

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

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Greater Roanoke Valley Asthma and Air Quality Coalition

c/o American Lung Association , 3512 Brambleton Ave. SW, Suite #3 , Roanoke, VA 24018, Phone: 540-774-5864

Dec. 14, 2004
1828 Brandon Ave. SW
Roanoke, VA 24015

Lillian Alexander
Environmental Engineer
West Central Regional Office
Department of Environmental Quality
3019 Peters Creek Road
Roanoke, Virginia 24019

Dear Ms. Alexander:

Comments regarding determinations as to Reasonably Available Control Technology (RACT) for the control of emissions of nitrogen oxides (NO_x) as presented in the State Operating Permits for Norfolk Southern Railway Company Permit No. 20468, Roanoke Cement Company Permit No. 20232, and Roanoke Electric Steel Corporation Permit No. 20131.

I am submitting comments on behalf of both the Board of Directors of the Blue Ridge Environmental Defense League (BREDL) and the steering committee of the Greater Roanoke Valley Asthma and Air Quality Coalition (GRVAAQC). BREDL is a regional, community-based, non-profit environmental organization. Our founding principles are earth stewardship, environmental democracy, social justice, and community empowerment. BREDL has chapters and members throughout the southeastern United States, including the Roanoke, Virginia area. BREDL is a group member of the GRVAAQC. The Greater Roanoke Valley Asthma and Air Quality Coalition mission is to improve air quality and respiratory health for the Greater Roanoke Valley through education and partnerships with other organizations with similar goals.

As a participant on the ozone task force, which developed the ozone Early Action Plan (EAP) for the Roanoke area, we understand the regulatory limitations of the EPA early action compacts. Therefore, we appreciate the creation of the Western Virginia Emissions Control Area and the efforts of the Virginia State Air Pollution Control Board, Virginia Department of Environmental Quality, local governing bodies and affected industries to implement RACT.

According to the Roanoke Ozone Early Action Plan (Measure State #13 CTG RACT), these RACT permits will demonstrate a 10 percent reduction of NO_x emissions. The EAP states this will be a reduction of 0.790 tons per day and 287.5 tons per year.

I. Norfolk Southern Railway Company State Operating Permit No. 20468

VA DEQ determined that three sources at the East End Shops meet the requirements for NO_x RACT.

A) Four Stoke Coal-fired boilers –

1) DEQ determined that for the four stoker coal-fired boilers, NSRC will comply with the presumptive NO_x RACT limit of 0.4 lb/MMBtu, per 9 VAC 5-40-311 C.1.a. Table 4-4C. As mentioned in the DEQ September 2004 RACT Analysis, the EPA has issued the Alternative Control Techniques (ACT) Document – *NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers*, EPA/453/R-94-022, March 1994. In Table 2.2 of this document, it lists the uncontrolled NO_x range for this type boiler as 0.35 – 0.77 lb/MMBtu, with the average baseline NO_x emission at 0.53 lb/MMBtu. According to these documents, spreader stokers have higher NO_x rate emissions (lb/MMBtu) when compared to other type stoker boilers and fewer RACT alternatives.

We support the proposed NO_x RACT limit, considering that, per 9 VAC 5-40-310 E.6. and Draft State Operating Permit Conditions No. 8 & 10, NSRC will have to meet the new 0.40 lb/MMBtu limit by November 15, 2005; this limit will be well under the baseline average and near the minimum NO_x range; and the current Title V permit issued on Oct. 7, 2003 contains no NO_x emission limit for this facility, thus this facility will now have a NO_x emission limit.

2) The Draft State Operating Permit Condition No. 2 lists the proper operation and maintenance practices for these boilers as RACT. These practices are already a requirement for NSRC per Title V Permit No. 20468 under Section III. A. 10 and Section III B. We understand the reasoning for the redundancy in the Draft permit; however, we wanted to make note that this is not a new condition for this facility.

B) 15 open-front oil-fired metal heating furnaces –

DEQ determined that there are no feasible retrofit NO_x control technologies, thus the proposed NO_x RACT for these units is “proper operation and good combustion practice.” These practices are already a requirement for NSRC per Title V Permit No. 20468 under Section IV. A.4 and Section IV B. While we appreciate the need for redundancy, it appears that Condition No. 3 is a re-packaging of existing Title V requirements in an attempt to further the integrity of the RACT State Operating Permit.

C) Electric Arc Furnace -

DEQ determined that there are no feasible NO_x control technologies, thus the proposed NO_x RACT for these units is “maintaining good operating practice.” These practices are already a requirement for NSRC per Title V Permit No. 20468 under Section V B. While we appreciate the need for redundancy, it appears that Condition No. 4 is a re-packaging of existing Title V requirements in an attempt to further the integrity of the RACT State Operating Permit.

D) Units excluded from RACT analysis -

We offer no comments on the excluded units.

E) Draft State Operating Permit General Conditions – Condition 13. –

Since DEQ has not reopened the NSRC Title V Permit No. 20468 while accepting comments on the Draft State Operating Permit for RACT requirements, we are assuming that DEQ will reopen the Title V permit to include applicable conditions from the Final State Operating Permit. Title V permits are designed to gather all existing, federally enforceable laws and regulations into one permit. Federally enforceable laws include all EPA

regulations and any state and local regulations approved by the EPA. By incorporating all applicable requirements into one permit, the Title V permit aids the facility and citizens in a better understanding of what is legally required for the permitted facility. Per Title V Permit, Section XII. General Conditions. R. Reopening for Cause, since the Title V permit was issued just over a year ago on Oct. 7, 2003, we argue that the Title V permit should be reopened to include the Final RACT State Operating Permit.

II. Roanoke Cement Company Permit No. 20232

VA DEQ determined that the No. 5 kiln meets the requirements for NO_x RACT. RACT for emissions of NO_x has been determined to be: (1) Prior to the first scheduled plant shutdown which occurs after November 15, 2005, NO_x emissions from the No. 5 Kiln shall be controlled by indirect firing; (2) After the first scheduled plant shutdown which occurs after November 15, 2005, but no later than June 1, 2006, NO_x emissions from the No. 5 Kiln shall be controlled by Indirect firing with Low NO_x burner. The Low NO_x burner shall be designed to reduce NO_x generation from the kiln burner by 10%. This reduction will only be reflected in gases that bypass the precalciner; and (3) NO_x emissions from the No. 5 Kiln/ Pre-Heater/ Pre-Calciner system shall be controlled by process control and good combustion practices.

A) First, we are pleased to see that while deemed technically feasible, both RCC and DEQ have not recommended the RACT option Mid-kiln firing, which was analyzed on pages 15 – 16 of the RCC RACT Analysis underneath the heading 4.6. Mid-kiln firing would burn tires as fuel for NO_x reduction. We strongly oppose the mid-kiln firing system, which would burn tires as fuel. If this option is revived, we request a separate permit revision and public participation process (including public notice, informational briefing, public hearing and comment period). We feel that the RCC Title V permit section VI. A. Condition 16 affirms this.

B) Use of Indirect Firing –

As DEQ is aware, RCC already uses indirect firing. As submitted to DEQ, in RCC's RACT Analysis of August 19, 2004 on page 7 underneath the heading 3.5 Technology Currently Employed, RCC states currently using "indirect firing of solid fuels and . . . control of calciner excess air." According to the RCC analysis, indirect firing has been used since the 1996 startup of the No. 5 kiln and has allowed for operations to reduce average NO_x emissions up to 25 percent below RCC's estimated average clinker emissions. While RCC's use of indirect firing is not a new determination, we appreciate the fact that RCC has been using this control method and that this will now be incorporated into an RCC permit as presented in Condition No. 3 of the Draft State Operating Permit. Unless this qualifies under VI. A. 4. as a "process control", this is currently not a specific condition in the RCC Title V permit, which was issued on January 1, 2004.

C) Use of Low-NO_x burner & Indirect Firing -

We support this option for RACT analysis as presented in the RCC Draft RACT State Operating Permit Condition NO. 2.

D) Process Control and Good Practices –

These practices are already a requirement for RCC per Title V Permit No. 20232 under Section VI A. Condition 4 and Section VI B. While we appreciate the need for redundancy, it appears that Condition No. 4 is a re-packaging of existing Title V requirements.

E) Draft State Operating Permit General Conditions – Condition 9. –

Since DEQ has not reopened the RCC Title V Permit No. 20232 while accepting comments on the Draft State Operating Permit for RACT requirements, we are assuming that DEQ will reopen the Title V permit to include applicable conditions from the Final State Operating Permit. Title V permits are designed to gather all

existing, federally enforceable laws and regulations into one permit. Federally enforceable laws include all EPA regulations and any state and local regulations approved by the EPA. By incorporating all applicable requirements into one permit, the Title V permit aids the facility and citizens in a better understanding of what is legally required for the permitted facility. Per Title V Permit, Section XX. General Conditions. S. Reopening for Cause, since the Title V permit was issued within a year on Jan. 1, 2004, we argue that the Title V permit should be reopened to include the Final RACT State Operating Permit.

III. Roanoke Electric Steel Corporation Permit No. 20131

RACT for RES has been determined to be: (1) The establishment of the presumptive RACT emission limit of 0.25 lb NOx/million Btu input for the Tundish and Ladle preheaters, which are fired with "oil or gas or both," and good operating practices; (2) The continued permitted use of "low-NOx burners" in the current Billet Reheat Furnace (#1), and good operating practices; (3) The future use of "ultra low-NOx Burners" if the current Billet Reheat Furnace is replaced, which is already permitted but not yet constructed, and good operating practices; and (4) The use of good operating practices for Electric Arc Furnaces #4 and #5, and Ladle Metallurgical Station #5.

A) 0.25 lb NOx/MMBtu emission limit for preheaters –

1) We support the proposed NOx RACT limit in Draft State Operating Permit Conditions No. 11, per 9 VAC 5-40-311 C.1.a. Table 4-4C. While NOx emissions from the intermittently used Tundish and Ladle preheaters are relatively low, the current Title V permit issued on Jan. 1, 2002 contains no NOx emission limits for these units (Title V permit, Section IX Miscellaneous Processes). Thus, now there will be a NOx limit for these units.

2) We also support Draft State Operating Permit Condition No. 2 – good operating practices for the preheaters. The current Title V permit Section IX and Section X .A.2 do not fully cover good operating practices for the Tundish and Ladle preheaters , thus this will be a slight improvement over the current permit requirements.

B) continued permitted use of "low-NOx burners" in the current Billet Reheat Furnace (#1), and good operating practices –

1) The “continued ...use of low-NOx burners” portion of the RACT, Draft State Operating Permit Condition 6, is status quo. The current Title V permit issued on Jan. 1, 2002 contains this provision as Section VI, A. Condition 1. This RACT provision maintains the same NOx Emission Limit of 53.1 lbs/hr in Draft Permit Condition 11.d as currently in Title V, Section VI, A. Condition 7. There is a better low-NOx burner available for this unit. According to the RES RACT Analysis of June 22, 2004, as revised on Sept. 01, 2004, a retrofit of BRF #1 would reduce the NOx emissions.

BRF #1 Retrofit

Control	NOx emissions (lbs/MMBtu)		NOx Reductions (tpy)	
	Natural Gas as fuel	Oil as fuel	Actual	Potential
“ultra” low-NOx LAER	0.11	.027	37.8	56.6

The current permitted limit of 53.1 lbs/hr corresponding to 0.393 lbs/MMBtu, could be reduced to 0.11 lbs/MMBtu for gas and 0.27 lbs/MMBtu for oil (oil is rarely used), reducing NOx emissions from BRF #1 by 60 percent. However, RES cited a cost of \$24,697 per ton for this retrofit. Included in this figure is a loss of profits.

According to the RACT analysis, RES is running 24 hours, 7 days a week and the BRF #1 retrofit would take approximately 11 days to install. We urge RES to either a) seriously consider the BRF#1 “ultra” low-NOx burner retrofit by being prepared to take advantage of any foreseeable downtime or b) step up efforts (per Title V Permit, Section VI. A. Condition 4) to bring BRF #2 online as either a modification of BRF #1 or as a replacement.

2) We support Draft State Operating Permit Condition No. 6 – good operating practices for BRF #1. The current Title V permit Section VI and Section X do not fully cover good operating practices for BRF # 1, thus this will be a slight improvement over the current permit requirements.

C) future use of “ultra low-NOx burners if Billet Reheat Furnace (#1) is replaced and good operating practices –

1) We support this provision as stated in the RACT Draft State Operating Permit as Conditions 7 and 11 e. We urge RES to step up efforts (per Title V Permit, Section VI. A. Condition 4) to bring BRF #2 online as either a modification of BRF #1 or as a replacement.

2) We also support good operating practices for BRF #2 as the modified or replaced BRF #1 as stated in the RACT Draft State Operating Permit as part of Condition 7.

D) good operating practices for Electric Arc Furnaces #4 and #5, and Ladle Metallurgical Station #5 -

This may be a slight improvement over the current permit requirements, as the current Title V permit does not specifically state good operating practices as part of conditions for these units. While a slight improvement in permitting, it most likely will do little to reduce NOx emissions from the EAFs.

Summary

Overall, we feel that many of the RACT requirements for the three affected facilities are already in effect as conditions in existing permits. We believe this may make the 10 percent assumed NOx reduction in the Roanoke Ozone Early Action Plan difficult to meet. Yet, we realize the regulatory limitations associated with early action compacts. Therefore, we do appreciate and support the creation of the Western Virginia Emissions Control Area and the efforts to implement RACT requirements. In addition, once the RACT Draft State Operating Permits have been finalized, we feel that in the near future the Title V permits for Norfolk Southern Railway Company and Roanoke Cement Company (and possibly Roanoke Electric Steel, as well) should be reopened to include these new permit conditions.

Respectfully submitted,

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Supporting Documents

Note: These are not provided in full as DEQ already has copies of these documents.

DEQ Permits and Supporting Documents:

Draft RACT State Operating Permit, Public Notice, and DEQ supporting documents were downloaded at:
<http://www.deq.virginia.gov/air/permitting/planotes.html>

Title V Permits and Statements of Basis were downloaded at:
<http://www.deq.virginia.gov/air/permitting/t5issued.htm>

RACT Analysis for Roanoke Electric Steel was reviewed at the DEQ West Central office on Dec. 3, 2004. This document was not available online.

DEQ Intra-Agency Memos regarding the RACT determinations for Norfolk Southern Railway Company, Roanoke Cement Company, and Roanoke Electric Steel were reviewed at the DEQ West Central office on Dec. 3, 2004. These documents were not available online.

Roanoke Ozone Early Action Plan was downloaded at:
<http://www.deq.virginia.gov/air/permitting/planotes.html>

EPA Alternative Control Techniques Documents available online at:

<http://www.epa.gov/ttn/catc/products.html#rblcdocs>

or directly at:

Alternative Control Techniques (ACT) Document - NO_x Emissions from Industrial/Commercial/Institutional (ICI) Boilers (EPA-453/R-94-022) -
<http://www.epa.gov/ttn/catc/dir1/icboiler.pdf>

Alternative Control Technique (ACT) Document-NO_x Emissions from Cement Manufacturing (EPA453/R-94-004) - <http://www.epa.gov/ttn/catc/dir1/cement.pdf>

Alternative Control Techniques (ACT) Document - NO_x Emissions from Iron & Steel Mills (EPA-453/R-94-065) - http://www.epa.gov/ttn/catc/dir1/iron_act.pdf