Blue Ridge Environmental Defense League

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Mr. Michael Abraczinskas
Division of Air Quality
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Raleigh, NC 27699-1641
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Re: 15A NCAC 2Q .0701, .0702, .0706, .0709 and Clean Air Act Sections 112(d) and 112(j)

Dear Mr. Abraczinskas:

On behalf of the Blue Ridge Environmental Defense League, I submit the following comments on the toxic air pollutant rules.

Recommendations

North Carolina's health-based air toxics rules and the elusive federal MACT are neither duplicative nor equivalent. The federal Clean Air Act regulates hazardous air pollutants by imposing a technology standard on industrial facilities. In North Carolina, controls emissions by setting a health-based maximum level of pollution in the atmosphere. The Environmental Protection Agency's method of setting maximum achievable control technologies for the reduction of toxins does not do what North Carolina's health-based standards do. North Carolina's acceptable ambient levels take into account the distance of smokestacks from property lines and hence from people. In fact, full implementation of the state toxics limits, without exemptions, is the best such protection available to the residents of this state.

Coal-fired power plants should not be exempted from the North Carolina Toxic Air Pollutant Program. According to the Clean Air Act, permits for new coal plants must use best available control technology (BACT) to control emissions. However, Duke Energy has proposed and NC DAQ has accepted that the Cliffside plant is a minor source, therefore reducing the level of control. The failure to apply the Clean Air Act in this case means that the best available controls for Cliffside and other coal-fired electric generating plants in North Carolina are the NC toxic air pollution limits.

We urge the NC Environmental Management Commission to eliminate exemptions for industrial boilers which are part of an air pollution facility which has other smokestacks covered by the state's toxic air pollutant limits. The intent of the original "temporary" exemption was not that such multiple-polluting facilities be included. Many of North Carolina's air pollution permits now exempt the boilers at paper mills and asphalt plants among others. These exemptions endanger public health.

Recent changes in federal law make it more important than ever for North Carolina to keep its own health-based Toxic Air Pollutant program in place and make certain that air poison limits apply to all fossil-fueled combustion sources throughout the state, including coal-fired electric generating plants. The North Carolina Environmental Management Commission should halt its current rulemaking on a decade-old combustion source exemption. Instead, the state should work with the new EPA Administrator to limit hazardous air pollution from all sources for the protection of public health.

Overview

The DAQ is proposing a change in the way North Carolina limits toxic air pollution emitted by industrial boilers which burn unadulterated fossil fuel: coal, oil and wood. The two-pronged approach to rulemaking would continue the exemption for many such facilities, allowing most existing permitees to continue to escape toxic air pollution limits unless and until the pollution sources they operate were modified. For new and modified facilities, an air toxics modeling demonstration would be required, similar to that now done for sources of toxics which are not the result of burning fossil fuel. For a few sources, the state's case-by-case rule for hazardous air pollutants[1] would be applied.

The NC Department of Justice recommends that, in view of the decade-long failure of the US Environmental Protection Agency to promulgate hazardous air pollutant standards for industrial boilers, "prompt remedial measures should be pursued." The Clean Air Act's Section 112(j) requires state agencies to step in by developing emission limits for pollution sources within their jurisdiction. The question is: What kind of remedial action is required and what is best for North Carolina.

The federal Clean Air Act regulates hazardous air pollutants by imposing a maximum achievable control technology standard, or MACT, on industrial facilities. In North Carolina, hazardous are pollutants are regulated by the Toxic Air Pollutant program which controls emissions by setting a health-based maximum level of pollution in the atmosphere. The federal and state standards regulate many of the same toxic pollutants, but they regulate in fundamentally different ways. The federal program determines the best technology available and that sets the standard; the NC program sets pollution limits at the property line of a facility. The two methods of pollution control can work in concert, but the federal standard is no substitute for the North Carolina standard. Regardless of an industrial smokestack's distance from the property line, the same MACT applies. However, pollution from a point source will become less concentrated as it moves downwind: the greater the distance, the more the dilution. Therefore, the North Carolina Toxic Air Pollutant program will require stricter pollution controls on a smokestack nearer to the property line because the limit is based on the ambient level; i.e., the actual pollution in the air. People are better protected by North Carolina's acceptable ambient limit, or AALs. Moreover, the uncertainty engendered by the halting efforts of the US EPA and the downright failure of the NC DAQ to impose existing federal standards for the reduction of hazardous air pollution makes a rigorous,

[1] 15A NCAC 02D .1112 Maximum Achievable Control Technology

transparent and reliable regulatory regime necessary. The simple elimination of the combustion source exemption, striking paragraph 15A NCAC 02Q .0702(a)(18), is the Environmental Management Commission's most certain route to uniform enforcement, regulatory fairness and administrative clarity. Two-prongs are one too many.

Federal and State Rules Which Regulate Hazardous/Toxic Air Pollutants

Under North Carolina regulations (15A NCAC 2Q .0703(6)), combustion sources are boilers, space heaters, process heaters, internal combustion engines, and combustion turbines, which burn only unadulterated wood or unadulterated fossil fuel. Although unadulterated, these fuels emit many hazardous/toxic air pollutants.

15A NCAC 02D.1109 112(J) Case by case Maximum Achievable Control Technology

Section 112(j) requires the states to develop standards if EPA misses deadlines; hence, it is dubbed the "MACT Hammer." Section 2D .1109 applies to sources of HAP permitted under 2Q.0500 (Title V facilities) and 40 CFR 63.50 (which applies to Title V facilities for which no EPA emission standards have been promulgated under 112(j)). The rule defines "MACT Floor" and 112(j) deadline" as 18 months after "relevant standard is scheduled to be promulgated" under Part 63.[2] For missed promulgation dates, pursuant to 112(e)(1) or(3)[3], within 18 months owner/operator "shall submit…a permit application" to DAQ under 2Q.0526[4] and to EPA to apply MACT.

15A NCAC 02D.1110 National Emission Standards for Hazardous Air Pollutants

Sources subject to NESHAP (40 CFR 61) must comply with those standards, unless DAQ Director states specifically it not be enforced and follows procedure (NC Register and public hearing). EMC has 12 months to reverse. New sources of VOC in areas of ozone non-attainment must comply with 40 CFR 61-NESHAP unless excluded by this rule.

15A NCAC 02D.1112 112(G) Case by case Maximum Achievable Control Technology

The rule applies to HAP sources unless regulated or exempted under 2D.1109 (112 J Case by case MACT) or 2D.1111 (MACT), or CAA 112 (d) the EPA standard requiring maximum degree of emission reductions achievable, (h) which allows alternatives of design, equipment, work practice, or operational standard or (j) which controls HAP emissions if the EPA misses a NESHAP promulgation date] and incorporated under 40 CFR 63 (NESHAP) or if permit pre-dates 1 July 1998.

It excludes electric generating units and other sources of HAPs, unless units added source list CAA 112(c)(5) or 112(c)(9).[5] However, in 2005 EPA revised its findings regarding CAA 112(c) 40 CFR Part 63 for EGUs and removed electric utilities from CAA Section

[2] Part 63: National Emission Standards for Hazardous Air Pollutants for Source Categories
[3] 112(e) Specifies the schedule requirements for promulgation of MACT standards
[4] 15A NCAC 02Q .0526 112(J) Case by Case MACT Procedures
[5] 112 (c): all categories and subcategories of major and area sources that emit HAPs

112 altogether.[6]

> "By this action, we are revising the December 2000 appropriate and necessary finding and concluding that it is neither appropriate nor necessary to regulate coal- and oil-fired Utility Units under section 112."

Section 112 also sets the parameters of MACT determinations; they may be no less stringent than best controlled sources as determined by DAQ. If the EPA has "proposed a relevant emission standard, per 112(d) or (h), then DAQ must consider that limit.

Many Sources of Air Toxics Exceed Acceptable Ambient Limits

In our review of the data compiled by the NC DAQ in preparation for the ongoing rulemaking, we found many types of industrial facilities which, according to DAQ, "demonstrated compliance, on a source-by-source basis for their respective AALs." Table A contains a list of permitted facilities burning unadulterated fossil fuel for which computer air modeling was done and the associated percentage of AALs.

Table A: Combustion Source Modeling

Combustion Source	Toxic Air Pollutant	Percent of NC AAL
Thomasville Furniture Ind., Inc. (Lenoir)	arsenic	3200%
Jackson Paper Co. (Sylva)	arsenic benzene	2000% 116%
Nash Johnson & Sons Farms	arsenic	800%
New South Lumber Company	arsenic	230%
Coats North American Sevier Plant (Marion)	arsenic	370%
True Elkin, Inc. (Elkin)	arsenic	135%
Domtar-Plymouth	all TAPs	98%
Louisiana-Pacific Corporation (Roaring River)	formaldehyde	98%
Bridgestone Firestone NA Tire (Wilson)	sulfuric acid arsenic	97% 91%
Georgia-Pacific Wood Products (Whiteville)	formaldehyde	92%
Georgia-Pacific Wood Products (Dudley)	arsenic	87%
Duke Energy-Marshall	arsenic	83%
Mallinkrodt-Raleigh Pharmaceutical Plant	benzene	82%
International Textile Group-Raeford Plant	arsenic	80%
E.I. DuPont-Kinston Plant	arsenic	74%
Progress Energy Roxboro (Olive Grove)	arsenic	70%
Kapstone Kraft Paper (Roanoke Rapids)	arsenic	69%
West Fraser, Armour Lumber Mill (Reigelwood)	formaldehyde	60%
Duke Energy-Cliffside	chromium VI arsenic	48% 35%
Duke Energy-Allen	soluble chromate	36%
Duke Energy-Belews Creek	arsenic chromium VI	26% 24%
Blue Ridge Paper Products, Inc. Canton Mill*	sulfuric acid	24%

* Blue Ridge Paper chose not to model chromium and arsenic.[7]

[6] See 70 FR 15994, March 29, 2005

[7] The failure to submit modeling is puzzling. High levels of these toxics are emitted at comparable facilities

The high levels of toxics emitted from these facilities indicate that NC toxic air pollutant limits should be implements on all combustion sources statewide. The exemption serves no purpose here and should be eliminated.

Relying on Federal MACT Alone Means Many Toxics Would Be Unregulated

The Clean Air Act lists 188 compounds as hazardous air pollutants, [8] substances "which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic."[9] The North Carolina toxic air pollutant regulations currently list 97 substances as carcinogens, chronic or acute toxicants and irritants which "may cause or contribute beyond the premises (adjacent property boundary) to any significant ambient air concentration that may adversely affect human health." [10]

Tabe B: North Carolina Toxics Not Regulated as Federal Hazardous Air Pollutants

Toxic air pollutant	CAS Number	Carcinogen	Acute/chronict oxic/irritant
Acetic Acid	64-19-7		✓
Ammonia	7664-41-7		✓
Bromine	7726-95-6		✓
Dichlorodifluoromethane	75-71-8		✓
Dichlorofluoromethane	75-43-4		✓
Ethyl acetate	141-78-6		✓
Ethyl mercaptan	75-08-1		✓
Ethylene glycol monoethyl ether	110-80-5		✓
Ethylene diamine	107-15-3		✓
Hexachlorodibenzo-p-dioxin	57653-85-7	✓	
Hexane isomers			✓
Mercury vapor	7439-97-6		✓
Methyl mercaptan	74-93-1		✓
Nickel metal	7440-02-0		✓
Nitric acid	7697-37-2		✓
Sulfuric acid	7664-93-9		✓
Tetrachloro-1,2-difluoroethane 1,1,2,2	76-12-0		✓
Tetrachloro-2,2-difluoroethane 1,1,1,2	76-11-9		✓
Trichlorofluoromethane	75-69-4		✓

The two lists contain many of the same substances, but the NC TAP regulation has 19 toxics which are not on the federal list and, therefore, are not regulated under the federal program. In other words, the toxics on Table B (above) are not controlled by national emission standards for hazardous air pollutants (NESHAP); only the NC toxic air pollutant limits apply. If the combustion source exemption were to be approved, there would be no limits on these toxics for sources burning unadulterated fossil fuel or wood.

[8] THE CLEAN AIR ACT Section 112(b)(1) Hazardous Air Pollutants, As Amended, February 24, 2004
[9] *Id.* §112(b)(2)
[10] 15A NCAC 02D .1104 TOXIC AIR POLLUTANT GUIDELINES, Amended Eff. June 1, 2008

For example, International Paper-Riegelwood has six power units.[11] The four main units burn a combination of fossil fuels and wood waste. Power Boilers No.1 and No.3 are permitted by DAQ as multiple fuel units. An air toxics analysis performed by IP and provided to the NC DAQ[12] states: "Power Boilers No. 1 and No. 3, which are permitted to burn recycled oil, are exempted from the modeling analysis." The analysis states that the "recycled oil is considered unadulterated. Therefore these boilers were not included in the analysis."[13] This is the actual impact of the combustion source exemption for unadulterated fossil fuel and wood waste. A SCREEN3 modeling analysis previously provided by BREDL to the EMC[14] indicates high levels of hexachlorodibenzo-p-dioxins as far as two kilometers from the plant, a carcinogen which, as we see in Table B, is not governed by the federal MACT and which would continue to be exempted under the combustion source loophole.

The NC Science Advisory Board is the Proper Arbiter of Human Health Risk

In response to a governor's order, state legislation and a groundswell of public opinion, the NC Environmental Management Commission adopted air toxics rules in 1990 to minimize risks from scores of hazardous chemicals emitted from thousands of sources. The heart of the North Carolina Toxic Air Pollutant program is a set of guidelines developed by the NC Science Advisory Board. Before the rules were developed, the North Carolina Academy of Sciences studied the problem and developed a set of recommendations.[15] The NCAS recommended:

1) Development of guidelines for industrial emissions which the NC Division of Health Services considered to be a public health concern;
2) Categorization of toxic air pollutants as acute irritants, acute system toxicants, chronic toxicants and carcinogens;
3) For irritants and toxicants, the use of a factored threshold limit value (TLV) and a no observed effect level (NOEL) as a starting point for applying safety factors: adjustment for continuous exposure—a four-fold factor; variability in human susceptibility—a ten-fold factor; inherent uncertainties in studies of chronic effects—a two-fold factor; and for irreversible and life-threatening effects—a two-fold factor. The appropriate factors for each chemical are multiplied by each other to derive a composite factor;
4) For cancer-causing substances, the calculation of concentrations of one additional cancer risk in one million exposed persons for Group A carcinogens (1E10-6) and one in 100,000 for Group B carcinogens (1E10-5); and
5) Establishment of a standing advisory committee to review these criteria, to consider modifications, to consider multiple emission source impacts, and to

[11] IP Air Permit No. 03138R30 effective May 12, 2008
[12] IP Riegelwood Toxics Modeling Report 11 July 2007, Section 3.3, page 3-4
[13] We note that Power Boiler No.2 is permitted to burn "bark/coal/wood fiber sludge/No.6 fuel oil/woodwaste absorbed oil residue/natural gas/Noble Oil Services No.4 equivalent used oil" and is not exempted from the modeling analysis. Presumably, the exemption does not apply because the listed fuels for boiler 2 are not deemed "unadulterated."
[14] Letter from Louis Zeller to Michael Abraczinskas Re: 15A NCAC 2Q .0700, December 31, 2008
[15] Report and Recommendations of the Air Toxics Panel of the North Carolina Academy of Sciences to the Division of Environmental Management, September 1986

assist the state in reviewing variances.
The Science Advisory Board and acceptable ambient levels (AALs) are the direct result of these recommendations.

Today we recommend that, before it takes further action, the EMC should submit its finding to the NC Science Advisory Board. Neither the EMC nor the DAQ are qualified to assess the risks outlined in the founding recommendations of the toxic air pollutant program. The mission and expertise of the EMC and DAQ are regulating and permitting, not risk assessment. In previous comments we detailed the oversights and shortcomings of the Division's review.[16] The two-pronged, case-by-case approach is unsatisfactory. To date, the EMC's discussions have been predicated on the DAQ's analyses. The independent NC SAB is the only body in North Carolina with the ability and credibility to properly asses the human health risks from toxic air pollutants.

Coal-fired Utility Boilers Should be Subject to NC Toxics Limits

Despite the EMC hearing report statement that "The exemption does not apply to Utility boilers,"[17] coal-fired electric generating units were exempted by the final rule which went into effect in July 1998. A 42-page listing of combustion sources[18] published by the DAQ in 1997states that 1,249 sources could be exempted. The list includes the Weatherspoon, Sutton, Lee, Allen, Buck, Cliffside, Marshall and Riverbend plants; all are major coal-fired electric generating units.

According to the Clean Air Act, permits for new coal plants such as Cliffside, must use best available control technology (BACT) to control emissions. However, Duke Energy has proposed and NC DAQ has accepted that the Cliffside plant is a minor source for hazardous air pollutants, therefore reducing the level of control. For the control of HAPs, North Carolina's air permit for Cliffside Unit 6 states that "the Permittee shall perform stack tests" for just three compounds.[19] However, a stack test is not a pollution control device, it is monitoring. The Clean Air Act does not stipulate best available *monitoring* to control emissions; new power plants must use the best available *control technology*.

The failure to apply the Clean Air Act in the Cliffside case means that the best and *only* available controls for air toxics at Cliffside and other new coal-fired electric generating plants in North Carolina are the NC toxic air pollution limits. The only other HAPs listed in the Cliffside Unit 6 permit, mercury and sulfuric acid, are controlled by heat input or

[16] Written and oral comments of Louis A. Zeller and Janet Marsh, Environmental Management Commission Public Hearing, October 28, 2008
[17] NC Environmental Management Commission Air Quality Committee Memorandum for Meeting of November 7, 2007, Agenda Item 4: History of Combustion Source Exemption to NC Air Toxics Program, excerpted from the *Report of Proceedings of Public Hearing on Proposed Amendments to Rules 15A NCAC 2D, 2H, and 2Q, Air Toxics Rules*, Raleigh, NC November 18, 1997, page I-154
[18] *Fuel Combustion Exemption, Possible Exempt Combustion Sources*, from database of NC Department of Environment, Health and Natural Resources, December 4, 1997
[19] Permit No. 04044T29 Part 1 2.1.J.13. The three HAPs to be tested for are hydrogen chloride, hydrogen fluoride and hydrogen cyanide. The Permittee, Duke Energy, is allowed to "take the average of three valid test runs," therefore allowing any three test runs to be averaged.

output rates. These are no limits at all because heat rates are not enforceable permit conditions; no violations or monetary penalties obtain.[20]

Conclusion

For twenty years North Carolina has had the best, most protective toxic air pollution rules in the Southeast. We at the Blue Ridge Environmental Defense League have worked to encourage other states in the region to adopt this health-based regulatory approach.

We believe the Commission already has ample authority and the duty to protect North Carolina's air quality:

> Air quality standards and classifications. (a) Duty to Adopt Plans, Standards, etc. – The Commission is hereby directed and empowered, as rapidly as possible (5) To develop and adopt emission control standards as in the judgment of the Commission may be necessary to prohibit, abate, or control air pollution commensurate with established air quality standards.[21]

Rather than perpetuate the ill-conceived combustion source exemption, the NC Environmental Management Commission should eliminate the combustion source exemption by striking 15A NCAC 02Q .0702(a)(18).

Respectfully,

Louis A. Zeller

[20] The NC Division of Air Quality's Stationary Source Compliance Branch Supervisor explained the division's practices on whether heat input rates were enforceable permit conditions or mere descriptors of boiler operations. His conclusion: "Generally speaking, the current DAQ position is in agreement with the idea of treating heat input ratings as descriptors rather than as bright line limits." Letter from Michael Aldridge to Alan McConnell, October 30, 1997.

[21] NC General Statutes - Article 21B § 143-215.107.