*
- (f) *Primary aluminum ore reduction plants;*
- (g) *Primary copper smelters;*
- (h) *Municipal incinerators capable of charging more than 250 tons of refuse per day;*
- (i) *Hydrofluoric, sulfuric, or nitric acid plants;*
- (j) *Petroleum refineries;*
- (k) *Lime plants;*
- (l) *Phosphate rock processing plants;*
- (m) *Coke oven batteries;*
- (n) *Sulfur recovery plants;*
- (o) *Carbon black plants (furnace process);*
- (p) *Primary lead smelters;*
- (q) *Fuel conversion plants;*
- (r) *Sintering plants;*
- (s) *Secondary metal production plants;*
- (t) *Chemical process plants;*
- (u) *Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;*
- (v) *Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;*
- (w) *Taconite ore processing plants;*
- (x) *Glass fiber processing plants;*
- (y) *Charcoal production plants;*
- (z) *Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input and;*
- (aa) *Any other stationary source category which as of August 7, 1980, is being regulated under section 111 or 112 of the Act.*

"Major modification" means (40CFR 51.166(a)(2)):

- (i) *Major modification means any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act.*
- (ii) *Any net emissions increase that is significant for volatile organic compounds shall be considered significant for ozone.*
- (iii) *A physical change or change in the method of operation shall not include:*
 - (a) *Routine maintenance, repair, and replacement;*
 - (b) *Use of an alternative fuel or raw material by reason of an order under section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;*
 - (c) *Use of an alternative fuel by reason of an order or rule under section 125 of the Act.;*
 - (d) *Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;*

Air Quality

- (e) *Use of an alternative fuel or raw material by a stationary source which:*
 - (1) *The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or §51.166; or*
 - (2) *The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166;*
- (f) *An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or §51.166.*
- (g) *Any change in ownership at a stationary source.*
- (h) *The addition, replacement or use of a pollution control project at an existing electric utility steam generating unit, unless the Administrator determines that such addition, replacement, or use renders the unit less environmentally beneficial, or except:*
 - (1) *When the reviewing authority has reason to believe that the pollution control project would result in a significant net increase in representative actual annual emissions of any criteria pollutant over levels used for that source in the most recent air quality impact analysis in the area conducted for the purpose of Title I, if any and*
 - (2) *The reviewing authority determines that the increase will cause or contribute to a violation of any national ambient air quality standard or PSD increment, or visibility limitation.*
- (i) *The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:*
 - (1) *The State implementation plan for the State in which the project is located, and*
 - (2) *Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.*
- (j) *The installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, provided that the project does not result in an increase in the potential to emit of any regulated pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis.*
- (k) *The reactivation of a very clean coal-fired electric utility steam generating unit.*

Modifications

To determine if the proposed modification will trigger a PSD review, the following three questions should be asked:

- 1) Is this a physical change OR change in the method of operation?
- 2) Is this physical change or change in the method of operations exempted as a modification under 40 CFR 51.166 (b)(2)(iii)?

Air Quality

3) Does this modification result in a net emissions increase above the significance levels?

There are changes listed in the regulation that are NOT considered "modifications." These are listed under 40 CFR 51.166 (b)(2)(iii). It is important to be cognizant of these exceptions and use these when possible. Please review the CFR for the exact language; however, the three most important exemptions are:

- 1) Routine maintenance, repair, and replacement;
- 2) Use of alternative fuel or raw material that the source was capable of accommodating before January 6, 1975;
- 3) An increase in the hours of operation or production rate.

Emissions from maintenance operations occurring in a hush house, including jet engine emissions, are not considered for PSD applicability. See Appendix 27 for a description of a hush house.

PSD Significance Levels

The following is a list of PSD regulated pollutants and their respective significance levels as listed in 40 CFR 51.166 (b)(23)(i):

Pollutant	Significance Level (tpy)
Carbon Monoxide	100
Nitrogen Dioxide	40
Sulfur Dioxide	40
Particulate (PM/PM-10)	25/15
Ozone (VOC)	40 (VOC)
Fluorides	3
Sulfuric Acid Mist	7
Total Reduced Sulfur Compounds (including H ₂ S)	10
Municipal Waste Combustor Organics	3.5 x 10 ⁻⁶
Municipal Waste Combustor Metals	15
Lead	0.6
Municipal Solid Waste Landfills Emissions (measured as nonmethane organic compounds)	50

Major and Minor Source Baseline Dates

The concept of major and minor source baseline dates are used in determining the emissions sources that will be included in a modeling exercise to demonstrate protection of the PSD increments for PM-10, SO₂, and NO_x. The amount of PSD increment that has been consumed in a particular area is determined by the emission increases and decreases which have occurred since both the major source and minor source baseline dates were triggered. As stated earlier, PSD increments are the maximum increases in ambient pollutant concentrations allowed over a baseline concentration. The use of the term

Air Quality

"baseline" is somewhat misleading. When a PSD increment analysis is performed, the existing baseline air quality does not have to be determined.

Major Source Baseline

The major source baseline dates were set by the PSD regulations and are shown below:

<u>Pollutant</u>	<u>Major Source Baseline Date</u>
Particulate	January 6, 1975
Sulfur Dioxide	January 6, 1975
Nitrogen Dioxide	February 8, 1988

An increment analysis should include all actual emission increases occurring at major stationary sources (grand fathered sources included) after the Major Source Baseline Date which are associated with physical changes or changes in the method of operation. As a general rule, all modifications at major stationary sources after the major source baseline date consume increment.

Minor Source Baseline

The Department considers a PSD triggered county as a county in which a complete PSD application has been submitted and the proposed air quality impacts resulting from that proposed project are significant. This pollutant specific trigger is what is referred to as triggering the "minor source baseline." For practical purposes, once a county is triggered for a particular pollutant, the Department tracks all modifications by all sources (PSD and non-PSD sources) in that county that result in increases of that pollutant of greater than 1 pound per hour. The Department tracks this "increment consumption" to ensure that as a result of industrial growth the allowable increment, as allowed under the PSD program, is protected.

Once a county is triggered, the next facility that submits an application that undergoes a PSD review, must evaluate whether there is available air quality increment. This applicant must model his additional impact PLUS all increases in increment consumption since the minor source baseline date was triggered for that pollutant, PLUS all increment consumption from major stationary sources after the major source baseline date. This modeled impact must be below the PSD allowable increment level. As stated before the major source baseline dates are fixed by regulation and the most current list of minor source baseline triggered counties may be obtained from the Department.

Pre and Post Construction Ambient Monitoring

The PSD program requires, as part of the preapplication analysis, that the applications shall contain an analysis of the ambient air quality in the area of the major source or major modification. The Department has the discretion to allow sources to rely on existing County data to satisfy this monitoring requirement. The Department follows the federal program and uses the "Significant Monitoring Concentrations" to determine if additional monitoring is required.

If the modification indicates impacts above the "Significant Monitoring Concentrations," in general, the continuous air quality monitoring data that are required should be gathered for one year preceding submission of the application. This often represents a severe time restriction and cost prohibition on major industrial proposals. For these reasons the Department will allow, in most cases, for applicants to propose to use existing ambient monitors as the required background necessary to

Air Quality

satisfy the regulatory requirement. The Department positions and maintains these monitors throughout the County, and the data collected can be considered as representative of the existing air quality near the proposed modification provided the source is located near and in the correct meteorological location with the monitor. To determine if one of these monitors will suffice for pre-construction monitoring, the Department must evaluate the selection and approve the site.

In certain cases where the Department determines necessary, post-modification monitoring may be required. The criteria used to make a determination of post-construction monitoring include existing air quality in the area of the source and how close the impacts of the source are to the National Ambient Air Quality Standards (NAAQS). The Department will generally make this determination during the review process.

If a source is required to perform ambient air monitoring or meteorological monitoring, the source should contact the Department for further guidance before purchasing or installing monitoring equipment.

Best Available Control Technology

In preparing the BACT analysis, the Department recommends that the applicant follow the "top-down" approach. The sections should address the effects of non-PSD regulated pollutants including the North Carolina toxic air pollutants (TAP). In evaluating these pollutants, the applicant is advised to model the TAP and compare the modeled concentrations to the acceptable ambient levels (AAL). This does not mean to imply that the source has been triggered under the Forsyth County program. The air toxics program has a distinct applicability determination. The results of this analysis are used merely as a possible factor in the BACT selection process. If one control technology could be shown to control toxic emissions more effectively than a secondary technology, this would be one factor to consider in the selection process.

CONSTRUCTION ACTIVITIES BEFORE RECEIPT OF PSD PERMIT

The PSD regulation 40 CFR Part 52.21(i)(1) requires an applicable source to obtain a PSD permit before it may "begin actual construction." The PSD rule 40 CFR 52.21(b)(11) defines "begin actual construction" as the ". . . initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. . . With respect to a change in the method of operations, this term refers to those on-site activities other than preparatory activities which mark the initiation of the change." Entering into binding agreements or contractual obligations are not prohibited under this definition and are, therefore, allowed under the PSD rules before obtaining a PSD permit. Any person who chooses to undertake these activities before obtaining the required PSD permit does so at his own risk that a permit may not be issued or may not contain the terms that the applicant desires.

The PSD rules do not prohibit site clearing or grading activities before receiving a PSD permit. Allowed preconstruction activities also include ordering materials and temporary storage on site. However, construction activities that are of a permanent nature may not begin before issuance of the PSD permit.

Prohibited (permanent or preparatory) preconstruction activities under 40 CFR 52.21(b)(11) and (i)(1) include any construction that is costly, significantly alters the site, or permanent in nature. This includes (1) excavating, blasting, removing rock and soil, and backfilling, and (2) installing footings, foundations, permanent storage structures, pipes, and retaining walls.

Air Quality

40 CFR 52.21(i) prohibits any preconstruction “intended to accommodate” an “emissions unit” or which is an “integral part of the source or modification.” This is supported by the definition of “emissions unit” at 40 CFR 52.21(b)(7), which “means any part of a stationary source which emits or would have the potential to emit any pollutant . . .” “Intended to accommodate” means “if the construction activity is an integral part of the PSD source or modification, the source must obtain a PSD permit prior to construction. In other words, if the construction would not serve in accordance with its original intent except for inclusion of the emissions unit, such construction is prohibited prior to obtaining a PSD permit.” However, the PSD rules do not prohibit general construction unrelated to the emissions unit(s) in question before receipt of a PSD permit.

REACTIVATION OF SHUTDOWN SOURCE

If a major emission source has been shut down permanently, reactivation may subject the source to major New Source Review. A shutdown lasting for two years or more, or resulting in removal of the source from the emissions inventory of the County, should be presumed permanent. (For a source to remain in the County’s emissions inventory, it would have to remain on the facility’s permit.) The owner or operator proposing to reopen the source would have the burden of showing that the shutdown was not permanent, and of overcoming any presumption that it was. Whether a shutdown lasting two years is permanent is based on the intent of the owner or operator. The intention of an owner or operator to keep a source shutdown temporary, is evaluated on a case-by-case basis when reactivation is proposed. In addition to the duration of the shutdown, the Department will consider maintenance of the facility during the shutdown and the time and capital necessary to bring the source on-line.

Although a facility may choose to accept a federally enforceable permit condition to avoid Title V permitting requirements, relaxation of those limitations after the shutdown would result in PSD increment consumption. To maintain the major source status and avoid increment consumption when a source is reactivated, the air quality permit reflects the potential emissions of the sources that are temporarily shutdown.

PSD AVOIDANCE

To avoid prevention of significant deterioration requirements, merely limiting the potential to emit to either less than major or less than de minimus is not sufficient. To avoid PSD requirements, either production and operational restrictions or emissions limitations are necessary. A combination of production and operational restrictions and emissions limitations may be used to avoid PSD.

Production and operational limitations place restrictions on a source’s operating rate or rate of material throughput. The maximum averaging time that EPA considers to be federally enforceable for production and operational restrictions is one month although longer daily or monthly rolling averages may be appropriate in some instances. Examples of production and operational restrictions are hours of operation, gallons of coating per job or unit of time, million Btu per unit of time, fuel combusted per unit of time, and material processed per unit of time.

Emissions limitations place restrictions directly on the source’s pollutant emission rate. For emissions limitations to be federally enforceable, they must be short term and specific to enable compliance to be determined anytime. Examples of emissions limitations are pounds of VOC per gallon

Air Quality

of coating, pounds of VOC per hour, pounds of sulfur dioxide per million Btu, pounds of sulfur dioxide per hour, or grains of particulate per dry standard cubic foot. EPA does not consider emissions limitations on a yearly basis alone, e.g., tons per year or a rolling yearly average, to be federally enforceable. The averaging time policy for production and operational limitations does not apply to emissions limitations. Emissions limitations for VOC should not exceed 24 hours.

The following types of permit limitations are federally enforceable and may be used to avoid PSD:

1. the capacity of the equipment itself,
2. the effect of pollution control equipment,
3. any federally enforceable limits on hours of operation, and
4. any federally enforceable restrictions on amounts of materials combusted or produced.

Air Quality

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**APPENDIX 11
NSPS**

PART 60 NSPS ADOPTED BY THE COUNTY

fossil fuel-fired steam generators for which construction is commenced after August 1, 1971 (40 CFR 60.40 to 60.47, Subpart D)

electric utility steam generating units for which construction is commenced after September 18, 1978 (40 CFR 60.40a to 60.49a, Subpart Da)

industrial-commercial-institutional steam generating units (40 CFR 60.40b to 60.49b, Subpart Db)

small industrial-commercial-institutional steam generating units (40 CFR 60.40c to 60.48c, Subpart Dc)

incinerators (40 CFR 60.50 to 60.54, Subpart E)

municipal waste combustors (40 CFR 60.50a to 60.59a, Subpart Ea)

municipal waste combustors for which construction is commenced after September 20, 1994 (40 CFR 60.50b to 60.59b, Subpart Eb)

hospital, medical, and infectious waste incinerators for which construction is commenced after June 20, 1996 (40 CFR 60.50c to 60.58c, Subpart Ec)

portland cement plants (40 CFR 60.60 to 60.66, Subpart F)

nitric acid plants (40 CFR 60.70 to 60.74, Subpart G)

sulfuric acid plants (40 CFR 60.80 to 60.89, Subpart H)

asphalt concrete plants (40 CFR 60.90 to 60.99, Subpart I)

petroleum refineries (40 CFR 60.100 to 60.109, Subpart J)

storage vessels for petroleum liquids for which construction, reconstruction, or modification commenced after June 11, 1973, and prior to May 19, 1978 (40 CFR 60.110 to 60.113, Subpart K)

storage vessels for petroleum liquids, for which construction, reconstruction, or modification commenced after May 18, 1978 and prior to July 23, 1984 (40 CFR 60.110a to 60.119a, Subpart Ka)

volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after July 23, 1984 (40 CFR 40 CFR 60.110b to 60.117b, Subpart Kb)

Air Quality

secondary lead smelters (40 CFR 60.120 to 60.123, Subpart L)

secondary brass and bronze ingot production plants (40 CFR 60.130 to 60.133, Subpart M)

iron and steel plants (40 CFR 60.140 to 60.144, Subpart N)

basic oxygen process steel making facilities for which construction is commenced after January 20, 1983: (40 CFR 60.140a to 60.145a, Subpart Na)

sewage treatment plants (40 CFR 60.150 to 60.159, Subpart O)

primary copper smelters (40 CFR 60.160 to 60.166, Subpart P)

primary zinc smelters (40 CFR 60.170 to 60.176, Subpart Q)

primary lead smelters (40 CFR 60.180 to 60.186, Subpart R)

primary aluminum reduction plants (40 CFR 60.190 to 60.195, Subpart S)

phosphate fertilizer industry: wet process phosphoric acid plants (40 CFR 60.200 to 60.204, Subpart T)

phosphate fertilizer industry: superphosphoric acid plants (40 CFR 60.210 to 60.214, Subpart U)

phosphate fertilizer industry: diammonium phosphate plants (40 CFR 60.220 to 60.224, Subpart V)

phosphate fertilizer industry: triple superphosphate plants (40 CFR 60.230 to 60.234, Subpart W)

phosphate fertilizer industry: granular triple superphosphate storage facilities (40 CFR 60.240 to 60.244, Subpart X)

coal preparation plants (40 CFR 60.250 to 60.254, Subpart Y)

ferroalloy production facilities (40 CFR 60.260 to 60.266, Subpart Z)

steel industry: electric arc furnaces constructed after October 21, 1974 and on or before August 17, 1983 (40 CFR 60.270 to 60.276, Subpart AA)

steel plants: electric arc furnaces and argon-oxygen decarburization vessels constructed after August 17, 1983 (40 CFR 60.270a to 60.276a, Subpart AAa)

kraft pulp mills (40 CFR 60.280 to 60.286, Subpart BB)

glass manufacturing plants (40 CFR 40 CFR 60.290 to 60.296, Subpart CC)

grain elevators (40 CFR 60.300 to 60.304, Subpart DD)

Air Quality

surface coating of metal furniture (40 CFR 60.310 to 60.316, Subpart EE)

stationary gas turbines (40 CFR 60.330 to 60.335, Subpart GG)

lime manufacturing plants (40 CFR 60.340 to 60.344, Subpart HH)

lead-acid battery manufacturing (40 CFR 60.370 to 60.374, Subpart KK)

metallic mineral processing plants (40 CFR 60.380 to 60.386, Subpart LL)

automobile and light duty truck surface coating operations (40 CFR 60.390 to 60.398, Subpart MM)

phosphate rock plants (40 CFR 60.400 to 60.404, Subpart NN)

ammonium sulfate manufacturing (40 CFR 60.420 to 60.424, Subpart PP)

graphic arts industry: publication rotogravure printing (40 CFR 60.430 to 60.435, Subpart QQ)

pressure sensitive tape and label surface coating operations (40 CFR 60.440 to 60.447, Subpart RR)

industrial surface coating: large appliances (40 CFR 60.450 to 60.456, Subpart SS)

metal coil surface coating (40 CFR 60.460 to 60.466, Subpart TT)

asphalt processing and asphalt roofing manufacture (40 CFR 60.470 to 60.474, Subpart UU)

equipment leaks of VOC in the synthetic organic chemicals manufacturing industry (40 CFR 60.480 to 60.489, Subpart VV)

beverage can surface coating industry (40 CFR 60.490 to 60.496, Subpart WW)

bulk gasoline terminals (40 CFR 60.500 to 60.506, Subpart XX)

rubber tire manufacturing industry (40 CFR 60.540 to 60.548, Subpart BBB)

volatile organic emissions from the polymer manufacturing industry (40 CFR 60.560 to 60.566 except 40 CFR 60.562-2(c), Subpart DDD)

flexible vinyl and urethane coating and printing (40 CFR 60.580 to 60.585, Subpart FFF)

equipment leaks of VOC in petroleum refineries (40 CFR 60.590 to 60.593, Subpart GGG)

synthetic fiber production facilities (40 CFR 60.600 to 60.604, Subpart HHH)

Air Quality

volatile organic compound emissions from the synthetic organic chemical manufacturing industry air oxidation unit processes (40 CFR 60.610 to 60.618, Subpart III)

petroleum dry cleaners (40 CFR 60.620 to 60.625, Subpart JJJ)

onshore natural gas processing plants: equipment leaks of volatile organic compounds (40 CFR 60.630 to 60.636, Subpart KKK)

onshore natural gas processing: SO₂ emissions (40 CFR and 60.640 to 60.648, Subpart LLL)

volatile organic compound emissions from synthetic organic chemical manufacturing industry distillation operations (40 CFR 60.660 to 60.668, Subpart NNN)

nonmetallic mineral processing plants (40 CFR and 60.670 to 60.676, Subpart OOO)

wool fiberglass insulation manufacturing (40 CFR 60.680 to 60.685, Subpart PPP)

volatile organic compound emissions from petroleum refinery wastewater systems (40 CFR 60.690 to 60.699, Subpart QQQ)

volatile organic compound emissions from the synthetic chemical manufacturing industry reactor processes (40 CFR 60.700 to 60.708 except 40 CFR 60.703(e), Subpart RRR)

magnetic tape coating facilities (40 CFR 60.710 to 60.718, Subpart SSS)

industrial surface coating: surface coating of plastic parts for business machines (40 CFR 60.720 to 60.726, Subpart TTT)

calciners and dryers in mineral industries (40 CFR 60.730 to 60.737, Subpart UUU)

polymeric coating of supporting substrates facilities (40 CFR 60.740 to 60.748, Subpart VVV)

municipal solid waste landfills (40 CFR 60.750 to 60.759, Subpart WWW)

RECONSTRUCTION

40 CFR 60.15 of the New Source Performance Standards (NSPS) specifies that reconstruction occurs if the fixed capital costs of the new components exceed 50 percent of the fixed capital cost of a comparable entirely new facility (source) and if it is technologically and economically feasible for the facility (source) to comply with the applicable NSPS. Fixed capital cost is the capital needed to provide all the depreciable components, including the costs of engineering, purchase and installation of major process equipment, contractor fees, instrumentation, auxiliary facilities, buildings, and structures. Costs associated with the purchase and installation of air pollution control equipment are only included in the fixed capital cost to the extent that the equipment is required as part of the manufacturing or operating

Air Quality

process. When determining nonconstruction costs, care should be exercised to include only those costs associated with the reconstructed affected sources.

SUBPART Db – INDUSTRIAL-COMMERCIAL- INSTITUTIONAL STEAM GENERATING UNITS

Applicability to Kilns and Process Dryers

40 CFR Part 60, Subpart Db, does not apply to devices that either (1) combust fuel but do not transfer heat from the combustion gases to a heat transfer medium or (2) transfer heat to a heat transfer medium by direct contact or intermixing of the combustion gases and the heat transfer medium. Process dryers and kilns fall into this latter category and, therefore, are not covered under 40 CFR Part 60, Subpart Db.

Avoiding Applicability by Permit Limitation

A steam generating unit cannot avoid the applicability of Subpart Db by a permit restriction limiting the unit to a maximum heat input of less than 100 million Btu per hour. If the unit is designed or capable of firing greater than 100 million Btu per hour of heat input, then the unit is subject to 40 CFR Part 60, Subpart Db.

Steam generating units that have design firing rates of 90 to 100 million Btu per hour should be required to monitor fuel feed rates continuously and to perform daily analysis of the fuel for Btu content to ensure that the unit does not exceed 100 million Btu per hour of heat input. Reporting fuel feed rates as hourly averages is recommended. If any hourly fuel feed rate and corresponding Btu content indicate a greater than 100 million Btu per hour of heat input, then the steam generating unit would be considered subject to Subpart Db from the date that 100 million Btu per hour of heat input is exceeded.

SUBPART Dc – SMALL INDUSTRIAL-COMMERCIAL- INSTITUTIONAL STEAM GENERATING UNITS

Reporting

Where the only fuel burned by a unit covered under 40 CFR Part 60, Subpart Dc, is natural gas or distillate oil (No. 2 fuel oil) with a sulfur content less than 0.5 percent and compliance is demonstrated by using supplier certification, monthly fuel usage records may be reported instead of daily fuel usage.

Applicability to Direct Fired Water Heaters

40 CFR Part 60, Subpart Dc, does not apply to direct-fired water heaters. Subpart Dc does not apply if heat transfer occurs as the result of direct contact between combustion gases and the material being heated. If the water heater uses packing material to transfer heat to the water and the combustion gases used to heat the packing material also come in direct contact with the water being heated, then this is a direct heat exchange; and 40 CFR Part 60, Subpart Dc, does not apply.

If a device combusts any fuel to heat water and a physical barrier separates the water and the hot combustion gases, the device is subject to 40 CFR Part 60, Subpart Dc, if its maximum design heat input capacity is between 10 million Btu per hour and 100 million Btu per hour and if it were constructed, reconstructed, or modified after June 9, 1989. The end use of the heated water is irrelevant.

Air Quality

Applicability to Kilns and Process Dryers

40 CFR Part 60, Subpart Dc, does not apply to devices that either (1) combust fuel but do not transfer heat from the combustion gases to a heat transfer medium or (2) transfer heat to a heat transfer medium by direct contact or intermixing of the combustion gases and the heat transfer medium. Process dryers and kilns fall into this latter category and, therefore, are not covered under 40 CFR Part 60, Subpart Dc.

SUBPART E AND Ea – MUNICIPAL WASTE COMBUSTORS

Air Curtain Burners

An air curtain burner that burns both yard waste (trees, logs, large brush, stumps relatively free of soil, tree surge debris) and wood (clean dry lumber, such as pallets) may be subject to 40 CFR Part 60, Subpart E or Ea. If it burns exclusively yard wastes, with no pallets or other solid waste components (paper, wood, food waste, leather, rubber, or other combustible and noncombustible materials), it is not subject to 40 CFR Part 60, Subpart E or Ea. Air curtain burners not covered under new source performance standards are covered under **3D .1904**, Air Curtain Burners. Under **3D .1904** only land clearing and yard waste material may be burned in an air curtain burner.

Air curtain burners subject to 40 CFR Part 60, Subpart E must be constructed to comply with the testing requirements set forth in that standard.

SUBPART I - ASPHALT BATCH PLANTS

Recycle Asphalt Product Crushers

40 CFR Part 60, Subpart I, Asphalt Batch Plants, does not apply to recycle asphalt product crushers or to any cold aggregate handling at an asphalt batch plant. Recycle asphalt product crushers are covered under 40 CFR Part 60, Subpart OOO, Nonmetallic Mineral Processing Plants. Subpart I does apply to mineral filler silos and conveying systems as well as systems for handling material from air pollution control equipment.

New Silos at Asphalt Concrete Plants

The construction of a new silo at an asphalt concrete plant does not subject the facility to 40 CFR Part 60, Subpart I.

Lime Storage Silo

Lime storage silos at a hot mix asphalt plant covered under 40 CFR Part 60, Subpart I are subject to the NSPS opacity standard. However, the silo would not be subject to the initial performance test requirements because no active control device is installed on the silo and no stack is associated with the silo.

Pugmill Dump

The opacity standard of 40 CFR Part 60, Subpart I, does not apply to blue smoke emissions at the opening of the pugmill dump during loading of hot mix asphalt concrete into trucks.

SUBPART EE – SURFACE COATING OF METAL FURNITURE

Industries Covered

Under 40 CFR Part 60, Subpart EE, the coating of metal furniture parts or products is industry specific and is based on Standard Industrial Classification (SIC). Metal furniture parts or products are coated in the following industrial categories:

Metal household furniture (SIC 2514)

- dining and breakfast furniture
- kitchen furniture
- porch, lawn, and outdoor furniture
- other metal household furniture
- metal household furniture, not specified by kind

Metal office furniture (SIC 2522)

- metal office seating
- desks
- cabinets and cases
- other metal office furniture including tables, standard, etc.
- metal office furniture, not specified by kind

Public building and related furniture (SIC 2531)

- school furniture, except stone and concrete
- public building and related furniture, except school furniture
- public school furniture, not specified by kind

Metal partitions and fixtures (SIC 2542)

- metal partitions
- metal shelving and lockers
- metal storage racks and accessories
- metal fixtures for stores, banks, offices, and miscellaneous fixtures
- metal partitions, shelving, lockers, fixtures, not specified by kind.

Coating Lines

Two finishing lines that operate independent of each other are considered two “surface coating operations.” However, two finishing lines that depend on each other are considered one “surface coating operation” for the purpose of 40 CFR Part 60, Subpart EE.

A “surface coating operation” is “the system on a metal furniture surface coating line used to apply and dry or cure an organic coating on the surface of the metal furniture part or product. The surface coating operation may be a prime coat or a top coat operation and includes the coating application station(s), flash-off area, and curing oven.”

SUBPART FFF – FLEXIBLE VINYL COATING AND URETHANE COATING AND PRINTING

40 CFR Part 60, Subpart FFF does not apply to coating and printing processes in which the gravure cylinder does not directly print or coat onto the web.

SUBPART 000 - NONMETALLIC MINERAL PROCESSING PLANTS

40 CFR Part 60, Subpart 000 applies to the following in fixed or portable nonmetallic mineral processing plants: crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and enclosed truck or railcar loading station. Any process listed in 40 CFR Part 60.670(a) is subject to Subpart 000 if crushing or grinding occurs anywhere at the plant regardless of its location. The crushing or grinding does not have to occur before the process to cause that process to be covered under Subpart 000.

Both a mass emissions test and an opacity test are required to demonstrate initial compliance with 40 CFR Part 60, Subpart 000, Nonmetallic Mineral Processing Plants. For opacity tests, a consecutive six-minute average should be used.

Transfer points from crushers and screens to belt conveyors and belt-to-belt transfer points require testing. Transfer points from a belt to a stockpile are not subject to 40 CFR Part 60, Subpart 000.

40 CFR Part 60, Subpart 000, applies to any system for crushing and subsequent handling of recycled asphalt product (RAP). However, if a crusher is not present, Subpart 000 does not apply. It also applies to plants that crush or grind recycled concrete or brick.

40 CFR Part 60, Subpart 000, applies to portable cement treated base plants if they process nonmetallic minerals that are crushed or ground on the same plant site. However, a cement treated base plant that processes nonmetallic minerals crushed at the plant site on which the cement treated base plant is located is exempt from Subpart 000 if the main plant qualifies for one of the exemptions in 40 CFR 60.670(c).

If a portable nonmetallic mineral processing plant that has its own crushers is located on the same site as another plant that also has its own crushers, the applicability of Subpart 000 to the two plants must be evaluated separately. If the portable plant that has a fines crusher qualifies for one of the exemptions in 40 CFR 60.670(c), it would not be subject to Subpart 000, regardless of whether the equipment in the main plant is subject to Subpart 000.

40 CFR Part 60, Subpart 000, does not apply glass crushers.

Dewatering screens subject to 40 CFR Part 60, Subpart 000 may be granted performance waivers on a case-by-case basis.

Cyclones, log washers, classifiers, sand screws, cement silos, and chutes are *not* considered affected equipment under 40 CFR Part 60, Subpart 000.

Feeders before the initial crusher are not affected by 40 CFR Part 60, Subpart 000. Transfer points within a pug mill may be subject to 40 CFR Part 60, Subpart 000.

Grizzlies that serve as screening operations for truck dumping are exempt from 40 CFR Part 60, Subpart 000. Grizzlies that are not associated with truck dumping are subject to the rule.

Feed hoppers and hoppers under screens are typically used to collect and convey material to the next process. When these units are used in this fashion, they would not be considered storage bins. However, if these units are used temporarily to store material, they would be considered “storage bins” as defined in 40 CFR 60.671. Where applicable, Method 9 readings should be considered at both discharge and loading points.

40 CFR Part 60, Subpart 000, does not apply to any facility that has no crushing or grinding equipment present. It does not apply to stand-alone screening operations at plants without crushers or grinders.

Air Quality

Affected equipment in portable cement treated base plants at nonmetallic mineral processing plants are subject to 40 CFR Part 60, Subpart OOO.

Front end loaders are not subject to 40 CFR Part 60, Subpart OOO. Open truck and railcar loading are not subject to 40 CFR Part 60, Subpart OOO.

If an existing piece of equipment is simply relocated, it does not become subject to 40 CFR Part 60, Subpart OOO. However, if during the relocation the equipment undergoes a physical or operational change that results in an emissions increase, it would be modified and become subject to the rule. If an existing portable plant undergoes a “modification” as defined in 40 CFR 60.2, it would become an affected facility.

Changing from a wet screen to a dry screen, or a dry screen to a wet screen, is a physical or operational change. If the change results in an increase in emissions, it is considered a “modification” as defined in 40 CFR 60.2.

For the purposes of 40 CFR Part 60, Subpart OOO, the manufacture date is synonymous with the construction date.

SUBPART VVV – POLYMERIC COATING OF SUPPORTING SUBSTRATES FACILITIES

In cases where a portion of the volatile organic compounds (VOC) delivered to the process reacts and becomes part of the product, the “VOC use” calculated for determining applicability of control requirement can be based on the amount of VOC emitted from the process, i.e. the unreacted portion. Compliance with the control requirement (90% reduction when applicable) in this case, however, must be calculated based on the amount of VOC emitted from the process, i.e., excluding the reacted portion of VOC delivered to the process. If the owner or operator elects to discount the portion of VOC reacted in the process from the applicability calculation, a request to use an alternative method according to 40 CFR 60.8 must be submitted to EPA, Region IV. AP-42 emission factors would not be considered an acceptable method.

Air Quality

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**APPENDIX 12
NESHAP, MACT, GACT**

LIST OF HAZARDOUS AIR POLLUTANTS

<u>CAS NO.</u>	<u>CHEMICAL NAME</u>	<u>CAS NO.</u>	<u>CHEMICAL NAME</u>
75070	Acetaldehyde	510156	Chlorobenzilate
60355	Acetamide	67663	Chloroform
75058	Acetonitrile	107302	Chloromethyl methyl ether
98862	Acetophenone	126998	Chloroprene
53963	2-Acetylaminofluorene	1319773	Cresols/Cresylic acid (isomers and mixture)
107028	Acrolein		
79061	Acrylamide	95487	o-Cresol
79107	Acrylic acid	108394	m-Cresol
107131	Acrylonitrile	106445	p-Cresol
107051	Allyl chloride	98828	Cumene
92671	4-Aminobiphenyl	94757	2,4-D, salts and esters
62533	Aniline	72559	DDE
90040	o-Anisidine	334883	Diazomethane
1332214	Asbestos	132649	Dibenzofurans
71432	Benzene (including benzene from gasoline)	96128	1,2-Dibromo-3-chloro-propane
		84742	Dibutylphthalate
92875	Benzidine	106467	1,4-Dichlorobenzene(p)
98077	Benzotrichloride	91941	3,3-Dichlorobenzidine
100447	Benzyl chloride	111444	Dichloroethyl ether (Bis(2-chloroethyl) ether)
92524	Biphenyl		
117817	Bis(2-ethylhexyl) phthalate (DEHP)	542756	1,3-Dichloropropene
		62737	Dichlorvos
542881	Bis(chloromethyl)ether	11142	Diethanolamine
75252	Bromoform	121697	N,N-Diethyl aniline (N,N-Dimethylaniline)
106990	1,3-Butadiene		
156627	Calcium cyanamide	64675	Diethyl sulfate
133062	Captan	11990	3,3-Dimethoxybenzidine
63252	Carbaryl	60117	Dimethyl aminoazobenzene
75150	Carbon disulfide	119937	3,3-Dimethyl benzidine
56235	Carbon tetrachloride	79447	Dimethyl carbamoyl chloride
463581	Carbonyl sulfide	68122	Dimethyl formamide
120809	Catechol	57147	1,1-Dimethyl hydrazine
133904	Chloramben	131113	Dimethyl phthalate
57749	Chlordane	77781	Dimethyl sulfate
7782505	Chlorine	534521	4,6-Dinitro-o-cresol, and salts
79118	Chloroacetic acid	51285	2,4-Dinitrophenol
532274	2-Chloroacetophenone	121142	2,4-Dinitrotoluene
108907	Chlorobenzene		

Air Quality

<u>CAS NO.</u>	<u>CHEMICAL NAME</u>	<u>CAS NO.</u>	<u>CHEMICAL NAME</u>
123911	1,4-Dioxane (1,4-Diethyleneoxide)	71556	Methyl chloroform (1,1,1-Trichloroethane)
122667	1,2-Diphenylhydrazine	78933	Methyl ethyl ketone (2-Butanone)
106898	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	60344	Methyl hydrazine
106887	1,2-Epoxybutane	74884	Methyl iodide (Iodomethane)
140885	Ethyl acrylate	108101	Methyl isobutyl ketone (Hexone)
100414	Ethyl benzene	624839	Methyl isocyanate
51796	Ethyl carbamate (Urethane)	80626	Methyl methacrylate
75003	Ethyl chloride (Chloroethane)	1634044	Methyl tert butyl ether
106934	Ethylene dibromide (Dibromoethane)	101144	4,4-Methylene bis(2-chloroaniline)
107062	Ethylene dichloride (1,2-Dichloroethane)	75092	Methylene chloride (Dichloromethane)
107211	Ethylene glycol	101688	Methylene diphenyl diisocyanate (MDI)
151564	Ethylene imine (Aziridine)		
75218	Ethylene oxide	101779	4,4-Methylenedianiline
96457	Ethylene thiourea	91203	Naphthalene
75343	Ethylidene dichloride (1,1-Dichloroethane)	98953	Nitrobenzene
50000	Formaldehyde	92933	4-Nitrobiphenyl
76448	Heptachlor	100027	4-Nitrophenol
118741	Hexachlorobenzene	79469	2-Nitropropane
87683	Hexachlorobutadiene	684935	N-Nitroso-N-methylurea
77474	Hexachlorocyclo-pentadiene	62759	N-Nitrosodimethylamine
67721	Hexachloroethane	59892	N-Nitrosomorpholine
822060	Hexamethylene-1,6-diisocyanate	56382	Parathion
680319	Hexamethylphosphoramide	82688	Pentachloronitrobenzene (Quintobenzene)
110543	Hexane	87865	Pentachlorophenol
302012	Hydrazine	108952	Phenol
7647010	Hydrochloric acid	106503	p-Phenylenediamine
7664393	Hydrogen fluoride (Hydrofluoric acid)	75445	Phosgene
123319	Hydroquinone	7803512	Phosphine
78591	Isophorone	7723140	Phosphorus
58899	Lindane (all isomers)	85449	Phthalic anhydride
108316	Maleic anhydride	1336363	Polychlorinated biphenyls (Aroclors)
67561	Methanol	1120714	1,3-Propane sultone
72435	Methoxychlor	57578	beta-Propiolactone
74839	Methyl bromide (Bromomethane)	123386	Propionaldehyde
74873	Methyl chloride (Chloromethane)	114261	Propoxur (Baygon)
		78875	Propylene dichloride (1,2-Dichloropropane)

Air Quality

<u>CAS NO.</u>	<u>CHEMICAL NAME</u>	<u>CAS NO.</u>	<u>CHEMICAL NAME</u>
75569	Propylene oxide	0	Cyanide Compounds
75558	1,2-Propylenimine (2-Methyl aziridine)	0	Glycol ethers
91225	Quinoline	0	Lead Compounds
106514	Quinone	0	Manganese Compounds
100425	Styrene	0	Mercury Compounds
96093	Styrene oxide	0	Fine mineral fibers
1746016	2,3,7,8-Tetrachloro- dibenzo-p-dioxin	0	Nickel Compounds
79345	1,1,2,2-Tetrachloroethane	0	Polycyclic Organic Matter
127184	Tetrachloroethylene (Perchloroethylene)	0	Radionuclides (including radon)
7550450	Titanium tetrachloride	0	Selenium Compounds
108883	Toluene		
95807	2,4-Toluene diamine		
584849	2,4-Toluene diisocyanate		
95534	o-Toluidine		
8001352	Toxaphene (chlorinated camphene)		
120821	1,2,4-Trichlorobenzene		
79005	1,1,2-Trichloroethane		
79016	Trichloroethylene		
95954	2,4,5-Trichlorophenol		
88062	2,4,6-Trichlorophenol		
121448	Triethylamine		
1582098	Trifluralin		
540841	2,2,4-Trimethylpentane		
108054	Vinyl acetate		
593602	Vinyl bromide		
75014	Vinyl chloride		
75354	Vinylidene chloride (1,1-Dichloroethylene)		
1330207	Xylenes (isomers and mixture)		
95476	o-Xylenes		
108383	m-Xylenes		
106423	p-Xylenes		
0	Antimony Compounds		
0	Arsenic Compounds (inorganic including arsine)		
0	Beryllium Compounds		
0	Cadmium Compounds		
0	Chromium Compounds		
0	Cobalt Compounds		
0	Coke Oven Emissions		

MACT PROMULGATION SCHEDULE

Categories of Sources And Regulation Promulgation Schedule by Industry Group

INDUSTRIAL GROUP–SOURCE CATEGORY ^a	SCHEDULE DATE
<u>FUEL COMBUSTION</u>	
Engine Test Facilities	11/15/00
Industrial Boilers ^b	11/15/00
Institutional/Commercial Boilers ^b	11/15/00
Process Heaters	11/15/00
Stationary Internal Combustion Engines ^b	11/15/00
Stationary Turbines ^b	11/15/00
<u>NON-FERROUS METALS PROCESSING</u>	
Primary Aluminum Production	11/15/97
Secondary Aluminum Production	11/15/97
Primary Copper Smelting	11/15/97
Primary Lead Smelting	11/15/97
Secondary Lead Smelting ^j	11/15/97
Primary Magnesium Refining	11/15/00
<u>FERROUS METALS PROCESSING</u>	
Coke By-Product Plants	11/15/00
Coke Ovens: Charging, Top Side, and Door Leaks	12/31/92
Coke Ovens: Pushing, Quenching, and Battery Stacks	11/15/00
Ferrous Alloys Production	11/15/97
Integrated Iron and Steel Manufacturing	11/15/00
Stainless Steel Manufacturing - Electric Arc Furnace (EAF) Operation	11/15/97
Iron Foundries	11/15/00
Steel Foundries	11/15/00
Steel Pickling - HCl Process	11/15/97
<u>MINERAL PRODUCTS PROCESSING</u>	
Alumina Processing	11/15/00
Asphalt Concrete Manufacturing	11/15/00
Asphalt Processing	11/15/00
Asphalt Roofing Manufacturing	11/15/00
Asphalt/Coal Tar Application - Metal Pipes	11/15/00
Chromium Refractories Production	11/15/00
Clay Products Manufacturing	11/15/00
Lime Manufacturing	11/15/00
Mineral Wool Production	11/15/97
Portland Cement Manufacturing	11/15/97
Taconite Iron Ore Processing	11/15/00
Wool Fiberglass Manufacturing	11/15/97

Air Quality

PETROLEUM AND NATURAL GAS PRODUCTION AND REFINING

Oil and Natural Gas Production	11/15/97
Natural Gas Transmission and Storage	11/15/97
Petroleum Refineries - Catalytic Cracking (Fluid and other) Units, Catalytic Reforming Units, and Sulfur Plant Units	11/15/97
Petroleum Refineries - Other Sources Not Distinctly Listed ^k	11/15/97

LIQUIDS DISTRIBUTION

Gasoline Distribution (Stage 1) ^g	11/15/94
Marine Vessel Loading Operations	11/15/00
Organic Liquids Distribution (Non-Gasoline)	11/15/00

SURFACE COATING PROCESSES

Aerospace Industries ^l	11/15/94
Auto and Light Duty Truck (Surface Coating)	11/15/00
Flat Wood Paneling (Surface Coating)	11/15/00
Large Appliance (Surface Coating)	11/15/00
Magnetic Tapes (Surface Coating) ^g	11/15/94
Manufacture of Paints, Coatings, and Adhesives	11/15/00
Metal Can (Surface Coating)	11/15/00
Metal Coil (Surface Coating)	11/15/00
Metal Furniture (Surface Coating)	11/15/00
Miscellaneous Metal Parts and Products (Surface Coating)	11/15/00
Paper and Other Webs (Surface Coating)	11/15/00
Plastic Parts and Products (Surface Coating)	11/15/00
Printing, Coating, and Dyeing of Fabrics	11/15/00
Printing/Publishing (Surface Coating)	11/15/94
Shipbuilding and Ship Repair (Surface Coating)	11/15/94
Wood Furniture (Surface Coating)	11/15/94

WASTE TREATMENT AND DISPOSAL

Hazardous Waste Incineration	11/15/00
Municipal Landfills	11/15/00
Publicly Owned Treatment Works (POTW) Emissions	11/15/95
Sewage Sludge Incineration	11/15/00
Site Remediation	11/15/00
Off-Site Waste and Recovery Operations	11/15/94

AGRICULTURAL CHEMICALS PRODUCTION

4-Chloro-2-Methylphenoxyacetic Acid Production	11/15/97
2,4-D Salts and Esters Production	11/15/97
4,6-Dinitro-o-Cresol Production	11/15/97
Butadiene Furfural Cotrimer (R-11) Production ^c	11/15/00
Captafol Production ^c	11/15/97

Air Quality

Captan Production ^c	11/15/97
Chloroneb Production	11/15/97
Chlorothalonil Production ^c	11/15/97
Dacthal (tm) Production ^c	11/15/97
Sodium Pentachlorophenate Production	11/15/97
Tordon (tm) Acid Production ^c	11/15/97
<u>FIBERS PRODUCTION PROCESSES</u>	
Acrylic Fibers/Modacrylic Fibers Production	11/15/97
Rayon Production	11/15/00
Spandex Production	11/15/00
<u>FOOD AND AGRICULTURE PROCESSES</u>	
Baker's Yeast Manufacturing	11/15/00
Cellulose Food Casing Manufacturing	11/15/00
Vegetable Oil Production	11/15/00
<u>PHARMACEUTICAL PRODUCTION PROCESSES</u>	
Pharmaceuticals Production ^c	11/15/97
<u>POLYMERS AND RESINS PRODUCTION</u>	
Acetal Resins Production	11/15/97
Acrylonitrile-Butadiene-Styrene Production	11/15/94
Alkyd Resins Production	11/15/00
Amino Resins Production	11/15/97
Boat Manufacturing	11/15/00
Butyl Rubber Production	11/15/00
Carboxymethylcellulose Production	11/15/00
Cellophane Production	11/15/00
Cellulose Ethers Production	11/15/00
Epichlorohydrin Elastomers Production	11/15/94
Epoxy Resins Production ^h	11/15/94
Ethylene-Propylene Rubber Production	11/15/94
Flexible Polyurethane Form Production	11/15/97
Hypalon (tm) Production ^c	11/15/94
Maleic Anhydride Copolymers Production	11/15/00
Methylcellulose Production	11/15/00
Methyl Methacrylate-Acrylonitrile-Butadiene- Styrene Production ^c	11/15/94
Methyl Methacrylate-Butadiene-Styrene Terpolymers Production ^c	11/15/94
Neoprene Production	11/15/94
Nitrile Butadiene Rubber Production	11/15/94
Nitrile Resins Production	11/15/00
Non-Nylon Polyamides Production ^h	11/15/94
Nylon 6 Production	11/15/97
Phenolic Resins Production	11/15/97
Polybutadiene Rubber Production ^c	11/15/94
Polycarbonates Production ^c	11/15/97

Air Quality

Polyester Resins Production	11/15/00
Polyether Polyols Production	11/15/00
Polyethylene Terephthalate Production	11/15/94
Polymerized Vinylidene Chloride Production	11/15/00
Polymethyl Methacrylate Resins Production	11/15/00
Polystyrene Production	11/15/94
Polysulfide Rubber Production ^c	11/15/94
Polyvinyl Acetate Emulsions Production	11/15/00
Polyvinyl Alcohol Production	11/15/00
Polyvinyl Butyral Production	11/15/00
Polyvinyl Chloride and Copolymers Production	11/15/00
Reinforced Plastic Composites Production	11/15/97
Styrene-Acrylonitrile Production	11/15/94
Styrene-Butadiene Rubber and Latex Production ^c	11/15/94
<u>PRODUCTION OF INORGANIC CHEMICALS</u>	
Ammonium Sulfate Production - Caprolactam By-Product Plants	11/15/00
Antimony Oxides Manufacturing	11/15/00
Carbon Black Production	11/15/00
Chlorine Production ^c	11/15/97
Cyanuric Chloride Production	11/15/97
Fume Silica Production	11/15/00
Hydrochloric Acid Production	11/15/00
Hydrogen Cyanide Production	11/15/97
Hydrogen Fluoride Production	11/15/00
Phosphate Fertilizers Production	11/15/00
Phosphoric Acid Manufacturing	11/15/00
Sodium Cyanide Production	11/15/97
Uranium Hexafluoride Production	11/15/00
<u>PRODUCTION OF ORGANIC CHEMICALS</u>	
Ethylene Processes	11/15/00
Quaternary Ammonium Compounds Production	11/15/00
Synthetic Organic Chemical Manufacturing ^e	11/15/92
<u>MISCELLANEOUS PROCESSES</u>	
Aerosol Can-Filling Facilities	11/15/00
Benzyltrimethylammonium Chloride Production	11/15/00
Carbonyl Sulfide Production	11/15/00
Chelating Agents Production	11/15/00
Chlorinated Paraffins Production ^c	11/15/00
Chromic Acid Anodizing ^g	11/15/94
Commercial Dry Cleaning (Perchloroethylene) - Transfer Machines	11/15/92
Commercial Sterilization Facilities ^g	11/15/94
Decorative Chromium Electroplating ^g	11/15/94

Air Quality

Dry Cleaning (Petroleum Solvent)	11/15/00
Ethylidene Norbornene Production ^c	11/15/00
Explosives Production	11/15/00
Flexible Polyurethane Foam Fabrication Operations	11/15/00
Friction Products Manufacturing	11/15/00
Halogenated Solvent Cleaners ^g	11/15/94
Hard Chromium Electroplating ^g	11/15/94
Hydrazine Production	11/15/00
Industrial Cleaning (Perchloroethylene)	
- Dry-to-Dry Machines	11/15/92
Industrial Dry Cleaning (Perchloroethylene)	
- Transfer Machines	11/15/92
Industrial Process Cooling Towers ^f	11/15/94
Leather Tanning and Finishing Operations	11/15/00
OBPA/1,3-Diisocyanate Production ^c	11/15/00
Paint Stripper Users	11/15/00
Photographic Chemicals Production	11/15/00
Phthalate Plasticizers Production	11/15/00
Plywood/Particle Board Manufacturing	11/15/00
Pulp and Paper Production	11/15/97
Rocket Engine Test Firing	11/15/00
Rubber Chemicals Manufacturing	11/15/00
Semiconductor Manufacturing	11/15/00
Symmetrical Tetrachloropyridine Production ^c	11/15/00
Tetrahydrobenzaldehyde Production	11/15/97
Tire Production	11/15/00
<u>CATEGORIES OF AREA SOURCES^d</u>	
Chromic Acid Anodizing ^g	11/15/94
Commercial Dry Cleaning (Perchloroethylene)	
- Dry-to-Dry Machines	11/15/92
Commercial Dry Cleaning (Perchloroethylene)	
- Transfer Machines	11/15/92
Commercial Sterilization Facilities ^g	11/15/94
Decorative Chromium Electroplating ^g	11/15/94
Halogenated Solvent Cleaners ^g	11/15/94
Hard Chromium Electroplating ^g	11/15/94
Secondary Lead Smelters	11/15/00

FOOTNOTES FOR ABOVE TABLE.

^aOnly major sources within any category shall be subject to emission standards under Section 112 unless a finding is made of a threat of adverse effects to human health or the environment for the area sources in a category. All listed categories are exclusive of any specific operations or processes included under other categories that are listed separately.

Sources defined as electric utility steam generating units under Section 112(a)(8) shall not be subject to emission standards pending the findings of the study required under Section 112(n)(1).

^cEquipment handling specific chemicals for these categories or subsets of these categories are subject

Air Quality

to a negotiated standard for equipment leaks contained in the HON, which was proposed on December 31, 1992. The HON includes a negotiated standard for equipment leaks from the SOCOMI category and 20 non-SOCMI categories (or subsets of these categories). The specific processes affected within the categories are listed in Section XX.X0(c) of the March 6, 1991 *Federal Register* notice (56 F~ 9315).

^dA finding of threat of adverse effects to human health or the environment was made for each category of area sources listed.

(The following footnotes apply to source categories that are subject to court ordered promulgation deadlines (differing from the above listed regulatory deadlines) in accordance with a consent decree entered in *Sierra Club v. Browner*. Case No. 93-0124 (and related cases) (D.C Dist. Ct..))

^eJudicial deadline: 02/28/94.

ⁱJudicial deadline: 04/30/95.

^fJudicial deadline: 07/31/94.

^jJudicial deadline: 05/31/95.

^g Judicial deadline: 11/23/94.

^kJudicial deadline: 06/30/95.

^hJudicial deadline: 02/28/95.

^lJudicial deadline: 07/31/95.

Categories of Sources of Hazardous Air Pollutants and Regulation Promulgation Schedule by Regulatory Deadlines

SOURCE CATEGORIES WITH EMISSION STANDARDS DUE BY NOVEMBER 15, 1992

Synthetic Organic Chemical Manufacturing
Commercial Dry-cleaning (Perchloroethylene) - Dry-to-dry Machines*
Commercial Dry-cleaning (Perchloroethylene) - Transfer Machines*
Commercial Dry-cleaning (Perchloroethylene) - Transfer Machines
Industrial Dry-cleaning (Perchloroethylene) - Dry-to-dry Machines
Industrial Dry-cleaning (Perchloroethylene) - Transfer Machines

SOURCE CATEGORIES WITH EMISSION STANDARDS DUE BY NOVEMBER 15, 1994

Acrylonitrile-butadiene-styrene Production
Aerospace Industries
Butyl Rubber Production
Chromic Acid Anodizing
Chromic Acid Anodizing*
Coke Ovens: Charging, Topside and Door Leaks (CAA Mandated Promulgation by December 31, 1992)
Commercial Sterilization Facilities
Commercial Sterilization Facilities*
Decorative Chromium Electroplating
Decorative Chromium Electroplating*
Epichlorohydrin Elastomers Production
Epoxy Resins Production
Ethylene-Propylene Rubber Production
Gasoline Distribution - Stage 1
Halogenated Solvent Cleaners
Halogenated Solvent Cleaners*
Hard Chromium Electroplating
Hard Chromium Electroplating*
Hypalon (TM) Production

Air Quality

Industrial Process Cooling Towers
Magnetic Tapes (Surface Coating)
Methyl Methacrylate-Acrylonitrile-Butadiene-Styrene Production
Methyl Methacrylate-Butadiene-Styrene Terpolymers Production
Neoprene Production
Nitrile Butadiene Rubber Production
Off-Site Waste and Recovery Operations
Non-nylon Polyamides Production
Petroleum Refineries - Other Sources Not Distinctly Listed
Polyethylene Terephthalate Production
Polybutadiene Rubber Production
Polystyrene Production
Polysulfide Rubber Production
Printing/Publishing (Surface Coating)
Secondary Lead Smelting
Shipbuilding and Ship Repair (Surface Coatings)
Styrene-Acrylonitrile Production
Styrene-Butadiene Rubber and Latex Production
Wood Furniture (Surface Coating)

SOURCE CATEGORIES WITH EMISSION STANDARDS DUE BY NOVEMBER 15, 1997

4-Chloro-2-Methylphenoxyacetic Acid Production
2,4-d Salts and Esters Production
4,6-Dinitro-o-Cresol Production
Acetal Resins Production
Acrylic Fibers/Modacrylic Fibers Production
Amino Resins Production
Captafol Production
Captan Production
Chloroneb Production
Chlorothalonil Production
Chlorine Production
Cyanuric Chloride Production
Dacthal (TM) Production
Ferroalloys Production
Flexible Polyurethane Foam Production
Hydrogen Cyanide Production
Marine Vessel Loading Operations
Mineral Wool Production
Nylon 6 Production
Oil and Natural Gas Production
Petroleum Refineries - Catalytic Cracking (Fluid and Other) Units,
Catalytic Reforming Units, and Sulfur Plant Units
Pharmaceuticals Production
Phenolic Resins Production
Phosphate Fertilizers Production

Air Quality

Phosphoric Acid Manufacturing
Polycarbonates Production
Polyether Polyols Production
Portland Cement Manufacturing
Primary Aluminum Production
Primary Copper Smelting
Primary Lead Smelting
Publicly Owned Treatment Works (POTW) Emissions (CAA Mandated
Promulgation by November 15, 1995)
Pulp and Paper Production
Reinforced Plastic Composites Production
Secondary Aluminum Production
Sodium Cyanide Production
Sodium Pentachlorophenate Production
Stainless Steel Manufacturing - Electric Arc Furnace (EAF) Operation
Steel Pickling - HCl Process
Tetrahydrobenzaldehyde Production
Tordon (TM) Acid Production
Wool Fiberglass Manufacturing

SOURCE CATEGORIES WITH EMISSION STANDARDS DUE BY NOVEMBER 15, 2000

Aerosol Can-filling Facilities
Alkyd Resins Production
Alumina Processing
Ammonium Sulfate Production - Caprolactam By-Product Plants
Antimony Oxides Manufacturing
Asphalt Concrete Manufacturing
Asphalt Processing
Asphalt Roofing Manufacturing
Asphalt/Coal Tar Application - Metal Pipes
Auto and Light Duty Truck (Surface Coating)
Bakers Yeast Manufacturing
Benzyltrimethylammonium Chloride Production
Boat Manufacturing
Butadiene-Furfural Cotrimer (R-11)
Carbon Black Production
Carbonyl Sulfide Production
Carboxymethylcellulose Production
Cellophane Production
Cellulose Ethers Production
Cellulose Food Casing Manufacturing
Chlorine Production
Chelating Agents Production
Chlorinated Paraffins Production
Chromium Refractories Production
Clay Products Manufacturing

Air Quality

Coke By-product Plants
Coke Ovens: Pushing, Quenching and Battery Stacks
Dry Cleaning (Petroleum Solvent)
Engine Test Facilities
Ethylene Processes
Ethylidene Norbornene Production
Explosives Production
Flat Wood Paneling (Surface Coating)
Flexible Polyurethane Foam Fabrication Operations
Friction Products Manufacturing
Fume Silica Production
Hazardous Waste Incineration
Hydrazine Production
Hydrochloric Acid Production
Hydrogen Fluoride Production
Industrial Boilers
Institutional/Commercial Boilers
Integrated Iron & Steel Manufacturing
Iron Foundries
Large Appliance (Surface Coating)
Leather Tanning and Finishing Operations
Lime Manufacturing
Maleic Anhydride Copolymers Production
Manufacture of Paints, Coatings & Adhesives
Marine Vessel Loading Operations
Metal Can (Surface Coating)
Metal Coil (Surface Coating)
Metal Furniture (Surface Coating)
Methylcellulose Production
Miscellaneous Metal Parts & Products (Surface Coating)
Municipal Landfills
Nitrile Resins Production
OBPA/1,3-Diisocyanate Production
Organic Liquids Distribution (Non-Gasolene)
Paint Stripper Users
Paper and Other Webs (Surface Coating)
Phosphate Fertilizers Production
Phosphoric Acid Manufacturing
Photographic Chemicals Production
Phthalate Plasticizers Production
Plastic Parts and Products (Surface Coating)
Plywood/Particle Board Manufacturing
Polyether Polyols Production
Polyester Resins Production

Air Quality

Polymerized Vinylidene Chloride Production
Polymethyl Methacrylate Resins Production
Polyvinyl Acetate Emulsions Production
Polyvinyl Alcohol Production
Polyvinyl Butyral Production
Polyvinyl Chloride and Copolymers Production
Primary Magnesium Refining
Printing, Coating & Dyeing of Fabrics
Process Heaters
Quaternary Ammonium Compounds Production
Rayon Production
Reinforced Plastic Composites Production
Rocket Engine Test Firing
Rubber Chemicals Manufacturing
Secondary Lead Smelters*
Semiconductor Manufacturing
Sewage Sludge Incineration
Site Remediation
Spandex Production
Stationary Internal Combustion Engines
Stationary Turbines
Steel Foundries
Symmetrical Tetrachloropyridine Production
Taconite Iron Ore Processing
Tire Production
Uranium Hexafluoride Production
Vegetable Oil Production

* Denotes area source category

PART 63 NESHAP ADOPTED BY FORSYTH COUNTY

organic hazardous air pollutants from the synthetic organic chemical manufacturing industry (40 CFR Part 63, Subpart F)

organic hazardous air pollutants from the synthetic organic chemical manufacturing industry for process vents, storage vessels, transfer operations, and wastewater (40 CFR Part 63, Subpart G)

organic hazardous air pollutants for equipment leaks (40 CFR Part 63, Subpart H)

organic hazardous air pollutants for certain processes subject to the negotiated regulation for equipment leaks (40 CFR Part 63, Subpart I)

coke oven batteries (40 CFR Part 63, Subpart L)

Air Quality

perchloroethylene dry cleaning (40 CFR Part 63, Subpart M)

hard and decorative chromium electroplating and chromium anodizing (40 CFR Part 63, Subpart N)

ethylene oxide commercial sterilization and fumigation operations (40 CFR Part 63, Subpart O)

chromium emissions from industrial process cooling towers (40 CFR Part 63, Subpart Q)

gasoline distribution (Stage I) (40 CFR Part 63, Subpart R)

pulp and paper production (40 CFR Part 63, Subpart S)

halogenated solvent cleaning (40 CFR Part 63, Subpart T)

elastomers and synthetic rubber production (polymers and resins–Group I) (40 CFR Part 63, Subpart U)

epoxy resins production and non-nylon polyamides production (40 CFR Part 63, Subpart W)

secondary lead smelting (40 CFR Part 63, Subpart X)

marine tank vessels loading and unloading operations (40 CFR Part 63, Subpart Y)

petroleum refineries (40 CFR Part 63, Subpart CC)

offsite waste and recovery operations (40 CFR Part 63, Subpart DD; 40 CFR Part 63, Subpart OO; 40 CFR Part 63, Subpart PP; 40 CFR Part 63, Subpart QQ; 40 CFR Part 63, Subpart RR; 40 CFR Part 63, Subpart VV)

magnetic tape manufacturing (40 CFR Part 63, Subpart EE)

aerospace manufacturing and rework (40 CFR Part 63, Subpart GG)

shipbuilding and ship repair (40 CFR Part 63, Subpart II)

wood furniture manufacturing (40 CFR Part 63, Subpart JJ)

printing and publishing (40 CFR Part 63, Subpart KK)

primary aluminum production (40 CFR Part 63, Subpart LL)

polyethylene terephthalate polymer and styrene-based thermoplastic polymers production (polymers and resins–Group IV) (40 CFR Part 63, Subpart JJJ)

Air Quality

PART 61 NESHAP ADOPTED BY THE COUNTY

Radon emissions from underground uranium mines (40 CFR 61.20 to 61.26, Subpart B)

beryllium (40 CFR 61.30 to 61.34, Subpart C)

beryllium from rocket motor firing (40 CFR 61.40 to 61.44, Subpart D)

electric utility steam generating units (40 CFR 60.40a to 60.49a, Subpart Da)

mercury (40 CFR 61.50 to 61.56, Subpart E)

vinyl chloride (40 CFR 61.60 to 61.71, Subpart F)

radionuclides other than from Department of Energy facilities (40 CFR 61.90 to 61.97, Subpart H)

radionuclide emissions from facilities licensed by the Nuclear Regulatory Commission and federal facilities not covered by subpart H (40 CFR 61.100 to 61.109 , Subpart I)

equipment leaks (fugitive emission sources) of benzene (40 CFR 61.110 to 61.112, Subpart J)

radionuclide emissions from elemental phosphorus plants (40 CFR 61.120 to 61.127, Subpart K)

benzene emissions from coke by-product recovery plants (40 CFR 61.130 to 61.139, Subpart L)

asbestos (40 CFR 61.140 to 61.159, Subpart M, with the exception named in 40 CFR 61.157)

inorganic arsenic emissions from glass manufacturing plants (40 CFR 61.160 to 61.165, Subpart N)

inorganic arsenic emissions from primary copper smelters (40 CFR 61.170 to 61.177, Subpart O)

inorganic arsenic emissions from arsenic trioxide and metallic arsenic production facilities (40 CFR 61.180 to 61.186, Subpart P)

radon emissions from Department of Energy Facilities (40 CFR 61.190 to 61.193, Subpart Q)

radon emissions from phosphogypsum stacks (40 CFR 61.200 to 61.210, Subpart R)

radon emissions from the disposal of uranium mill tailings (40 CFR 61.220 to 61.225, Subpart T)

equipment leaks (fugitive emission sources) (of volatile hazardous air pollutants) (40 CFR 61.240 to 61.247, Subpart V)

radon emissions from operating mill tailings (40 CFR 61.250 to 61.256, Subpart W)

Air Quality

benzene emissions from benzene storage vessels (40 CFR 61.270 to 61.277 except 61.273, Subpart Y)

benzene emissions from benzene transfer operations (40 CFR 61.300 to 61.306, Subpart BB)

benzene waste operations (40 CFR 61.340 to 61.358, Subpart FF)

TRANSITION FROM 3D .0518 TO 3D .1111

See “Transition from **3D .0518** to **3D .1111**” in Appendix 8.

Air Quality

**APPENDIX 13
SUBSTITUTE MACT**

[no text at this time]

Air Quality

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**APPENDIX 14
AIR TOXIC INCLUDING AIR TOXIC PERMITTING**

CONTROL OF MERCURY EMISSIONS: 3D .0537

Rule **3D .0537**, Control of Mercury Emissions, applies to:

- (1) industrial processes that use, handle, or process mercury or mercury compounds, such as battery manufacturing, and
- (2) ore roasting where mercury or mercury compounds are recovered.

It does not apply to:

- (1) industrial processes where mercury or mercury compounds are an incidental impurity in the materials being processed,
- (2) ore roasting where mercury or mercury compounds are a non-recovered impurity,
- (3) fuel combustion,
- (4) incinerators, whose mercury and mercury compound emissions are covered under 3D .1205, Emission Standards,
- (5) sources covered under national emission standards for hazardous pollutants for mercury, or
- (6) sources covered under prevention of significant deterioration for mercury.

A facility or source covered under 3D .0537 may be required to reduce its mercury emissions below that allowed by this Rule in order to comply with the air toxic rules.

TOXIC AIR POLLUTANT GUIDELINES: 3D .1104

Fluorides excludes hydrogen fluoride. It includes all other fluorides. Only the weight of the fluoride part of the compound is used when comparing to the acceptable ambient level.

DETERMINATION OF AMBIENT AIR CONCENTRATION: 3D .1106

Department Modeling Option

Rule **3D .1106** provides an option for the permit applicant to request the Department to perform the initial modeling analysis. (The permit applicant has the option of doing the modeling himself or having the Department do the modeling.) If the Department performs the modeling, the permit applicant has to provide the emission rates, stack parameters, and other information that the Department needs to do the modeling. If the initial review of the modeling request indicates extensive or inappropriate use of state resources or if the Department's modeling analysis fails to show compliance with the AAL, the modeling demonstration becomes the responsibility of the permit applicant.

Modeling Peak 15-Minute Emission Rates for Certain Pollutants

Modeled emission rates for ten toxic air pollutants that are acute irritants are based on the highest emission rate occurring in any single 15-minute period. The ten pollutants are acetaldehyde, acetic acid, acrolein, ammonia, bromine, chlorine, formaldehyde, hydrogen chloride, hydrogen fluoride, and nitric acid and are listed in Paragraph (d) of **3D .1106**.

Air Quality

Modeling Plan

Elements of the modeling plan require only discussions. In addition, the modeling plan is to include a discussion of sources emitting the pollutants 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. The purpose of this requirement is to assure that no source that should be included in the modeling analysis is left out.

APPLICABILITY: 3Q .0701

Restarted Facilities

A facility that has previously shutdown but is planning to reopen may avoid the air toxic evaluation if the following conditions are met:

1. The facility must have had an air quality permit in good standing (expired or unexpired) before the shutdown and normal renewal of that permit would not have triggered an evaluation.
2. During the shutdown period, the facility has not and upon restart will not be making any physical change or change in method of operation of the facility as described by the previously good standing permit.
3. The facility must provide documentation with the application that it intended to keep the facility operational after the shutdown. Such documentation may include records of maintenance on the facility or equipment or proof of periodic, cyclical, or seasonal manufacturing demands. For periods greater than 24 months, documentation must show that equipment within the facility received continuous maintenance consistent with the intent to maintain the facility for a future restart. If such documentation is unavailable, the intent to maintain the facility for future operations is questionable.

Any reopening of a facility whose SIC code has been previously called must be evaluated for air toxics.

EXEMPTIONS: 3Q .0702

Combustion Sources

The combustion source exemption applies to boilers, space heaters, process heaters, internal combustion engines, and combustion turbines that burn only unadulterated wood or unadulterated fossil fuels. The combustion of other substances such as hazardous waste, used solvent, or industrial process gases, disqualifies the sources from this exemption. Included under this exemption are:

- (1) most industrial, commercial, and institutional boilers;
- (2) most heaters used to heat asphalt, residual oil, or other viscous material so that it will flow; and
- (3) most generators (peak shaving generators, emergency generators, etc.) and engines used to operate pumps and compressors.

Not eligible for this exemption are sources where the combustion gases and process gases mix, such as asphalt dryers, brick kilns, lightweight aggregate kilns, and lumber kilns. This exemption does not apply to incinerators.

Rules **3Q .0701(c)** and **.0702(a)(18)** require the Department to decide within 18 months whether to keep or remove the combustion source exemption. **3Q .0701(c)** requires the Department to assess, within one year after promulgation, the combustion source maximum achievable control technology (MACT)

Air Quality

standard developed under the federal Industrial Combustion Coordinated Rulemaking (ICCR) to determine if additional measures are necessary with respect to toxic air pollutant emissions from combustion sources. If the Department decides to remove the exemption, it shall initiate rule making procedures to remove this exemption. (An apparent conflict exists in **3Q .0702(a)(18)** between the stated exemption and the parenthetical explanation. The parenthetical explanation is correct. The exemption does not automatically cease 18 months after promulgation of the combustion source MACT. It can only cease by the EMC removing it through rule making.)

Gasoline Dispensing Facilities

Gasoline fuel terminals at airports covered under **3D .0928**, Gasoline Service Stations Stage I, are exempted from the toxic air pollutant rules.

Bulk Gasoline Terminals

All activities at a bulk gasoline terminal involved with the handling and storage of gasoline, fuel oils, kerosenes, and jet fuels are covered under the bulk gasoline terminal exemption. Other materials stored at a bulk gasoline terminal may be exempted under the storage tank exemption if the material has a vapor pressure less than 1.5 psia. Tanks at a bulk gasoline terminal exempted under the storage tank exemption are not included in an air toxic evaluation. (The storage tank exemption in **3Q .0702** differs from the storage tank exemption in **3Q .0102**.)

Affects of Modifications on Exempted Sources

The addition or modification of an activity exempted by **3Q .0702** does not cause the source or facility to be evaluated for emissions of toxic air pollutants. However, if the facility is required to be evaluated, emissions from gasoline dispensing facilities or gasoline service stations, ethylene oxide commercial sterilization of medical devices and subsequent storage, bulk gasoline plants, and bulk gasoline terminals are included in the evaluations. These activities may be included in the permit if necessary to assure compliance with the air toxic rules. Emissions from all other sources exempted by this Rule are ignored in the evaluation and are not included in the permit.

DEFINITIONS: 2Q .0703

Actual Rate of Emissions

This definition of “actual rate of emissions” applies only for the purpose of determining net increases in emissions. It should not be used in the context of actual emissions in **3Q .0711**, Emission Rates Requiring a Permit. For an annual averaging period, the average rate at which the source actually emitted the pollutant during the two years preceding the date of the modification that represents normal operation of the source is used. For 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 years preceding the date of the modification that represents normal operation of the source is used. If the period does not represent normal operation, the Director may allow the use of a different, more representative, period. For new or modified sources, the average rate is the rate that the source will actually emit the pollutant as determined by engineering evaluation for the applicable averaging period.

For the purposes of **3Q .0711**, actual emissions are the actual emissions during the most recent appropriate time period, i.e., during the last hour for pollutants with an hourly AAL.

Air Quality

Normal Operation

“Normal” operation is how the source has been typically operated historically. For example, if historically the source has operated 6000 hours per year, but because of a recession it has only operated 2000 hours per year over the last two years, the applicant can request that the Director allow calculating emissions using 6000 hours instead of 2000 hours. If the applicant can make a satisfactory showing that 6000 hours is more representative of the source’s operation, the Director may, but is not required to, allow the applicant to use the longer period. Likewise, with batch operations, if historically the source has typically done six batches per day, but because of a recession, the source has been doing two batches per day, the Director could allow emissions to be calculated on the basis of six batches per day. For a chemical batch process, the review and evaluation of what is representative and normal may be more in depth and detailed because of possible chemical changes over time.

Net Increase in Emissions

“Net increase in emissions” is the sum of any increases in permitted allowable and decreases in the actual rates of emissions from the proposed modification of 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. Thus, if a modification does not result in a net increase in emissions, no five-year netting demonstration is required. If the modification does result in a net increase in emissions, a five-year netting demonstration may be used if it shows no net increase in emissions of the five-year period including the modification.

Unadulterated Fossil Fuel

Unadulterated fossil fuel means fuel oils, coal, natural gas, and liquefied petroleum gas to which no toxic additives have been added. The term toxic additives refers to additives or contaminants that could result in the emission of toxic air pollutants.

Used oil is considered equivalent to unadulterated fossil fuel if the toxics are demonstrated to be at a level of no greater concern than those of unadulterated fossil fuels. The permit applicant or supplier of the used oil must show to the satisfaction of the Director that the used oil toxic additives or contaminants are at a level such that it could be defined as unadulterated. That is, the permit applicant or supplier needs to show that the used oil toxic additives and contaminants have been reduced to a level such that the used oil is equivalent to unadulterated fossil fuel.

The following parameters may be used to determine if used oil is “unadulterated fossil fuel”:

<u>Constituent/Property</u>	<u>Allowable Level</u>
arsenic	1 ppm maximum
cadmium	2 ppm maximum
chromium	5 ppm maximum
lead	100 ppm maximum
total halogens	1000 ppm maximum
flash point	100EF minimum
sulfur	1.0%
ash	1.0%

MODIFICATIONS: 3Q .0706

An air toxic evaluation is not required for modifications at a facility whose emissions of toxic air pollutants result only from sources exempted under Rule **3Q .0102**, Activities Exempted from Permit Requirements, unless the facility is subject to a previously promulgated MACT or GACT or unless the SIC of the facility has previously been called.

PREVIOUSLY PERMITTED FACILITIES: 3Q .0707

Any facility with a permit that contains a restriction based on the evaluation of a source exempted under **3Q .0702** may request a permit modification to adjust the restriction by removing from consideration the portion of emissions resulting from the exempt source. However, if the Director determines that the removal of the exempt source will result in an AAL being exceeded, the source shall not be removed from the permit. For example, a facility has a process with emissions in common with its boiler, which is now exempt. The permit contains a restriction on either the process or boiler to prevent an AAL from being exceeded. If removal of the boiler emissions from the evaluation would remove or lessen the restriction, the boiler would have to remain on the permit because the unrestricted emissions would cause the AAL to be exceeded. If a restriction has been placed on the process and if the AAL would not be exceeded if the boiler were removed from consideration, i.e., the boiler's emissions do not contribute to the exceedance of the AAL or its contribution is negligible, then that restriction would remain as it is, and the boiler can be removed from the permit. Emissions from exempt sources removed from a permit are ignored in future evaluations. Likewise, emissions from exempt sources added later to a facility are ignored.

The newly exempted sources are not automatically removed from the permit. The permittee must request the removal. No fee is charged solely for such permit modification. If the permit is also being modified for other reasons, the appropriate fee should be paid.

A facility may not request revision and relaxation of permit conditions, emission rates and acceptable ambient levels, on the grounds they will be subject to a maximum achievable control technology rule in the future. However, once a facility subject to MACT demonstrates compliance with the acceptable ambient levels, future demonstration shall only be required on a five-year basis (**3Q .0701**). The rules still require a compliance demonstration when the last MACT, except the combustion source MACT, is applied to the facility.

**COMPLIANCE SCHEDULE FOR PREVIOUSLY UNKNOWN
TOXIC AIR POLLUTANT EMISSIONS: 3Q .0708**

To qualify for Rule **3Q .0708**, the emissions of the pollutant would must have been unknown to the facility. Furthermore, the permitting agency must not have known about the emissions of this pollutant during the permitting process, or if it did know, it failed to notify the facility of this fact. If the facility knew about such emissions and failed to disclose these emissions, it would not be eligible for this Rule.

DEMONSTRATIONS: 3Q .0709

Rule **3Q .0709** requires the owner or operator of a facility to develop and implement a pollution prevention plan when the economic hardship, technical infeasibility, or site-specific risk assessment compliance options are used. The minimum elements of the pollution prevention plan are specified in the Rule and are:

- (1) a statement of corporate and facility commitment to pollution prevention;
- (2) identification of current and past pollution prevention activities;
- (3) a time line and strategy for implementation;
- (4) a description of ongoing and planned employee education efforts;
- (5) identification of internal pollution prevention goals selected by the facility and expressed in either qualitative or quantitative terms.

Along with the permit application, the facility shall submit the pollution prevention plan. The pollution prevention plan shall be maintained on the site. A progress report on implementation of the plan shall be prepared by the facility annually and shall be made available to Department personnel for review upon request. This pollution prevention plan is not limited to air emissions, but may cover all media.

EMISSION RATES REQUIRING A PERMIT: 3Q .0711

The toxic permitting exemption rates apply to the entire facility.

Calculation of Toxics Permitting Exemption Rates

Original Calculations = May 1990 to July 1996

Toxic Permitting Exemption Rate (TPER) is also called Permit Exemption Level (PEL), Modeling Exemption Emission Rate (MEER), and Permit Exemption Emission Rate (PEER).

Most of the TPER contained in **3Q .0711** have been computed using the following equation:

for 1-hour AAL

$$[(\text{AAL (mg/m}^3\text{)}) \times (1 \text{ lb/hr})] \div (3.932 \text{ mg/m}^3) = \text{lb/hr}$$

for 24-hr AAL

$$[(\text{AAL (mg/m}^3\text{)}) \times (1 \text{ lb/hr}) \times (24 \text{ hr/day})] \div [(2.864 \text{ mg/m}^3) \times (0.4)] = \text{lb/day}$$

for annual AAL

$$[(\text{AAL (mg/m}^3\text{)}) \times (1 \text{ lb/hr}) \times (8760 \text{ hr/yr})] \div [2.864 \text{ mg/m}^3 \times (0.045)] = \text{lb/year}$$

The PTPLU-2 model, which is a point source gaussian dispersion screening model, has been used to calculate the 1-hour concentrations. The model incorporates a set of worst case meteorological data. Stack parameters have been selected that would result in conservatively high ground level

Air Quality

concentrations. The input parameters are as follows:

emission rate	0.126 grams/sec (1 lb/hr)
physical stack height	5 meters
stack gas temperature	293E kelvin
stack gas velocity	0.1 meter/sec
stack diameter	1.0 meter

The highest model concentration is 3.932 mg/m³. This concentration has been used for the 1-hour averaging period. Because this concentration occurs with a wind speed of less than 0.5 m/s, it is assumed not to be realistic for the 24-hour or annual period. The highest modeled concentration for a wind speed at or greater than 1.0 m/s is 2.864 mg/m³. This concentration has been used for the 24-hour and annual averaging periods. The denominators in these equations (i.e., 0.4 for 24-hour averaging period and 0.045 for the annual averaging period) convert the 1-hour concentration to the other averaging periods.

Calculations from July 1998

TPERs for toluene diisocyanate, 2,4- and 2,6-isomers and the one hour value for methylene chloride have been computed using the following equations:

for 1-hour AAL

$$[(\text{AAL (mg/m}^3\text{)}) \times (1 \text{ lb/hr})] \div (4.52 \text{ mg/m}^3) = \text{lb/hr}$$

for 24-hr AAL

$$[(\text{AAL (mg/m}^3\text{)}) \times (1 \text{ lb/hr}) \times (24 \text{ hr/day})] \div [(4.52 \text{ mg/m}^3) \times (0.4)] \\ = \text{lb/day}$$

for annual AAL

$$[(\text{AAL (mg/m}^3\text{)}) \times (1 \text{ lb/hr}) \times 8760 \text{ hr/yr}] \div [(4.52 \text{ mg/m}^3) \times 0.08] = \text{lb/yr}$$

SCREEN2 (92245), a gaussian dispersion screening model, has been used to estimate ambient concentrations based on a very conservative modeling scenario. The model automatically uses a set of worst case meteorological data. The following input parameters are expected to result in a conservatively high ambient concentration:

emission rate	0.126 grams/sec (1 lb/hr)
physical stack height	5.0 meters
stack gas temperature	293E kelvin
stack gas velocity	0.001 meter/sec
stack diameter	1.0 meter

The highest modeled concentration from this scenario was 4.52 mg/m³, which occurred with a wind speed of 1 m/sec. This concentration is higher than the modeled concentration used to develop the original TPERs (2.864 mg/m³, 1 m/sec wind speed) above. The original calculations used an exit velocity of 0.1 m/sec. The new exit velocity of 0.001 m/sec significantly increases the maximum concentration. For horizontal stacks or non-buoyant plumes, the EPA recommends a 0.001 m/sec exit velocity for worst case determinations.

Another difference in the equations is the annual conversion factor. The 0.45 annual conversion factor used in the earlier calculations has changed to 0.08 as recommended in the EPA's SCREEN2 guidelines.

**POLLUTANTS WITH OTHERWISE APPLICABLE
FEDERAL STANDARDS OR REQUIREMENTS: 3Q .0713**

Rule **3Q .0713** applies only to situations where a facility desires to substitute different control measures that it has in place under the toxics program in lieu of a federal MACT standard. It requires that toxics permits for Title V facilities subject to Section 112 of the federal Clean Air Act contain levels of control no less stringent and in the same form and units of measure as the applicable federal standard. A facility using the provisions of this Rule would have to achieve compliance by the same date that it would be required to comply with the MACT standards. The permit needs to contain the level of control and compliance schedule.

APPENDIX 15 OPEN BURNING

PERMIT REQUIREMENTS

Permissible Open Burning

Rule **3D .1903(b)**, Permissible Open Burning, lists several categories of open burning allowed without a permit. If a category is not listed, then such open burning is prohibited. A permit may not be issued for a prohibited category of open burning.

The following types of open burning are allowed under **3D .1903(b)**:

1. leaves, tree branches, and yard trimmings if the conditions set out in the Rule are met;
2. land clearing or right-of-way maintenance if the conditions set out in the Rule are met;
3. camp fires and fires used solely for outdoor cooking and other recreational purposes, for ceremonial occasions, or for human warmth and comfort if the conditions set out in the Rule are met;
4. forest management practices acceptable to the Division of Forest Resources;
5. disease and pest control on agricultural lands or other agricultural or apicultural practices acceptable to the Department of Agriculture;
6. wildlife management practices acceptable to the Wildlife Management Commission;
7. disposal of dangerous materials, i.e., explosives or containers used in holding or transporting of explosives, when it is the safest and most practical method of disposal;
8. testing or developing fire extinguishing materials or equipment;
9. instruction and training of firefighting personnel;
10. temporary air curtain burners (an air curtain burner at a site less than nine months) that burns only waste generated on-site;

Open Burning Requiring Permission But Not a Permit

The following types of open burning require permission:

1. land clearing or right-of-way maintenance when burning is to occur within less than 1000 feet of a dwelling, commercial or institutional establishment, or other occupied structure not located on the property where the burning is to be conducted;
2. disposal of material generated from a natural disaster;
3. instruction and training of firefighting personnel when the training is not conducted under the supervision of or with the cooperation of the Division of Forest Resources, Department of Insurance, North Carolina technical institutes, or North Carolina community colleges.

Air Curtain Burners

An air curtain burner that is located temporarily at a site, i.e, at the site less than nine months, and that burns waste generated on-site does not need an air permit. All air curtain burners have to comply with the requirements of Rule 3D .1904, Air Curtain Burners.

DEFINITIONS

Occupied Structure

Rule **3D .1902(7)** defines “occupied structure” as “a building in which people may live or work or one intended for housing farm or other domestic animals.” If the primary purpose of a structure is to house domestic animals, it is considered an occupied structure. If the primary purpose of a structure is storage in which a domestic animal happens to sleep, then it would not be considered an occupied structure. Thus, if housing livestock or other domestic animals is an incidental use of the structure, it is not considered an occupied structure.

FIRE TRAINING

3D .1903(b)(10)

Rule **3D .1903(b)(10)** allows open burning for instruction and training of firefighting personnel when the burning is conducted under the supervision or with the cooperation of the Division of Forest Resources, Department of Insurance, North Carolina technical institutes, or North Carolina community colleges. Generally, this training takes place at “permanent facilities.” The burning is repetitious in nature. A permit must be obtained from the Forsyth County Environmental Affairs Department prior to burning.

3D .1903(b)(11)

Rule **3D .1903(b)(11)** allows open burning for instructing and training of firefighting personnel that does not qualify for coverage under **3D .1903(b)(10)**. It is a “catchall” for other types of burning for firefighting training, e.g., burning of structures under the supervision of a certified instructor of the insurance commission for training of volunteer firemen.

Burning is permissible only as a fire training exercise with the fire department present during the burning. Other criteria that the Department shall use in granting permission are the type, amount, and nature of combustible material.

Permission shall not be given for the burning of salvageable items, such as insulated wire and electric motors, or if the primary purpose of the fire is to dispose of synthetic materials or refuse. Permission shall not be given to burn previously demolished structures. A "bulldozed" pile of rubble is not a legitimate source of fire training, and permission shall not be granted to burn such material. If a structure cannot be entered and the fire set, extinguished, and reset multiple times, then the fire training value is questionable.

The burden of demonstrating that any proposed exercise is legitimate training, and is therefore permissible, lies with the fire department. If the Department believes that training is not the primary goal of the exercise, it may deny permission to burn.

Blanket permission allowing the open burning of small structures shall not be given.

Asbestos

Before a structure is burned, the asbestos requirements of 40 CFR 61.145 and any other applicable asbestos requirements in 40 CFR Part 61, Subpart M need to be met. The Forsyth County Environmental Affairs Department should be notified. A permit must be obtained from the Forsyth County Environmental Affairs Department prior to burning. Either the owner of the structure or the fire department has to obtain a permit and to document properly that the structure to be burned is asbestos

Air Quality

free or is not covered under the asbestos rules.

Under 40 CFR 61.145(c)(10), if a facility is demolished by intentional burning, all regulated asbestos-containing materials (RACM), including Category I and Category II nonfriable asbestos-containing material must be removed according to the NESHAP regulations before burning. Furthermore, since the intentional burning of a facility constitutes a demolition, the proper notification must be completed and submitted to the Department before removal of any RACM or Category I and II nonfriable materials that may become friable (40 CFR 61.145 (a), (b), (c)). This responsibility belongs to the owner or operator of the facility.

PERMISSIBLE OPEN BURNING: 3D .1903

Public Pickup: 3D .1903(b)(1)

“Public Pickup” means the removal of refuse, yard trimmings, limbs, or other plant material from a residence by a governmental agency, private company contracted by a governmental agency, or municipal service. When an individual has the option of contracting pickup service for himself, such pickup service is not considered public pickup. Such an individual is allowed to burn under **3D .1903(b)(1)** if he chooses not to use a contracted service. However, an individual who has no option about who offers pickup service in his area, i.e., the county or city provides the service to its citizens by either contracting or providing it, is not allowed to burn under **3D .1903(b)(1)**.

Setback from Roadway: 3D .1903(b)(2)

3D .1903(b)(2) requires burning of land clearing or right-of-way maintenance debris to be at least 250 feet away from all public roads downwind of the prevailing winds at the time of the burn. This requirement allows burning less than 250 feet from a public road if the prevailing winds are away from that road at the time of the burn. Burning can occur next to a public road if the prevailing winds are away from the road at the time of the burn.

Right-of-way: 3D .1903(b)(2)

Under **3D .1903(b)(2)**, right-of-way means “a legal right of passage over another person’s ground;” “land over which a public road, an electric power line, etc. passes;” “the land used by a public utility (as for transmission lines);” “a route that it is lawful to use.” Right-of-way is “the area over which a right-of-way exists.” Right-of-way is associated with easement.

AIR CURTAIN BURNERS

If the public can comply with **3D .1903(b)(2)**, the public may dispose of the material by open burning. Therefore, if the burner uses an air curtain burner, he should not be penalized for using a better, i.e., generally cleaner, technology. Waivers or exceptions allowed for open burning are allowed for air curtain burners if the material burned could otherwise be disposed of by open burning.

Visible Emissions

3D .1904(b)(6) requires operators of the air curtain burner to be certified to read visible emissions and the facility to be tested for visible emissions within 90 days after initial operations and within 90 days before the permit expires. This requirement applies to both temporary and permanent air curtain

Air Quality

burners. This test is site specific. Each time that an air curtain burner is moved to a site for longer than 90 days, a visible emissions test is required. If an air curtain burner is at a temporary site longer than 90 days, a visible emissions test is required. However, if it is at a temporary site less than 90 days, a visible emissions test is not required. The test records should be kept on-site. The owner or operator of the air curtain burner does not have to submit the test results unless required to do so by a permit condition.

Certified Visible Emissions Reader and Operator

Rule **3D .1904(b)(6)** requires the operators of air curtain burners to be certified to read visible emissions. The operator is the person who is in charge of the day-to-day operation (loading, firing, unloading, etc.). The operator does not have to be the actual physical operator of the air curtain burner. The operator is one who has authority over the physical operation of the air curtain burner and who can cause, order, or require changes in the method of operation, e.g., loading material into the pit. An operator who is a certified visible emissions reader should be on-site at all times burning is occurring to ensure that corrective action is taken if visible emissions are exceeded.

Setback Requirements for Temporary Air Curtain Burners: 3D .1903 and .1904

A temporary air curtain burner may be operated within less than 1000 feet of an occupied structure if these conditions are met:

1. The burner obtains a signed waiver from the residents or owners of all the occupied structures within 1000 feet of the air curtain burner.
2. The material burned is generated on-site; material is not brought from off-site to burn.
3. All the conditions of **3D .1903(b)(2)**, Permissible Open Burning without a Permit, are met.
4. The regional supervisor grants permission.

A temporary air curtain burner is one that is operated for less than nine months (**3D .1904(a)**).

The air curtain burner rule **3D .1904(b)(12)** requires that a temporary air curtain burner be located at least 500 feet from “any dwelling, group of dwellings, or commercial or institutional establishment, or other occupied structure not located on the property on which the burning is conducted.” Distances of 1000 or more do not need regional approval. If the burning is to last less than nine months and no materials to be burned are transported from another site, then a permit is not required (**3D .1904(a)**). **3D .1903(b)(2)(B)** requires that the burning be at least 1000 feet from any occupied structure, etc. This requirement may be waived if the burner obtains a signed waiver from the residents or owners of all occupied structures, etc. within 1000 feet of the burn site and the regional supervisor approves the burning. Thus, a temporary air curtain burner should be allowed to operate within 1000 feet of an occupied structure, etc. if the burner obtains a signed waiver from the residents or owners of all occupied structures, etc. within 1000 feet of the burn site and the Department approves the burning.

Recordkeeping Requirements

Rule **3D .1904(c)** requires the owner or operator of an air curtain burner at a temporary site shall keep a log of total number of tons burned per temporary site. These logs should be kept on-site.

APPENDIX 16 ODOR

OVERVIEW OF ODOR CONTROL PROGRAM

Odorous emissions are controlled primarily by three regulations: **3D .0522**, Control and Prohibition of Odorous Emissions, **.0528**, Total Reduced Sulfur from Kraft Pulp Mills, and **.0539**, Odor Control of Feed Ingredient Manufacturing Plants. Rule **3D .0524**, New Source Performance Standards, (40 CFR Part 60, Subpart BB, Kraft Pulp Mills) contains odor control requirements for total reduced sulfur compounds from new kraft pulp mills.

CONTROL AND PROHIBITION OF ODOROUS EMISSIONS: 3D .0522

Air Stripping

Rule **3D .0522** applies to air stripping projects.

Farm Operations

Rule **3D .0522** does not apply to the farm industry, including hog operations, where there is not “plant processing.”

ODOR CONTROL FOR FEED INGREDIENT MANUFACTURING PLANTS: 3D .0539

Overview

Rule **3D .0539** controls odorous emissions from feed ingredient manufacturing plants (rendering). It applies to all facilities that produces feed-grade animal proteins or feed-grade animal fats and oils. It does not apply to any portions of such facilities engaged exclusively in the processing of food for human consumption, vegetable oil production, or facilities solely engaged in the processing of marine byproducts. The rule does not apply to facilities that mix feed-grade animal protein but do not render animal by-products to feed-grade animal protein. These facilities, however, still have to comply with **3D .0522**, Control and Prohibition of Odorous Emissions.

Rule **3D .0539** establishes operating requirements for the transporting, handling and treatment of renderable raw material. All material must pass through condensers to remove all steam and non-condensable material, which is then incinerated or treated in an equally effective manner. Facilities must install continuous measuring and recording devices to document proper equipment operations. “Housekeeping” activities are specified for the handling and transporting of raw material. These activities include the use of covered vehicles and containers and the use of hoods and fans to vent odorous emissions to odor control devices.

Air Quality

Equivalent Control Devices

Rule **3D .0539(c)** requires all non-condensibles to pass through the condensers to be incinerated at 1200EF for at least 0.3 seconds, or treated in an equally effective manner. Wet scrubbers, bio-filtration systems, and other control technologies may be used in place of incineration if the facility demonstrates that such control technology is at least as effective in reducing odorous emissions as incinerating at 1200EF for at least 0.3 seconds.

Storage and Handling of Raw Material

Rule **3D .0539(f)** prohibits a person from causing or permitting material to be handled, transported, or stored and from undertaking the preparation of any raw material without taking reasonable precautions to prevent odorous emissions. It then lists reasonable precautions, which include enclosed areas, properly designed trucks, and the use of hoods and fans to vent storage areas to a control device. Material in storage is material unloaded at the facility **or** material located at the facility for at least 24 hours. The intent of this Paragraph is to control those odorous emissions from areas other than those that are part of the process equipment. A typical facility unloads its material into a large underground pit where it is conveyed to the cookers. However, if a facility routinely unloads its material in the parking area where it is then transported to the pit, then that area is the area of concern. At most facilities the raw material is processed in less than 24 hours. The intent of this Paragraph is to encourage rapid turn around in the processing of the material. If a facility chooses to stockpile material, then it is required to have enclosed and properly vented areas in which to do it. However, if material is immediately entering the process stream, the facility is not required to enclose the pit area to control emissions.

Excess Emissions Reporting

Rule **3D .0539(g)** requires the owner or operator of the facility to notify the Department within two business days after conditions are encountered that cause or may cause release of excessive and malodorous gases or vapors. Rule **3D .0535**, Excess Emissions Reporting and Malfunctions, requires the owner or operator to report within 24 hours malfunctions or other abnormal conditions that cause excess emissions that last for more than four hours. (The 24-hour reporting requirement is proposed to be changed to the next business day in a future rule making.) These two rules need to be interpreted in such a way as to eliminate possible conflict.

Both **3D .0535** and **.0539** provisions can be satisfied by the following. Under Rule **3D .0535**, the owner or operator of a facility covered under **3D .0539** is to report excess emissions that result from malfunctions, breakdowns of processes or control equipment, or any other abnormal conditions if the excess emissions last for more than four hours. This report is required to be made within 24 hours. If this condition of excess emissions lasts less than four hours, the owner or operator is required to report it within two business days under **3D .0539(g)**. Such excess emissions are considered a violation unless the excess emissions are demonstrated to result from a malfunction following the procedures in **3D .0535**. If a condition occurs that may cause, or is likely to cause, release of excessive and malodorous emissions, but do not cause such release, this information is also required to be reported within two business days. In summary where **3D .0535** requires reporting, the procedures in **3D .0535** are followed. Where **3D .0535** does not require reporting, the procedures in **3D .0539** are followed.

**APPENDIX 17
EMISSIONS TRADING**

EMISSIONS TRADING: BUBBLES

Emissions trading (bubbles) need to comply with both the County requirements, which are contained in **3D .0501**, and the latest federal requirements, which are somewhat different than the County requirements.

Air Quality

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Air Quality

**APPENDIX 18
MALFUNCTION, EXCESS EMISSIONS**

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Air Quality

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APPENDIX 19 STACK TESTING

PARTICULATE EMISSIONS TEST METHODS

40 CFR Part 60, Appendix A, contains the following test methods for particulates:

- Method 5, Particulate Emissions from Stationary Sources
- Method 5A, Particulate Emissions from the Asphalt Processing and –Asphalt Roofing Industry
- Method 5B, Nonsulfuric Acid Emissions from Stationary Sources
- Method 5D, Particulate Emissions from Positive Pressure Bagfilters
- Method 5E, Particulate Emissions from the Wool Fiberglass Insulation Manufacturing Industry
- Method 5F, Nonsulfate Particulate Emissions from Stationary Sources
- Method 5G, Particulate Emissions from Wood Heaters from Dilution Tunnel Sampling Location
- Method 5H Particulate Emissions from Wood Heater from a Stack Location

40 CFR Part 51, Appendix M, contains the following test methods for particulates:

- Method 201 PM10 Emissions (Exhaust Gas Recycle Procedure)
- Method 201A PM10 Emissions (Constant Sampling Rate Procedure)
- Method 202 Condensible Particulate Emissions from Stationary Sources

The following issues should be considered when determining the appropriate test methods for particulate matter emissions:

1. For new source performance standards (NSPS) regulated facilities, the test method is specified in the applicable Subpart. For example, NSPS 40 CFR Part 60, Subpart AAa, Standards of Performance for Steel Plants, requires particulate emissions testing according to EPA Reference Method 5 for negative-pressure fabric filters and Method 5D for positive-pressure fabric filters.
2. To demonstrate compliance with particulate emissions limits in the Forsyth County Air Quality Control Ordinance and Technical Code, the Department reserves the right to require that condensible particulate matter be quantified in conjunction with the filterable particulate matter. For these specific cases, the particulate emissions should be determined according to Reference Method 5, 201, or 201A and Method 202.
3. The regulatory bases for requiring the quantification and reporting of condensible particulate matter for certain sources and regulations are as follows:
 - a. 40 CFR Part 51, Method 201 and 201A state, “EPA recognizes that condensible emissions not collected by an in-stack method are also PM10, and that emissions that contribute to ambient levels are the sum of condensible emissions and emissions measured by an in-stack PM10 method” and “EPA suggests that source PM10 measurement include both in-stack PM10 and condensible emissions.”
 - b. **3D .0501**, Compliance with Emissions Control Standards, acknowledges that “a number of sources are known to emit organic material (oil, pitch, plasticizers, etc.) which exist as finely divided liquid droplets at ambient conditions. These materials cannot be satisfactorily collected by means of the above Method 5.”

Air Quality

In summary whether to require quantification of condensible particulate matter should be made on a case-by-case basis. The factors for determining whether to include condensible particulate matter are the type of emission source and any applicable regulations.

SULFUR DIOXIDE TEST METHODS

Fuel Analysis

That part of **3D .0501(c)(4)** that specifies the time intervals over which to take fuel samples applies only when fuel samples are taken and analyzed to demonstrate compliance with ambient air quality standards for sulfur dioxide (**3D .0402**). It does not apply when fuel samples are taken and analyzed to demonstrate compliance with the emission standard for sulfur dioxide (**3D .0516**)

DETERMINATION OF CONTROL SYSTEM EFFICIENCY: 3D .0914

Rule **3D .0914** requires that the efficiency of a capture system used to transport volatile organic compound emissions be determined using accepted engineering practices and in a manner approved by the Director. The Director has approved the methods contained in 55 FR 26814, June 29, 1990, pages 26887 to 26909 (Appendix B of 40 CFR 52.741) as being accepted engineering practices. Any deviations from these methods must be acceptable to the Department. Except for minor changes in methodology that do not have the potential to change the results, all deviations from these methods should also be approved by the Environmental Protection Agency.

**APPENDIX 20
MONITORING, RECORDKEEPING, REPORTING**

FUEL ANALYSES

Sulfur Content

In **3D .0501(c)(4)** the specified time intervals apply only where fuel samples are taken for compliance with the ambient air quality standards for sulfur dioxide in **3D .0402**.

When samples are taken for compliance with the emission standards for sulfur dioxide in **3D .0516**, the time intervals in **3D .0501(c)(4)** do not apply.

The remainder of **3D .0501(c)(4)** apply for both purposes for sampling.

COMPLIANCE ASSURANCE MONITORING

The compliance assurance monitoring (CAM) rule applies to each pollutant specific emission unit (PSEU) that meets these three conditions:

1. The PSEU must be subject to an emission limitation or standard;
2. The PSEU must use a control device to achieve compliance; and
3. The PSEU must have pre-control emissions that exceed or are equivalent to the major source threshold.

The term “control device” means equipment, other than inherent process equipment, that is used to destroy or remove air pollutants before discharge to the atmosphere. The term “control device” does not include passive methods such as lids or seals or inherent process equipment provided for safety or material recovery (See 40 CFR 64.2(a)).

The following pollutant specific emission units are excluded from the compliance assurance monitoring rules:

1. those subject to 111 or 112 standards promulgated after November 15, 1990, since these standards have been and will be designed with monitoring that provides a reasonable assurance of compliance;
2. those subject to the acid rain program, emissions trading programs such as the acid rain program, emissions caps like those provided in the Intel P4 permit, or continuous compliance determination methods, i.e., where a regulatory requirement specifies a monitoring method for compliance, because compliance assurance monitoring is believed to be redundant for these units (the permitting authorities should ensure that these units have or get monitoring sufficient for trading emission credits in the proper currency);
3. certain municipally-owned utility units, as defined in 40 CFR 72.2, that produce electricity during periods of peak electrical demand or emergency situations since these periods or situations are infrequent. (See 40 CFR 64.2(b))

The compliance assurance monitoring rule aims to have owners and operators maintain their control devices at the level that assures compliance. The rule allows owners and operators to design compliance assurance monitoring plans on current requirements and operating practices, to select representative parameters on which compliance can be assured, to establish indicator ranges—or procedures for setting the indicator ranges—for the parameters, to use performance testing and other information to verify the parameters and ranges, and to correct control device performance problems as

Air Quality

expeditiously as practicable. (See 40 CFR 64.3 and 64.7)

The compliance assurance plan must:

1. describe the indicators to be monitored;
2. describe the ranges or the process to set indicator ranges;
3. describe the performance criteria for monitoring, including:
 - a. specifications for obtaining representative data,
 - b. verification procedures to confirm the monitoring's operational status,
 - c. quality assurance and control procedures,
 - d. monitoring frequency, which shall be at least:
 - A. four times per hour (minimum) if post control emissions are equal to or exceed the major source threshold, or
 - B. one time per day (minimum) if post control emissions are less than the major source threshold;
4. provide a justification for the use of parameters, ranges, and monitoring approach;
5. provide emissions test data; and
6. provide, if necessary, an implementation plan for installing, testing, and operating the monitoring equipment. (See 40 CFR 64.4)

Permits are required to have the following items:

1. the approved monitoring approach, including the indicators—or the means to measure the indicators—to be monitored;
2. a definition of exceedance or excursions;
3. the duty to conduct monitoring;
4. minimum data availability and averaging period requirements; and
5. milestones for testing, installation, or final verification. (See 40 CFR 64.6(c))

The compliance assurance monitoring plans can be revised using the permit modification process in **3Q .0500** (See 40 CFR 64.7(e)). Revisions to indicator ranges can occur without using the Title V permitting procedures, provided that the permittee has submitted and the Department has approved as part of the compliance assurance monitoring plan an indicator or indicator range setting process (See 40 CFR 64.4(a)(2)).

If a possible exception to compliance is reported to the Department, the Department should investigate to determine if a violation occurred and potentially use the information to bring an enforcement action for a violation. Permittees are to make every effort to minimize any periods that exceedances, excursions, or deviations occur (See 40 CFR 64.7(d)). Should the Department determine that the permittee has not reacted appropriately, it may require the permittee to implement a quality improvement plan (QIP). A quality improvement plan shall include the procedures for evaluating control performance problems as well as improved preventive maintenance practices, process operation changes, improvements to control methods, and more frequent or improved monitoring (See 40 CFR 64.8).

The compliance assurance monitoring rule does not require the Department to develop compliance assurance monitoring plans if a permit applicant fails to provide an approvable plan. However, the compliance assurance monitoring rule does require the Department to provide monitoring that satisfies the requirements of 40 CFR Part 70 and a compliance schedule for providing an approvable compliance assurance monitoring plan within 180 days (See 40 CFR 64.6(e)(3)).

Air Quality

**APPENDIX 21
MODELING**

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Air Quality

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Air Quality

APPENDIX 22
TRANSPORTATION FACILITIES INCLUDING PERMITTING

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Air Quality

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**APPENDIX 23
INSPECTION/MAINTENANCE**

[Note: The State retained jurisdiction of the Inspection/Maintenance program]

**INSPECTION/MAINTENANCE REQUIREMENTS
FOR VEHICLES OPERATED ON FEDERAL FACILITIES**

Under Rule **15A NCAC 2D .1002** gasoline-powered motor vehicles operated on federal installations in a county that has an inspection/maintenance program and that meet the requirements of 40 CFR 51.356(a)(4) are subject to the inspection/maintenance rules. 40 CFR 51.356(a)(4) reads:

(4) Vehicles which are operated on Federal installations located within an I/M program area shall be tested, regardless of whether the vehicles are registered in the state or local I/M areas. This requirement applies to all employee-owned or leased vehicles (including vehicles owned, leased, or operated by civilian and military personnel on Federal installations) as well as agency-owned or operated vehicles, except tactical military vehicles, operated on the installation. This requirement shall not apply to visiting agency, employee, or military personnel vehicles as long as such visits do not exceed 60 calendar days per year [The remainder of this section discusses reimbursement for testing agency vehicles and documentation of compliance with I/M rules.]

Air Quality

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**APPENDIX 24
OXYGENATED GASOLINE AND OTHER FUEL REQUIREMENTS**

[Note: The State retained jurisdiction of the Oxygenated Gasoline Standards]

OVERVIEW OF OXYGENATED GASOLINE STANDARD RULES

Rules in the **Section 15A NCAC 2D .1300**, Oxygenated Gasoline Standard, are a preadopted contingency plan for carbon monoxide maintenance areas. These rules are contingency plans for three carbon monoxide maintenance areas: Wake and Durham Counties, Forsyth County, and Mecklenburg County. If implemented, these rules would apply to the metropolitan statistical area (MSA) containing the nonattainment county. These areas are:

- (1) for Forsyth County, the Greensboro/Winston-Salem/High Point Metropolitan Statistical Area consisting of Davie, Davidson, Forsyth, Guilford, Randolph, Stokes, and Yadkin Counties;
- (2) for Mecklenburg County, the Charlotte/Gastonia/Rock Hill Metropolitan Statistical Area consisting of Cabarrus, Gaston, Mecklenburg, and Union Counties; and
- (3) for Wake and Durham Counties, the Raleigh/Durham Metropolitan Statistical Area consisting of Durham, Franklin, Orange, and Wake Counties.

If a violation of the carbon monoxide standard is measured in one of these carbon monoxide maintenance areas, the Director of the Division of Air Quality will initiate analyses to determine if additional measures are needed to attain and maintain the ambient air quality standards in that area. If the Director finds that 2.7 percent oxygen by weight oxygenated gasoline is needed, the Director shall notice in the *North Carolina Register* by the following September 1 that oxygenated gasoline needs to be sold in that area beginning on the following November 1. Also the Director shall notify by July 1 the Gasoline and Oil Inspection Board and the primary gasoline distributors that only oxygenated gasoline will be sold in that area beginning on the following November 1.

REID VAPOR PRESSURE FOR GASOLINE DURING OZONE SEASON

The Reid vapor pressure gasoline sold in Forsyth County is not to exceed 9.0 psi during May and 7.8 psi during June, July, August, and September. (The authority for these requirements is 40 CFR 80.27.)

Air Quality

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Air Quality

**APPENDIX 25
TRANSPORTATION AND GENERAL CONFORMITY**

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Air Quality

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APPENDIX 26 GENERAL PERMIT PROVISIONS

OVERVIEW OF GENERAL PROVISION SECTION

Section **3Q .0100**, General Provisions, applies to all the Sections in Subchapter 3Q, Air Quality Permit Procedures. It applies to permitting procedures for non-Title V sources, Title V sources, and transportation sources (such as large parking lots).

ORDERING EQUIPMENT BEFORE OBTAINING A PERMIT

Facility Subject to Prevention of Significant Deterioration

If the equipment is involved in PSD, it may not be purchased until the permit is issued.

Facility Not Subject to Prevention of Significant Deterioration

An order to purchase air pollution control equipment may be placed before obtaining a permit. However, a permit must be applied for and obtained before entering into an irrevocable contract for the construction and installation of air pollution control equipment.

PERMITTING AIR POLLUTION CONTROL EQUIPMENT

If a source would qualify for a permit exemption under Rule **3Q .0102**, Activities Exempted from Permit Requirements, without any air pollution control device, it would qualify for the exemption even if it had a control device. The fact that an emission source is controlled or uncontrolled is not a factor to be considered when determining the need for permitting. The exception would be **3Q .0102(c)(2)(F)**, case-by-case exemption, where the source, in order to qualify for this exemption, must not have any control device.

A secondary combustion chamber that is an integral part of a combustion device used for energy production, or for cleaning or waste disposal purposes is not considered a control device under **3D .0101(9)**, Definitions. An integral part is one without which the unit cannot be manufactured, purchased, or operated. As such, any of these units exempted from permitting under **3Q .0102**, Activities Exempted from Permit Requirements, are not required to have a permit based on being equipped with a control device.

POTENTIAL EMISSIONS

SIP Allowable Limits Methodology

In some instances the allowable emission limit fixed by a rule that is part of the State Implementation Plan (SIP) may be used to calculate potential emissions. The SIP allowable limits in **3D .0500**, Emission Control Standards may be used as upper limits in calculating the potential emissions to determine a facility's status, i.e., whether it is small or Title V. For example, if a facility's maximum

Air Quality

rated process rate is 12.9 tons per hour, its maximum allowable particulate emission rate under **3D .0515**, Particulates from Miscellaneous Industrial Processes, is 22.8 pounds per hour or 100 tons per year (at 8760 hours per year). Since the facility is already limited by its permit and the rule to this amount, its potential emission rate is less than 100 tons per year and is, therefore, a small facility. Whether or not the facility uses controls is irrelevant since the permit is not considered in the federal domain. Thus, the SIP limit is sufficient to make the Title V applicability moot, since the facility is actually small under County rules.

Concrete Batch Plants

Based on the SIP allowable limit methodology, a concrete batch plant with a rated capacity of 325 cubic yards per hour is a small facility for permitting purposes.

Historical Actual Maximum Methodology

Another approach that may be used to calculate potential emissions is the historical actual maximum (HAM) method. This methodology is limited to facilities with sources whose emissions are uncontrolled and whose potential emissions are calculated to be unrealistically high. These sources may use their historical actual maximum emissions to calculate their potential emissions. The HAM is equal to the maximum average emission rate, in tons per year, at which the unit actually emitted the pollutant during any two-year period within the past five years that represents normal operations. This HAM is then expanded to (1) 8760 hours of operation and (2) maximum process capacity. If this expanded HAM is below the Title V threshold levels (100 tons per year for criteria pollutants and 10 or 25 tons per year for HAP), the facility is considered a small facility. If the expanded HAM is above the Title V threshold levels, the facility is subjected to the Title V permit procedures, or it must take limits to become a synthetic minor facility to avoid Title V. Also, if controls were used by the facility to calculate its HAM, it cannot be considered a small facility.

MODIFICATIONS

The General Statutes (GS 143-215.108) require a permit to “alter or change the construction or method of operation of any equipment or process from which air contaminants are or may be emitted.” “Alter or change” means to make a modification” (**3Q .0103(3)**). “Modification” means any physical change or change in method of operation that results in a change in emissions or affects compliance status of the source or facility” (**3Q .0103(23)**).

The General Statutes, **3Q .0101**, Required Air Quality Permits, and **.0102**, Activities Exempted from Permit Requirements, specify in broad terms when a permit is required for a modification. Based on these criteria, changes in coatings, finishes, or dyes are not modifications that require a permit revision unless one of these conditions are met:

1. New equipment is added.
2. A physical change of existing equipment, excluding reformulations, is made.
3. An increase in hours of operation limited by a permit is made.

As long as the change in finishes does not affect the current compliance status with **3D .0501(d)**, a strict interpretation of the rule means that no permit revision is required.

**APPENDIX 27
PERMIT EXEMPTIONS**

OVERVIEW OF PERMIT EXEMPTIONS

Rule **3Q .0102**, Activities Exempted from Permit Requirements, contains two groups of activities: activities exempted by category and activities exempted by size or production rate.

Activities Exempted by Category

Activities exempted because of category may be exempted from being listed on an a Section .0300 air quality permit and the air quality permit application. This Rule does not apply to facilities required to have a permit under Section .0500 of this Subchapter. They are not included in fee determinations. (Certain items in this list could still require a permit if they are subject to another regulation specifically mentioned in the rule.) This category of exemptions is sometimes referred to as 3Q .0102(c)(1) exemptions.

Activities Exempted by Size or Production Rate

Activities exempted because of size or production rate are not required to be permitted under Section .0300. They are also included in fee determinations.

When a group of such activities are considered at one facility, there is a possibility that their aggregate emissions will require an air permit for operation. As an example, space heaters are exempted by category. Thus, if a large construction company employs 25 natural gas fired heaters so that workers can maintain the feelings in their limbs, none of the heaters need be permitted. If a small college with multiple buildings operates twenty 3 mmBtu/hr natural gas-fired boilers (built after June 6, 1989) on site, then they would not be required to obtain a permit. In this case, the cumulative emission rate of any criteria pollutants from these boilers must be calculated to demonstrate the total is not over the Title V thresholds. If a similar facility operated one 20 mmBtu/hr distillate oil-fired boilers (built prior to June 9, 1989), a permit would not be required; however, if the facility operated three 20 million Btu/hr boilers, a permit would be required. This is because the cumulative emission rates of sulfur dioxide is over the 100 tpy threshold under Title V:

$$3 \text{ boilers} \times \frac{20 \frac{\text{mmBtu}}{\text{hr}}}{.141 \frac{\text{mmBtu}}{\text{gal}}} \times .142(.5\%) \frac{\text{lbs } SO_2}{\text{gal}} \times 8760 \frac{\text{hrs}}{\text{yr}} \times \frac{\text{ton}}{2000 \text{ lbs}} = 132 \text{ tpy of } SO_2$$

Air Quality

Determining if a Source Qualifies for an Exemption

A two-test approach may be used to determine if a source is exempted from needing a permit.

1. Determine if the source fits the description of any of the exemptions listed in **3D .0102(c)**. It only needs to fit under one of the exemptions. If it does not, it needs to be permitted. If it does, go to Step 2.
2. Determine if the source is covered by one of the following:
 - a. a new source performance standard except residential wood heaters (these standards are found in **3D .0524** and 40 CFR Part 60) (sources subject to 40 CFR Part 60, Subpart Dc or Kb at non-Title V facilities may qualify for the permit exemptions in Paragraph (b));
 - b. a national emission standard for hazardous air pollutant except asbestos demolition and renovation activities (these standards are found in **3D .1110** and 40 CFR Part 61);
 - c. prevention of significant deterioration (PSD) or limitations taken to avoid PSD (these requirements are found in **3D .0530**);
 - d. major new source review (NSR) under **3D .0531** and **3D .0532** or limitations taken to avoid NSR;
 - e. [not applicable in Forsyth County];
 - f. a maximum achievable control technology requirement for hazardous air pollutants (these requirements are found in **3D .1109** and 40 CFR Part 63).
 - g. air toxics. (The air toxic requirements are found in **3D .1100** and **3Q .0711**. If the source does not emit a toxic air pollutant for which the facility has been evaluated, it is exempted for needing a permit if it qualifies for one of the exemptions in **3Q .0102**, and is not covered under section a through f above.)

If a source is covered by one of the above, it needs to be permitted even if it is covered under one of the exemptions in **3Q .0102**. If the source is not covered under one of the above and if it fits one of the exemptions described in **3Q .0102**, it does not need to be permitted.

Exemption of Non-Title V Facilities

If all of the sources at a facility not subject to the permitting requirements under Section **3Q .0500**, Title V Procedures, (a non-Title V facility) are exempted from needing a permit under Rule **3Q .0102**, then a permit is not needed for the facility.

SPECIFIC EXEMPTIONS

Maintenance, Upkeep, and Replacement: 3Q .0102(c)(1)(A)

Hush House

Hush houses are exempted under **3Q .0102(c)(1)(A)**. A hush house is essentially a closed hanger in which aircraft enter, are fastened down, and fire their jet engines. This is done as a diagnostic evaluation to verify and isolate problems, such as vibrations or power interruption, in aircraft engines. This activity is in contrast to an engine test cell, where as part of the manufacturing procedure, the jet engine is removed from the craft and tested. In the latter situation, the test cell is considered a stationary source and is not exempted from permitting. Because the primary function of a hush house is routine maintenance and diagnostics, it is exempted from permitting.

Air Quality

Laboratory Activities: 3Q .0102(c)(1)(C)

Laboratory equipment with control devices, such as carbon canisters, that would otherwise be exempted under 3Q .0102(c)(1)(C) without the control device are exempted.

Research and Development Activities

Pilot plants and research and development activities that produce commercial products or feedstock materials are not eligible for exemption under 3Q .0102(c)(1)(C)(iv). If the product from a research and development activity is sold as scrap or waste or for recycling, it may be exempted under 3Q .0102(c)(1)(C)(iv). However, if any product from a research and development activity is sold to be used as product, that research and development activity is not eligible for exemption under 3Q .0102(c)(1)(C)(iv). Such activities require permitting unless they can qualify for another exemption under 3Q .0102, Activities Exempted from Permit Requirements.

Demonstration Coaters

Demonstration roll coaters and paint spray booths at a paint manufacturing facility may be exempted under 3Q .0102(c)(1)(C) if they are not used for production.

Storage Tanks Storing Inorganic Liquids: 3Q .0102(c)(1)(D)(iii)

Aqueous Solutions of Organic Compounds

A tank storing a fluid that is at least 10 percent by weight volatile organic compounds is not eligible for exemption under 3Q .0102(c)(1)(D)(iii). However, if the storage tank contains aqueous solutions with less than 10 percent by weight organic liquid, it is eligible for exemption under 3Q (c)(2)(D)(iii); the material being stored is considered inorganic.

Combustion and Heat Transfer Equipment: 3Q .0102(c)(1)(E)(i)

Small space heaters where surrounding air is heated by direct contact with the combustion chamber wall and is then moved to the space to be heated by gravity or fan may be exempted from needing a permit under 3Q .0102(c)(1)(E)(i).

Wastewater Treatment Processes: 3Q .0102(c)(1)(F)

The wastewater treatment process exemption under 3Q .0102(c)(1)(F) does not exempt auxiliary sources, such as generators and lime storage silos. These auxiliary sources may qualify for other exemptions under this Rule.

Does Not Emit Any Regulated Air Pollutants: 3Q .0102(c)(1)(L)(ix)

Mineral Processing Equipment (Stone Crushing Operations)

Wet process including classifying tanks, sand classifiers, sand screws, log washers, flumes, flume tanks, hydrocyclones, pumps, and ortners at nonmetallic mineral processing plants qualifies for exemption under 3Q .0102(c)(1)(L)(ix). (Wet processes include operations where material is processed with water. Wet processes do not include processes using wet suppression for dust control.) Also scales, magnets, surge tunnels, blending tunnels, chutes, gates, towers, and support structures qualify for exemption under 3Q .0102(c)(1)(L)(ix). Dewatering screens may be subject to new source performance standards (40 CFR Part 60, Subpart OOO) and do not qualify for exemption.

Air Quality

No Applicable Requirement: 3Q .0102(c)(1)(I)(xi)

Paint Spray Booths

Paint spray booths are not eligible for exemption under **3D .0102(c)(1)(L)(xi)**. Paint spray booths have an applicable requirement, **3D .0518(d)**. They may be exempted under **3Q .0102(c)(2)(D)(i)**.

Cooling Towers

Cooling towers not subject to MACT are eligible for exemption under **2Q .0102(c)(1)(L)(ix)**. Cooling towers subject to MACT are required to have a permit under Title V.

Fuel Combustion Exemption: 3Q .0102(c)(2)(B)(i) and (ii)

The fuel combustion exemption under **3Q .0102(c)(2)(B)** is allowable only for external combustion sources (or indirect heat exchangers) whose emissions are totally from the combustion of kerosene, No. 1 fuel oil, No. 2 fuel oil, equivalent unadulterated fuels, liquefied petroleum gas, or natural gas.

The fuel combustion exemption under **3Q .0102(c)(2)(B)** applies only at facilities not required to have a permit under Title V. The dates specified in the regulations do not allow NSPS sources to be exempt. For facilities required to have a permit under Title V, fuel combustion equipment may be exempted under **3Q .0102(c)(2)(E)(i)**, the miscellaneous exemption. Hence, natural gas-fired boilers with a capacity less than 10 million Btu per hour and distillate oil-fired boilers with a capacity of 2.25 million Btu per hour or less are exempted. (Fuel combustion equipment is defined in rule **3D .0103**, Definitions, as any fuel burning source covered **3D .0503**, Particulates from Fuel Burning Indirect Heat Exchangers, **.0504**, Particulates from Wood Burning Indirect Heat Exchangers, and **.0536**, Particulate Emissions from Electric Utility Boilers. Also included in this definition is fuel combustion equipment covered under 40 CFR Part 60, Subpart D, Fossil Fuel-Fired Steam Generators for Which Construction is Commenced after August 1, 1971; Subpart Da, Electric Utility Steam Generating Units for Which Construction is Commenced after September 18, 1978; Subpart Db, Industrial-Commercial-Institutional Steam Generating Units; and Subpart Dc, Small Industrial-Commercial-Institutional Steam Generating Units.)

Fuel combustion processes where the combustion gases are mixed with the process gases do not qualify for exemption under **3Q .0102(c)(2)(B)(i)** or **(ii)**.

Emergency Use Generators: 3Q .0102(c)(2)(B)(iv)

Emergency generators larger than the sizes specified in **3Q .0102(c)(2)(B)(iv)** may be exempted under **3Q .0102(c)(2)(E)(i)** if they are no larger than the following:

- natural gas: 680 kw (electric) or 1000 hp
- liquefied petroleum gas: 1800 kw (electric) or 2510 hp
- diesel: 590 kw (electric) or 900 hp

These exemption levels are based on the EPA policy of using only 500 hours to compute potential emissions for emergency generators. If an emergency generator is sized above these rates, it needs an air permit.

If a generator burns multiple fuels, to be exempted from permitting, it must qualify for the exemption of the fuel with the lowest horsepower or kilowatt rating.

Air Quality

Printing and Coating Operations: 3Q .0102(c)(2)(D)(i)

Gluing Operations

If a glue is regulated under **3D .0518(d)**, it is considered a coating operation covered under **3Q .0102(c)(2)(D)**. If a glue is not regulated under **3D .0518(d)**, it is covered under **3Q .0102(c)(2)(E)(i)**. If part of the organic liquid is used as a carrier and part as a reactant, the glue is covered under **3Q .0102(c)(2)(D)**.

Process Ovens and Dryers

Direct fired process ovens or dryers cannot be exempted under **3Q .0102(c)(2)(D)(i)** because this exemption does not address emissions resulting from fuel combustion. Uncontrolled VOC emissions that physically occur in the ovens or dryers should be quantified in the application operation, e.g., spray booths, and should not be used to determine permit requirements for the ovens or dryers. Process ovens and dryers may be exempted under **3Q (c)(2)(E)(i)**, the miscellaneous exemption, if they satisfy the criteria of that exemption. If the emissions from the oven or dryer are used in a dispersion modeling demonstration for toxic air pollutants, the ovens and dryers cannot be exempted (**3Q .0102(b)(7)**).

The Miscellaneous 5-ton Potential Exemption: 3Q .0102(c)(2)(E)(i)

If a specific category is listed under **3Q .0102(c)(2)**, then any source in that category is not eligible for the 5-ton potential exemption under **3Q .0102(c)(2)(E)(i)**. These source categories are storage tanks; external fuel combustion equipment firing exclusively kerosene, No. 1 fuel oil, No. 2 fuel oil, equivalent unadulterated fuels, natural gas, liquefied petroleum gas, or a mixture of these fuels; space heaters burning waste oil; emergency generators or other non-self-propelled internal combustion engines; bulk gasoline plants; printing, paint spray booths, or other painting or coating operations; saw mills; perchloroethylene dry cleaners; and electrostatic dry powder coating operations.

Definition of Source

The definition of “source” in **3Q .0103** defines source as “any stationary article, machine, process equipment, or other contrivance, or combination thereof, from which pollutants emanate or are emitted, either directly or indirectly.” The phrase “or any combination thereof” creates some ambiguity in this definition, and can possibly be construed to allow the grouping of several machines or contrivances together to make a “source” that is no longer exempted from permitting under **3Q .0102(c)(2)(E)(i)**. However, there is sufficient reason not to use this approach, the most compelling being the way that compliance is determined for an emission point. Compliance determinations are based on a single emission unit or stack. Emissions are not combined from several units to make a determination of compliance. Therefore, to add up emissions from several units to decide if a permit is needed would be inappropriate. Nevertheless, the source still must comply with all applicable emission standards although it is exempted from permitting.

Nonmetallic Mineral Processing Equipment (Stone Crushing Operations)

Feed hoppers, dump hoppers, primary feeders, and pug mills without exhausts at nonmetallic mineral processing plants can generally be exempted under **3Q .0102(c)(2)(E)(i)**.

Air Quality

Incinerators

An incinerator may be exempted from permitting under **3Q .0102(c)(2)(E)(i)** if all the following conditions are met:

1. The emissions of toxic air pollutants are less than the levels in **3Q .0711**.
2. The potential emissions of particulates, sulfur dioxide, nitrogen oxides, volatile organic compounds, and carbon monoxide are each less than 5 tons per year.
3. The potential emissions of hazardous air pollutants are less than their lesser quantity cutoff.

Incinerators used to dispose of dead animals or poultry that meet the requirements of **3D .1201(d)** are exempted under **3Q .0102(c)(2)(E)(iv)**. The requirements of **3D .1201(d)** are:

1. The incinerator is located on a farm and is owned and operated by the farm owner or by the farm operator.
2. The incinerator is used solely to dispose of animals or poultry originating on the farm where the incinerator is located.
3. The incinerator is not charged at a rate that exceeds its design capacity.
4. The incinerator complies with **3D .0521** (visible emissions) and **3D .0522** (odorous emissions).

Case-by-Case Exemption: 3Q .0102(c)(2)(F)

Storage Tanks

Storage tanks storing organic liquids with low vapor pressures that cannot qualify for a permit exemption under **3Q .0102(c)(2)(A)** because the size of the tank exceeds 1100 gallons or 2500 gallons may qualify for a case-by-case exemption under **3Q .0102(c)(2)(F)**.

Petroleum Dry Cleaners

Petroleum Dry Cleaners not subject to new source performance standards may be exempted under **3Q .0102(c)(2)(F)**. Petroleum dry cleaners with a total manufactured rated capacity equal to or greater than 84 pounds and that commenced construction after December 14, 1982, are subject to the new source performance standard.

**APPENDIX 28
EXCLUSIONARY RULES (PROHIBITORY RULES)**

COATING, SOLVENT, GRAPHIC ARTS OPERATIONS: 3Q .0803

Rule **3Q .0803** defines potential emissions of volatile organic compounds (VOC) from coating, solvent cleaning, and graphic arts operations as equal to the actual uncontrolled emissions of VOC from these operations. Potential emissions of hazardous air pollutants (HAP) that are also VOC are equal to the actual uncontrolled HAP emissions.

The expanded historical actual maximum approach and other methodologies should not be used to determine potential emissions of VOC or HAP from coating, solvent cleaning, and graphic arts operations. Actual uncontrolled VOC and HAP emissions are the potential emissions for these operations.

The concept of actual uncontrolled emissions equal potential emissions in 3Q .0803 applies in only two situations. First it is used for Title V applicability purposes to determine whether the facility is Title V. Second it is used to determine whether one of these sources would qualify for a permit exemption under **3Q .0102**. This Rule is not to be used for prevention of significant deterioration applicability purposes.

3Q .0803 is not intended for facilities that have processes in which chemical reactions are occurring. The underlying premise of this Rule is that 100 percent of what is consumed at the facility is emitted at the facility. An inspector should be able to review invoices and other pertinent information and estimate emissions of volatile organic compounds without the use of emission factors or accounting for control equipment efficiency.

EMERGENCY GENERATORS: 3Q .0807

Storage Tanks Subject to NSPS

Associated fuel tanks do not disqualify a facility from Rule **3Q .0807**, Emergency Generators. This Rule applies to facilities whose only sources requiring a permit is one or more emergency generators or emergency use internal combustion engines and associated fuel storage tanks. Even if the associated fuel storage tank is subject to 40 CFR Part 60, Subpart Kb, the facility would still be considered a small facility under this Rule if its fuel consumption is below the levels set out in the Rule.

Air Quality

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**APPENDIX 29
NON-TITLE V PERMITTING PROCEDURES**

RETURN OF INCOMPLETE PERMIT APPLICATIONS

Under **3Q .0305**, Application Submittal Content, three items are required to be included in the application package. These items are:

1. a permit application processing fee per Section **3Q .0200**, Permit Fees;
2. the appropriate number of copies of the application per **3Q .0305(b)**; and
3. the signature of the appropriate individual per **3Q .0304(j)**.

If the application submittal package is missing one of these three items it should be returned to the applicant. Also an application can be returned if the applicant fails to submit a financial qualification or substantial compliance statement per **3Q .0305(a)(1)(C)** and **.0304(b)(3)** if the Director requires such statements.

Procedures are set out under **3Q .0305**, for returning incomplete applications for renewals, name changes, ownership changes, and administrative changes.

The requirements of **3Q .0305** should be followed to determine if application packages are complete for processing purposes. Incomplete packages should be returned.

The return of an incomplete application package and the resubmittal of a complete application package does not prohibit the Department from asking for additional information.

SOURCE REDUCTION AND RECYCLING PLAN

Rule **3Q .0304(b)(2)** requires the applicant to submit along with the application a source reduction and recycling plan. For a new facility or for modification of an existing facility, the applicant must submit a written description of current and projected plans to reduce emissions of air contaminants by source reduction and recycling in accordance with G.S. 143-215.108(g). However, failure to submit such a plan is not grounds for returning the application. These plans are not considered part of the application and cannot serve as a basis for denial of the permit or permit revision.

GENERAL PERMITS

General permits are currently available for:

1. cotton gins baling no more than 167,000 bales per year;
2. yarn manufacturing facilities processing less than 210,000,000 pounds of cotton fiber per year.
3. Emergency generators.

The general permit defines the specific criteria that must be met to qualify for the general permit.

APPLICATION PROCESSING SCHEDULE

Rule **3Q .0312**, Application Processing Schedule, sets out the time lines that the Department shall follow when processing a permit application. If the Department fails to act within the time allowed by this rule, the application is deemed denied. If the application is for the renewal of an existing permit, the permit is not renewed. The permittee may continue to operate under his old air quality permit for 30 days after the time specified for action on the application. After this 30-day period, the permittee may continue to operate under its old permit only if he seeks judicial review of the Department's failure to act and obtains from the Superior Court a stay of the Department's final decision denying the permit.

If the Department affirmatively denies an application to renew a permit, the applicant may challenge the denial by initiating an appeal to the Environmental Affairs Board. Only following a final decision by the Director may the applicant proceed to judicial review in Superior Court. Thus, the original permit would remain in effect until 30 days after notice of the Director's final decision, when the time to seek judicial review expires.

**APPENDIX 30
TITLE V PERMITTING PROCEDURES**

DEFINITIONS

Major Source

"Major source" means any stationary source (or any group of stationary sources that are located on one or more contiguous or adjacent properties, and are under common control of the same person (or persons under common control)) belonging to a single major industrial grouping and that are described in paragraphs (1), (2), or (3) of this definition. For the purposes of defining "major source," a stationary source or group of stationary sources shall be considered part of a single industrial grouping if all of the pollutant emitting activities at such source or group of sources on contiguous or adjacent properties belong to the same Major Group (i.e., all have the same two-digit code) as described in the Standard Industrial Classification Manual, 1987.

- (1) A major source under section 112 of the Act, which is defined as:
 - (i) For pollutants other than radionuclides, any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit, in the aggregate, 10 tons per year (tpy) or more of any hazardous air pollutant which has been listed pursuant to section 112(b) of the Act, 25 tpy or more of any combination of such hazardous air pollutants, or such lesser quantity as the Administrator may establish by rule. Notwithstanding the preceding sentence, emissions from any oil or gas exploration or production well (with its associated equipment) and emissions from any pipeline compressor or pump station shall not be aggregated with emissions from other similar units, whether or not such units are in a contiguous area or under common control, to determine whether such units or stations are major sources; or
 - (ii) For radionuclides, "major source" shall have the meaning specified by the Administrator by rule.
- (2) A major stationary source of air pollutants, as defined in section 302 of the Act, that directly emits or has the potential to emit, 100 tpy or more of any air pollutant (including any major source of fugitive emissions of any such pollutant, as determined by rule by the Administrator). The fugitive emissions of a stationary source shall not be considered in determining whether it is a major stationary source for the purposes of section 302(j) of the Act, unless the source belongs to one of the following categories of stationary source:
 - (i) Coal cleaning plants (with thermal dryers);
 - (ii) Kraft pulp mills;
 - (iii) Portland cement plants;
 - (iv) Primary zinc smelters;
 - (v) Iron and steel mills;
 - (vi) Primary aluminum ore reduction plants;
 - (vii) Primary copper smelters;
 - (viii) Municipal incinerators capable of charging more than 250 tons of refuse per day;
 - (ix) Hydrofluoric, sulfuric, or nitric acid plants;
 - (x) Petroleum refineries;

Air Quality

- (xi) Lime plants;
 - (xii) Phosphate rock processing plants;
 - (xiii) Coke oven batteries;
 - (xiv) Sulfur recovery plants;
 - (xv) Carbon black plants (furnace process);
 - (xvi) Primary lead smelters;
 - (xvii) Fuel conversion plant;
 - (xviii) Sintering plants;
 - (xix) Secondary metal production plants;
 - (xxi) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour;
 - (xxii) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
 - (xxiii) Taconite ore processing plants;
 - (xxiv) Glass fiber processing plants;
 - (xxv) Charcoal production plants;
 - (xxvi) Fossil-fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input; or
 - (xxvii) All other stationary source categories regulated by a standard promulgated under section 111 or 112 of the Act, but only with respect to those air pollutants that have been regulated for that category;
- (3) A major stationary source as defined in part D of title I of the Act, including:
- (i) For ozone nonattainment areas, sources with the potential to emit 100 tpy or more of volatile organic compounds or oxides of nitrogen in areas classified as "marginal" or "moderate," 50 tpy or more in areas classified as "serious," 25 tpy or more in areas classified as "severe," and 10 tpy or more in areas classified as "extreme"; except that the references in this paragraph to 100, 50, 25, and 10 tpy of nitrogen oxides shall not apply with respect to any source for which the Administrator has made a finding, under section 182(f)(1) or (2) of the Act, that requirements under section 182(f) of the Act do not apply;
 - (ii) For ozone transport regions established pursuant to section 184 of the Act, sources with the potential to emit 50 tpy or more of volatile organic compounds;
 - (iii) For carbon monoxide nonattainment areas (1) that are classified as "serious," and (2) in which stationary sources contribute significantly to carbon monoxide levels as determined under rules issued by the Administrator, sources with the potential to emit 50 tpy or more of carbon monoxide; and
 - (iv) For particulate matter (PM-10) nonattainment areas classified as "serious," sources with the potential to emit 70 tpy or more of PM-10.

Responsible Official

"Responsible official" means one of the following:

- (1) For a corporation: a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more

Air Quality

manufacturing, production, or operating facilities applying for or subject to a permit and either:

- (i) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars); or
 - (ii) the delegation of authority to such representative is approved in advance by the permitting authority;
- (2) For a partnership or sole proprietorship: a general partner or the proprietor, respectively;
 - (3) For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of EPA); or
 - (4) For affected sources:
 - (i) The designated representative in so far as actions, standards, requirements, or prohibitions under title IV of the Act or the regulations promulgated thereunder are concerned; and
 - (ii) The designated representative for any other purposes under part 70.

APPLICATIONS

Emissions Estimates

Emission estimates are not necessary for pollutants for which no standard applies. If the emission unit emits a pollutant for which there is no applicable standard, the applicant needs only to identify that pollutant. The applicant does not need to quantify the emissions of that pollutant in the permit application.

Trace Amounts of HAP

The applicant may report trace amounts of hazardous air pollutants (HAP) as “trace” provided he is not attempting to avoid the applicability of a rule. If there is no applicable requirement, there is no need to quantify emissions in the application. If there is an applicable limit, “trace” constituents may not be disregarded.

Cross Referencing

An applicant may cross-reference an emissions estimate, previously issued permits, and regulations for their Title V applications. However, the applicant must attach the referenced information to the application.

Description of Significant Emissions Units

The applicant must describe, at least qualitatively, all significant emissions units including those units not regulated by an applicable requirement.

Insignificant Activities

The applicant must list on the application activities exempted by size or production rate (**3Q .0102(c)(2)**); a description of these units and estimated emissions from them are not necessary.

Air Quality

Activities exempted under **3Q .0102(c)(2)** should not be included on the application. Activities on EPA's list of trivial activities should not be included on the application; EPA's trivial activities can be categorized under the **3Q .0102(c)(1)** exemptions.

Tons-Per-Year Limits

Tons-per-year limits are not federally enforceable unless required by an applicable requirement or requested by the applicant to avoid an otherwise applicable standard, such as avoiding PSD or MACT.

PERMIT AND APPLICATION SHIELDS

The requirements, conditions, and limitations for permit shields and application shields are given in **3Q .0512**, Permit Shield and Application Shield.

Application Shields

If the Department deems an initial application incomplete, the application shield does not apply until the applicant has submitted the required information as stated by the Department.

Permit Shields

The permit shield shall be granted for those operations for which information is provided by the applicants to demonstrate compliance with the applicable rule.

ADMINISTRATIVE PERMIT AMENDMENTS: 3Q .0514

Administrative modifications are corrections of typographical errors made at the time of permit issuance and are treated without EPA or public review. The revised permit will retain the permit shield for any provisions previously shielded.

MINOR PERMIT MODIFICATIONS: 3Q .0515

Minor modifications are modifications made by facilities that are not significant. A 45 day review of the revised permit by EPA is required, but the modification is not covered under the permit shield in the revised permit.

SIGNIFICANT PERMIT MODIFICATIONS: 3Q .0516

Significant modifications are those subject to Title I modifications including Section 111, 112, PSD, NSR/NAA, or 112(g) of the Clean Air Act. These are similar programs that require case-by-case determinations. Also included in this classification are netting analyses needed to avoid PSD or NSR/NAA. These are specifically identified as being significant under 40 CFR Part 70. Full EPA review of the modified permit is required including public participation. The resulting permit will be issued with a permit shield for all modifications.

CHANGES NOT REQUIRING PERMIT REVISIONS: 3Q .0523

Section 502(b)(10) Modifications

Section 502(b)(10) modifications are changes that are not Title I modifications (significant modifications), do not violate monitoring requirements or emission requirements that have been included in the permit and may affect emissions. Modifications processed under this procedure are not covered under the permit shield. The permittee must notify EPA and Director at least seven days before making the change. Also the notification to the Department will involve the standard permit modification procedures under **3Q .0300**. Although a Title V permit revision is not required at the time of the proposed modification, a 3Q .0300 permit will generally be required. All Section 502(b)(10) changes shall be made in the Title V permit the next time that the permit (Title V review) is received or renewed, whichever comes first.

Off-Permit Changes

Off permit changes are any changes that affect only insignificant activities or are not subject to any applicable requirement. These changes do not require notification.

FUGITIVE EMISSIONS

Definition

Fugitive emissions are defined as those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. (The following are considered fugitive if located outside buildings: open coal piles; open product storage piles; pumps, flanges, and valves associated with volatile organic liquid processing or handling outside of buildings; haul roads; manual material handling (such as front end loaders); open waste storage piles and handling (mineral fines, agricultural trash); particulate emissions from open top product and aggregate storage bins and silos; conveyers and drop points; material screens; coal handling operations (not including closed silo loading); domestic and industrial wastewater treatment facilities; all sources at batch concrete plants other than unloading silos.)

Applicability

Fugitive emissions of regulated non-HAP pollutants are not included in determining the potential to emit for Title V applicability purposes UNLESS the facility is one of the 26 named source categories, NSPS, or NESHAP as defined in 40 CFR 70.2.

Fugitive HAP (list of 189) emissions are always included in the facility's potential to emit in determining Title V applicability.

Emissions from insignificant activities as defined in **3Q .0102(c)(1)** are not included in applicability determinations regardless of whether they come from point sources or fugitive sources or whether they are criteria pollutants or HAP.

APPLICATION PROCESSING SCHEDULE

For what happens if a permit renewal is not acted on by the time frame set out in **3Q .0525**, Application Processing Schedule, see "Application Processing Schedule" in Appendix 28.

Air Quality

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Air Quality

**APPENDIX 31
ACID RAIN PROGRAM AND PERMITTING PROCEDURES**

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Air Quality

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APPENDIX 32 PERMIT FEES

APPLICATION FEES

To determine the appropriate application fee for a facility that has since become subject to Title V, the first step is to correctly identify the fee classification (synthetic minor, small, etc.) of the facility after the modification of the permit is completed.

A synthetic minor facility that requests the relaxation of a permit limitation taken to avoid Title V is considered Title V to determine its application fee. If the relaxation causes the facility to be subject to PSD, the application fee is that for modification of a Title V PSD facility.

A small facility for synthetic minor status pays the synthetic minor fee.

CALCULATION OF TITLE V FEES

Reduction of Emissions

The previous year's inventory is usually used to determine the applicability of a facility to Title V and its tonnage fee. (1) If a reduction in emissions following the last emissions inventory results in a change of classification of the facility from Title V to non-Title V, then the facility's annual fee changes with the next annual fee date (**3Q .0205(b)**). Thus if a facility were formerly subject to Title V but is not now because of a reduction in its potential emissions reflected in its permit, its annual fee would drop to either that of a synthetic minor or small, whichever is appropriate, and no per-ton fee would be charged. (2) If the reduction does not result in a change in classification, the previous year's emission rates will be used in determining the per-ton fee.

Particulates

PM10 is used in the calculations of fees for Title V permit holders, not total suspended particulate.

FUGITIVE EMISSIONS

Definition

Fugitive emissions are defined as those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. (The following are considered fugitive if located outside of buildings: open coal piles; open product storage piles; pumps, flanges, and valves associated with volatile organic liquid processing or handling outside of buildings; haul roads; manual material handling (such as front end loaders); open waste storage piles and handling (mineral fines, agricultural trash); particulate emissions from open top product and aggregate storage bins and silos; conveyers and drop points; material screens; coal handling operations (not including closed silo loading); domestic and industrial wastewater treatment facilities; all sources at batch concrete plants other than unloading silos.)

Applicability

Fugitive emissions of regulated non-HAP pollutants are not included in determining the potential to emit for Title V applicability purposes UNLESS the facility is one of the 26 named source categories,

Air Quality

NSPS, or NESHAP as defined in 40 CFR 70.2.

Fugitive HAP (list of 189) emissions are always included in the facility's potential to emit in determining Title V applicability.

Emissions from insignificant activities as defined in 3Q .0102(c)(1) are not included in applicability determinations regardless of whether they come from point sources or fugitive sources or whether they are criteria pollutants or HAP.

Fees

Fugitives: Non-HAPs

Regulated non-HAP fugitive emissions are included for fee purposes only if the facility is on the list of 26 named source categories, NSPS, or NESHAP, unless the regulated non-HAP fugitive pollutant is being emitted from an activity exempted under 3Q .0102(c)(1).

Fugitives: Hazardous Air Pollutants

Fugitive HAP are included for fee purposes, unless the HAP are being emitted from an activity exempted under 3Q .0102(c)(1).

Air Quality

**APPENDIX 33
CONFIDENTIALITY
CONFIDENTIAL INFORMATION**

Confidential Information Rule 3Q .0107 covers handling of requests for treatment of confidential information to the Department. In addition, “Public Records Procedures for the Forsyth County Environmental Affairs Department” contains the Department’s procedures for handling confidential material and public records held by the Department. The procedure is available upon request at the Department.

Air Quality

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APPENDIX 34 INCINERATORS

AIR CURTAIN BURNERS

Air curtain burners are covered under Rule **3D .1904**, Air Curtain Burners. They are not covered under Section **3D .1200**, Control of Emissions from Incinerators.

PET INCINERATORS

Pet incinerators do not have to comply with the emission standards for hydrogen chloride or mercury or the ambient standards for arsenic, beryllium, cadmium, or chromium(VI) in Rule **3D .1205**, Emission Standards. They do not have to comply with operational standards in Rule **3D .1206**, Operational Standards. The air toxic rules are not triggered for pet incinerators. Rule **3D .1201**, Purpose and Scope, exempts pet incinerators from the air toxic requirements in Rule **3D .1205**. However, pet incinerators may become subject to the air toxic rules when a SIC (standard industrial classification) call or a modification is made for a facility having a pet incinerator. Also new pet incinerators are subject to the air toxic rules. Pet incinerators have to comply with the particulate, sulfur dioxide, visible emissions, and odorous emissions standards. Pet incinerators are not subject to the temperature monitoring and recordkeeping requirements of Rule **3D .1204**, Reporting and Recordkeeping, unless the Director specifically requires a particular pet incinerator to monitor and keep records for temperature.

CREMATORY INCINERATORS

Crematory incinerators have two options for compliance. First they can comply with all the emission control standards and metal ambient standards in Rule **3D .1205**, Emission Standards, including demonstrating compliance with the air toxic rules, and operational standard of 1600EF for one second in Rule **3D .1206**, Operational Standards. If this option is used, the presumption is that the minimum time and temperature are adequate to reduce all the organic emissions to levels below the permit exemption levels in Rule **3Q .0711**, Emission Rate Requiring a Permit. The second option is to comply as an incinerator whose emissions of all toxic air pollutants are below the permit exemption levels in **3Q .0711**. To use this option, the owner or operator of the incinerator has to demonstrate, by submitting acceptable stack test data, that emissions of all toxic air pollutants are below the levels in Rule **3Q .0711**. If this option is used, the incinerator would be subject to the same requirements as a pet incinerator as described above.

HYDROGEN CHLORIDE EMISSION STANDARD: 3D .1205(f)

Except for hazardous waste incinerators, Rule **3D .1205(f)** limits uncontrolled emissions of hydrogen chloride to four pounds per hour. If emissions of hydrogen chloride exceed four pounds per hour, an add-on control device is required. This control device must be capable of reducing hydrogen

Air Quality

chloride emissions by at least 90 percent by weight or to no more than 50 parts per million (ppm) by volume. A control device reducing emissions to four pounds per hour is not sufficient unless it also reduces emissions by at least 90 percent or to no more than 50 ppm.

Air Quality

**APPENDIX 35
MUNICIPAL SOLID WASTE LANDFILLS**

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Air Quality

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Air Quality

**APPENDIX 36
LOCAL PROGRAMS**

[This appendix is not needed in Forsyth County.]

Air Quality

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**APPENDIX 37
MISCELLANEOUS**

OZONE MAINTENANCE AREA

Greensboro/Winston-Salem/High Point, consisting of Davidson, Forsyth, and Guilford Counties and that part of Davie County bounded by the Yadkin River, Dutchmans Creek, North Carolina Highway 801, Fulton Creek and back to Yadkin River.

CARBON MONOXIDE MAINTENANCE AREA

Forsyth County

REDESIGNATION DATES

**Ozone Redesignation
AREA**

	REDESIGNATION EFFECTIVE DATE	COMMENTS
Greensboro/Winston-Salem/ High Point	November 8, 1993	direct final published Sept. 9, 1993

**Carbon Monoxide Redesignation
AREA**

	REDESIGNATION EFFECTIVE DATE	COMMENTS
Winston-Salem	November 7, 1994	direct final published Sept. 21, 1994

Air Quality

FORSYTH COUNTY'S STEPS IN DEVELOPING AND ADOPTING A RULE

Draft Rule Stage

1. Draft rule with localizations.
2. Circulate copies to Director & staff for comments.
3. Make changes in draft and create 3 copies:
 - a. Long version with footnotes - for incorporation into the code
 - b. Short version without footnotes - for EAB, staff and County Commissioners

Public Hearing Stage

1. Get approval to go to public hearing from Director.
2. Prepare public hearing notice, get it signed by Director
3. Deliver public hearing notice to W-S Journal office. Have published 30 days before public hearing. Send copy of public hearing notice to Environmental Affairs Board (EAB) and code list.
4. Send copy of proposed rules to State and EPA.
5. Prepare agenda item, rule summary and rule copy for EAB.
6. Hold public hearing.

Adoption Stage

1. Make changes suggested by the EAB and commenters.
2. Prepare package to go to the Commissioners. Consisting of: agenda item sheet, memo to Jane Cole, Manager's summary sheet, signed EAB recommendation sheet, blank ordinance adoption sheet, proposed rule title page, instruction sheet and rules with redline/strikeout.
3. Get approval from Director of package to go to the Commissioners.
4. Make copies of package for the Commissioners, Director, and EAD managers. Send package to go to the Commissioners to Jane Cole in the Manager's office.
5. Go to Commissioners briefing meeting.
6. Go to Commissioners meeting. Rule is effective on that date if adopted by Commissioners.

Air Quality

Post Adoption Stage

1. Make changes recommended by Commissioners.
2. Prepare final version of rule supplement replacement pages.
3. Get rule supplements printed at print shop for all on code mailing list.
4. Send rule supplement copies to NC Division of Air Quality (A. Klimek, cc: T. Allen), EPA (Doug Neeley), Commissioners, EAD staff, Director, and code mailing list with cover letters.
5. Send one supplement copy via certified mail to NCDDEM Director for filing with the NC EMC.
6. Hand deliver two supplement copies to the FC Clerk of Superior Court for filing. Get both stamped by the Clerk in the Civil Records office. Get Reference #, to be filed under Forsyth County, Air Quality Control. Bring one stamped copy back to EAD for filing.
7. Prepare and send packages to EPA if rule is part of State/Local Implementation Plan, Section 111 program (NSPS and 111(d)), hazardous air pollutant program (Section 112), or Title V permitting program.

Air Quality

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