Ernie Fletcher
Governor

Teresa J. Hill
Secretary

Commonwealth of Kentucky
Environmental and Public Protection Cabinet
Office of the Secretary
Capital Plaza Tower
Frankfort, Kentucky 40601

April 4, 2007

Mr. James I. Palmer, Jr.
Regional Administrator
U.S. EPA, Region 4
Sam Nunn Atlanta Federal Center
61 Forsyth Street, SW
Atlanta, Georgia 30303

Dear Mr. Palmer:

The Kentucky Environmental and Public Protection Cabinet (EPPC) hereby submits to the U.S. Environmental Protection Agency (EPA) a revision to the Kentucky State Implementation Plan pursuant to Section 110 of the Clean Air Act that addresses the Clean Air Interstate Rule (CAIR). On August 31, 2006, the cabinet submitted the draft proposal and regulations to EPA for parallel processing and the public hearing was held on September 25, 2006. The following regulations became effective on February 2, 2007.

401 KAR 51:210.	CAIR NOx annual trading program.
401 KAR 51:220.	CAIR NOx ozone season trading program.
401 KAR 51:230.	CAIR SO_2 trading program.

The enclosed documentation and regulations includes the CAIR budget demonstration and initial source allocations for applicable Kentucky sources. Additionally, an electronic version of this plan and relevant attachments can be found on the Division for Air Quality's web site at:

www.nr.state.ky.us/nrepc/dep/daq/pubinfo/calendar.html.

Kentucky is specifically requesting approval of an abbreviated SIP revision as provided by U.S. EPA. This submittal, as outlined in the federal CAIR, satisfies the section 110(a)(2)(D)(i) requirements of the 1990 Clean Air Act Amendments. Five copies of the proposed revision are enclosed. The Cabinet's response to comments received during the public review comment period is included as Appendix B.

Your prompt consideration of this request is appreciated. If you have any questions or comments concerning this matter, please contact Lona Brewer at the Division for Air Quality at (502) 573-3382.

Sincerely,

for Teresa J. Hill
Secretary

TJH:jeg
Enclosures
c: Kay Prince

Kentucky's
CAIR SIP Plan

prepared &
submitted by

Kentucky Division for Air Quality
John S. Lyons
Director

Kentucky Environmental and Public Protection Cabinet
Teresa J. Hill
Secretary

March 2007

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1.0 Introduction

On May 12, 2005, the United States Environmental Protection Agency (EPA) published a final rule titled, "Rule To Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NOx SIP Call" [70 FR 25161]. This rule is more commonly referred to as EPA's CAIR rule. The rule required Kentucky and certain other states to revise their State Implementation Plans (SIPs) to include control measures to limit the emission of sulfur dioxide (SO_2) and/or oxides of nitrogen (NOx). Sulfur dioxide is a precursor to $PM_{2.5}$ formation, and NOx is a precursor to both ozone and $PM_{2.5}$ formation. Reducing upwind precursor emissions will assist the downwind $PM_{2.5}$ and 8-hour ozone nonattainment areas in achieving the NAAQS and play a role in improving visibility in the Nation's Class I areas.

The Kentucky Environmental and Public Protection Cabinet, in order to comply with EPA's CAIR rule, hereby submits this revision to Kentucky's State Implementation Plan.

In order to comply with the SO_2 and NOx reductions required by CAIR, the Cabinet, in consultation with EPA and public comment, has adopted three regulations, which became effective on February 2, 2007 (*See Appendix A for copies of the regulations or on the internet at* www.lrc.state.ky.us/kar/Title401.htm). The three regulations are as follows:

401 KAR 51:210. CAIR NOx Annual Trading Program.

401 KAR 51:220. CAIR NOx Ozone Season Trading Program.

401 KAR 51:230. CAIR SO_2 Trading Program.

401 KAR 51:210 establishes the requirements for the control of nitrogen oxides (NOx) emissions from any electric generating unit (EGU) that is subject to the provisions of the annual Clean Air Interstate Rule (CAIR) NOx Trading Program. 401 KAR 51:220 establishes the requirements for the control of nitrogen oxides (NOx) emissions from any electric generating unit or industrial boiler that is subject to the provisions of the Clean Air Interstate Rule (CAIR) NOx Ozone Season Trading Program, 40 C.F.R. 96.301 to 96.376 and non-EGU units originally subject to the NOx SIP Call. Finally, 401 KAR 51:230 incorporates the provisions of the Clean Air Interstate Rule (CAIR) SO_2 Trading Program, 40 C.F.R. 96.201 to 96.288.

1.01 Kentucky's Projected 2009 and 2015 SO_2 and NOx Emissions (Tons)

The combination of 401 KAR 51:210, 401 KAR 51:220 and 401 KAR 51:230 achieves all the necessary SO_2 and NOx reductions for Kentucky as mandated by EPA's CAIR. In light of the reductions achieved, the projected 2009 and 2015 control period NOx emissions and the projected 2010 and 2015 control period SO_2 emissions are as follows:

Annual EGU NOx Budget for 2009	83,205
Annual EGU NOx Budget for 2015	69,337
Seasonal NOx Budget for 2009	36,109
Seasonal NOx Budget for 2015	30,651
Annual EGU SO_2 Budget for 2010	188,773
Annual EGU SO_2 Budget for 2015	132,141

The following plan provides details on how Kentucky proposes to meet the mandated CAIR reductions.

2.0 Kentucky's NOx Budget

2.01 Annual EGU NOx Budget

Attachment 1 contains the Annual budget for Kentucky. The total Annual budget for Kentucky for 2009 is eighy-three thousand two hundred five (83,205) tons; for 2015 it is sixty-nine thousand three hundred thirty-seven (69,337) tons.

Annual EGU NOx Budget for 2009	83,205 tons
Annual EGU NOx Budget for 2015	69,337 tons

2.02 Seasonal NOx Budget

EPA gave states the option of merging the seasonal EGU and non-EGU trading budgets. Kentucky will transition its NOx SIP Call trading sources into the CAIR ozone-season NOx program. Kentucky Seasonal NOx allocations were determined in accordance with 401 KAR 51:220 CAIR NOx Ozone Season Trading Program. Specifically, Section 1(2), which provides NOx allocations to units which were previously allocated allowances under the NOx SIP CALL. For 2009 the seasonal budget is thirty-six thousand one hundred nine (36,109) tons. This is derived from combining the EGU portion of the seasonal NOx budget of thirty-six thousand forty-five (36,045) tons, and the non-EGU portion of the seasonal NOx budget of sixty-four (64) tons, for a total of thirty-six thousand one hundred nine (36,109) tons. For 2015 the seasonal budget is thirty thousand six hundred fifty-one (30,651) tons. This is derived from combining the EGU portion of the seasonal NOx budget of thirty thousand five hundred eighty-seven (30,587) tons, and the non-EGU portion of the seasonal NOx budget of sixty-four (64) tons, for a total of thirty thousand six hundred fifty-one (30,651) tons.

Seasonal NOx Budget for 2009	36,109 tons
Seasonal NOx Budget for 2015	30,651 tons

3.0 Initial NOx Allocations for Kentucky for (2009-2014)

The initial NOx allocations are provided in Attachment 1 and Attachment 2 respectively. An explanation of how the Cabinet determined these allocations for each of these categories is provided below.

In addition to the initial allocation, eligible sources may also request NOx credits from Kentucky's compliance supplement pool in accordance with the criteria set forth in 401 KAR 51:210, Section 4, as follows:

1. The owners and operators of the CAIR NOx unit shall monitor and report the NOx emissions rate and the heat input of the unit in accordance with 40 C.F.R. 96.170 to 96.175 in each control period for which the early reduction is requested and for the 2005 control period. The difference resulting from subtracting the applicable 2007 or 2008 control period NOx emission rate from the 2005 control period NOx emission rate multiplied by the applicable 2007 or 2008 control period heat input divided by 2000, shall provide the amount in tons of the early reduction credit request.

2. The CAIR designated representative shall submit to the cabinet by July 1, 2009, a request for allocation of an amount of CAIR NOx allowances from the compliance supplement pool:
   (a) Not exceeding the sum of the amounts, in tons, of the unit's NOx emission reductions in 2007 and 2008 that are not necessary to comply with any state or federal emissions limitation applicable during the years, determined in accordance with 40 C.F.R. 96.170 to 96.175; or
   (b) Not exceeding the minimum amount of CAIR NOx allowances necessary to remove undue risk to the reliability of electricity supply.

3. To request allocations pursuant to subsection (2)(b) above, the CAIR designated representative shall demonstrate that, in the absence of allocation of an amount of CAIR NOx allowances requested, the unit's compliance with CAIR NOx emissions limitation for the control period in 2009 would create an undue risk to the reliability of electricity supply during the control period. This demonstration shall include a showing that the owners and operators cannot feasibly obtain a sufficient amount of:
   (a) Electricity from other electricity generating facilities during the installation of control technology at the unit for compliance with the CAIR NOx emissions limitation to prevent undue risk; or
   (b) CAIR NOx allowances in accordance with this section, or otherwise, to prevent undue risk.

4. Early reduction credits shall be rounded to the nearest whole number and distributed in the form of one (1) NOx allowance for one (1) ton of NOx emission reduction.

5. The cabinet shall distribute the early reduction credits on a proportional basis.
   (a) The total amount of early reduction credit available to a CAIR NOx unit shall be determined by the following calculation:
      1. The unit's baseline heat input determined in Section 3(3)(a)1 of this administrative regulation;
      2. Divided by the total amount baseline heat input from all sources pursuant to Section 3(3)(a)1 of this administrative regulation; and
      3. Multiplied by the early reduction credits available pursuant to 40 C.F.R. 96.143(a).
   (b) The unused early reduction credits shall be combined together and distributed pro rata to those CAIR NOx units with early reduction credits that exceeded the amount of credits made available by the cabinet pursuant to paragraph (a) of this subsection by the following calculation:
      1. The applicable unit's emission reductions that exceeded the credits made available pursuant to paragraph (a) of this subsection;
      2. Divided by the total NOx emission reductions that exceeded the credits provided under paragraph (a) of this subsection from all applicable units;
      3. Multiplied by the total number of unused early reduction credits.

Kentucky's compliance supplement pool has credits equal to fourteen thousand nine hundred thirty five (14,935) tons of NOx *(See Attachment 3)*.

3.01 NOx Allocations

Kentucky NOx allocations were determined in accordance with 401 KAR 51:210, CAIR NOx Annual Trading Program, and 401 KAR 51:220, CAIR NOx Ozone Season Trading Program. Specifically, Section 3 in each of these regulations provides the methodology for the allocation of NOx allowances to applicable units. Section 3 (2)(a) and (2)(b) of 401 KAR 51:210 and Section 3 (2)(a) of 401 KAR 51:220 divides the total number of NOx allowances allocated by the Cabinet into separate pools for existing units and to be sold by the Commonwealth of Kentucky. For the initial 2009-2014 allocation period ninety-eight (98) percent of the total NOx allowances will be allocated to existing units and two (2) percent will be sold by the Commonwealth of

Kentucky. The provisions of 401 KAR 51:160 promulgated in response to the federal NOx SIP Call, shall not apply to the control period beginning in 2009 and any control period thereafter. For the purposes of making deductions for excess emissions for the 2008 control period under Regulation 401 KAR 51:160, the Administrator will deduct allowances allocated under the CAIR NOx Ozone Season Program for the 2009 control period.

3.02 NOx Allocations for Existing Units

Initial NOx allocations for existing units were determined in accordance with 401 KAR 51:210 and 401 KAR 51:220 as follows:

1. For CAIR NOx units commencing operation before January 1, 2001, and operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for 2001 through 2005. For those not previously operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for the first achieved five (5) consecutive years of operation.

2. For units commencing operation on or after January 1, 2001, and operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three highest amounts of the unit's adjusted control period heat input for five (5) consecutive years of operation. For units that have not operated each calendar year during a period of five (5) or more consecutive years, the heat input shall be the average of the three highest amounts of the unit's adjusted control period heat input for the previous five (5) years of operation, where the:
   (a) Unit shall not establish a baseline heat input;
   (b) Adjusted control period heat input for a control period of not operating shall equal zero;
   (c) Cabinet shall allocate CAIR NOx allowances for the unit;
   (d) The baseline heat input for these units may be established during the next allocation period.

3. For CAIR NOx units included in the pool specified in subparagraph (1) above, the cabinet shall allocate CAIR NOx allowances to each CAIR NOx unit in an amount equal to the result obtained by:

(a) Multiplying the amount of CAIR NOx allowances in the 98% pool by the sum of the baseline heat input for each unit with 5 consecutive years of data and the heat input for each unit without this data;
(b) Divided by the sum of baseline heat input and the heat input for these units; and
(c) Rounding to the nearest whole CAIR NOx allowance, as appropriate.

4. The total number of CAIR NOx allowances assigned to Kentucky shall be divided into separate pools of ninety-eight (98) percent allocated for each control period to units specified in Section 1(1) of 401 KAR 51:210 and 401 KAR 51:220, and two (2) percent for each control period sold by the Commonwealth of Kentucky with the proceeds deposited in Kentucky's general fund.

Annual

The annual EGU NOx budget for 2009 is eighty three thousand two hundred and five (83,205) tons; for 2015 it is sixty nine thousand three hundred thirty seven (69,337) tons. Ninety-eight (98) percent of the 2009 annual EGU NOx trading program budget will be allocated by Kentucky. This is eighty one thousand five hundred thirty-seven (81,537) tons (*See Attachment 2 regarding the Annual NOx Allocations*). Two (2) percent of the annual EGU NOx trading program budget has been reserved for sale by the Commonwealth of Kentucky. This number for 2009 is one thousand six hundred sixty-eight (1,668) tons. Ninety-eight (98) percent of the annual EGU NOx budget for 2015 will be allocated by Kentucky. This is approximately sixty seven thousand nine hundred fifty (67,950) tons. Two (2) percent of the annual EGU NOx budget to be sold by the Commonwealth of Kentucky for 2015 is approximately one thousand three hundred eighty seven (1,387) tons.

Seasonal

The seasonal budget for 2009 is thirty-six thousand one hundred nine (36,109) tons; for 2015 it is approximately thirty thousand six hundred fifty-one (30,651)tons. Ninety-eight (98) percent of the seasonal NOx budget for 2009 is thirty five thousand three hundred eighty-four (35,384) tons (*See Attachment 1 regarding the Seasonal NOx Allocations*). The Commonwealth of Kentucky has reserved two (2) percent of the seasonal trading program budget for sale. Two (2)

percent of the seasonal budget for 2009 is seven hundred twenty-five (725) tons. Ninety eight (98) percent of seasonal budget for EGUs for 2015 is approximately thirty thousand thirty-eight (30,038) tons and two (2) percent is six hundred thirteen (613) tons.

Annual NOx Budget for 2009	83,205 tons
Seasonal NOx Budget for 2009	36,109 tons
Annual NOx Budget for 2015 (approximate)	69,337 tons
Seasonal NOx Budget for 2015 (approximate)	30,651 tons

Two (2) percent of NOx budget to be sold by Commonwealth

Annual for 2009	1,668 tons
Annual for 2015 (approximate)	1,387 tons
Seasonal for 2009	725 tons
Seasonal for 2015 (approximate)	613 tons

Total budget for NOx in trading program (minus 2% to be sold by Commonwealth)

Annual for 2009	81,537
Annual for 2015 (approximate)	67,950
Seasonal for 2009	35,384
Seasonal for 2015 (approximate)	30,038

4.0 EGU SO_2 ALLOCATIONS

Kentucky EGU SO_2 allowances have already been allocated through the Title IV Acid Rain program. In order to participate in the CAIR SO_2 trading program, Kentucky has promulgated 401 KAR 51:230, CAIR SO_2 Trading Program. This regulation establishes the provisions of the CAIR SO_2 Trading Program as codified at 40 C.F.R. 96.201 to 96.288 for applicable sources located in Kentucky.

The CAIR SO_2 cap and trade program will rely upon title IV Acid Rain SO_2 allowances. Pre-2010 title IV SO_2 allowances can be used for compliance with the CAIR. Sulfur dioxide reductions are achieved by requiring sources to retire more than one allowance for each ton of SO_2 emissions. The emission value of an SO_2 allowance is independent of the year in which it is used, but is based upon its vintage (*i.e.*, the year in which the allowance is issued). Sulfur dioxide allowances of vintage 2009 and earlier offset one ton of SO_2 emissions. Vintages 2010 through 2014 offset 0.5 tons of emissions. And, vintages 2015 and beyond offset 0.35 tons of emissions.

SO_2 budget for 2010	188,773 tons
SO_2 budget for 2015	132,141 tons

5.0 Kentucky's Legal Authority

Kentucky's statutory authority for promulgation of the Division for Air Quality's regulations pertaining to the CAIR is as follows:

5.01 Legal Authority

KRS 224.10-100, 224.20-100, 224.20-110, 224-20-120,

40 CFR 51.121 as amended at 70 FR 25162 (May 12, 2005), 51.122, 72.2, 75.1, 75.2, 75.4, 75.11 to 75.13, 75.17, 75.19, 75.20, 75.24, 75.70, 75.72, 75.74, 75.75, Part 96, 42 U.S.C. 7410.

5.02 Kentucky's CAIR Regulations

401 KAR 51:210. CAIR NOx Annual Trading Program.

401 KAR 51:220. CAIR NOx Ozone Season Trading Program.

401 KAR 51:230. CAIR SO_2 Trading Program.

For copies of Kentucky's CAIR regulations, please see Appendix A or on the internet at http://www.lrc.state.ky.us/kar/TITLE401.HTM

6.0 Public Participation

A public hearing to receive comments regarding Kentucky's CAIR SIP submittal was conducted on September 26, 2006. Documentation regarding the public notice and responses to comments received during the public comment period is included in Appendix B

Appendix A

Kentucky's CAIR Regulations

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
Division for Air Quality

401 KAR 51:210. CAIR NOx annual trading program.

RELATES TO: KRS 224.10-100, 224.20-100, 224.20-110, 224.20-120, 40 C.F.R. 51.121, 51.122, 72.2, 75.1, 75.2, 75.4, 75.11-75.13, 75.17, 75.19, 75.20, 75.24, 75.70, 75.72, 75.74, 75.75, Part 96, 42 U.S.C. 7410

STATUTORY AUTHORITY: KRS 224.10-100(5), 42 U.S.C. 7410

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(5) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation establishes requirements for the control of nitrogen oxides (NOx) emissions from large boilers and turbines used in power plants, pursuant to the federal mandate published under the Clean Air Interstate Rule (CAIR), 40 C.F.R. 96.101 to 96.188. This administrative regulation is not more stringent than the provisions allowed under the federal mandate.

Section 1. Applicability. This administrative regulation shall apply to CAIR NOx units in Kentucky that are subject to 40 C.F.R. 96.104.

Section 2. Compliance Requirements. CAIR NOx units shall comply with the following requirements:

(1) 40 C.F.R. 96.101 to 96.108 (Subpart AA), "CAIR NOx Annual Trading Program General Provisions";

(2) 40 C.F.R. 96.110 to 96.115 (Subpart BB), "CAIR Designated Representative for CAIR NOx Sources";

(3) 40 C.F.R. 96.120 to 96.124 (Subpart CC), "Permits";

(4) 40 C.F.R. 96.150 to 96.157 (Subpart FF), "CAIR NOx Allowance Tracking System";

(5) 40 C.F.R. 96.160 to 96.162 (Subpart GG), "CAIR NOx Allowance Transfers";

(6) 40 C.F.R. 96.170 to 96.175 (Subpart HH), "Monitoring and Reporting"; and

(7) 40 C.F.R. 96.180 to 96.188 (Subpart II), "Cair Nox Opt-in Units".

Section 3. Methodology for the Allocation and Sale of CAIR NOx Annual Allowances. The number of CAIR NOx allowances to be allocated to each CAIR NOx unit by the cabinet and to be sold by the Commonwealth of Kentucky shall be determined pursuant to this section.

(1) The total number of CAIR NOx allowances shall be:

(a) For the 2009 through 2014 control periods, 83,205 tons, as specified in 40 C.F.R. 96.140; and

(b) For the 2015 control periods and thereafter, 69,337 tons, as specified in 40 C.F.R. 96.140.

(2) The total number of CAIR NOx allowances assigned to Kentucky shall be divided into separate pools as follows:

(a) Ninety-eight (98) percent of this amount allocated for each control period to units that commence commercial operation before:

1. January 1, 2006, for the control periods 2009, 2010, 2011, 2012, 2013, and 2014;

2. January 1, 2009, for the control period 2015; and

3. Thereafter, January 1 of the year that is six (6) years before the first year of the next control period; and

(b) Two (2) percent of this amount for each control period sold by the Commonwealth of Kentucky with the proceeds deposited into Kentucky's general fund.

(3) For each CAIR NOx unit, the baseline heat input or adjusted control period heat input in mmBtu shall be determined and shall be used to determine CAIR NOx allowances for the pool specified in subsection (2)(a) of this section as follows:

(a) For CAIR NOx units commencing operation before January 1, 2001, and

1. Operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for 2001 through 2005; or

2. For units not having operated each calendar year for a period of five (5) or more consecutive years, the baseline heat input shall be established during the next allocation period when the unit has five (5) consecutive years of operation, using the average of the three (3) highest amounts of the unit's adjusted control period heat input for the most recent five (5) consecutive years of operation;

(b) For units commencing operation on or after January 1, 2001, and operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for the most recent five (5) consecutive years of operation; or

(c) For units that have not operated each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall not be established. For purposes of allocations, the heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for the previous five (5) years of operation, the:

1. Adjusted control period heat input for a control period of not operating shall equal zero; and

2. Cabinet shall allocate CAIR NOx allowances for the unit.

(4) The adjusted control period heat input for each year shall be calculated as follows:

(a) If the unit is coal-fired during the year, the unit's control period heat input for that year shall be multiplied by 100 percent;

(b) If the unit is oil-fired during the year, the unit's control period heat input for that year shall be multiplied by sixty (60) percent; and

(c) If the unit is not subject to paragraphs (a) or (b) of this subsection, the unit's control period heat input for that year shall be multiplied by forty (40) percent.

(5) For a calendar year, the unit's control period heat input and the unit's status as coal-fired or oil-fired shall be determined:

(a) In accordance with 40 C.F.R. Part 75, if the unit is subject to 40 C.F.R. Part 75;

(b) By the best available data reported to the cabinet for the unit if the unit is not otherwise subject to 40 C.F.R. Part 75; or

(c) By the best available data obtained by the cabinet.

(6) For CAIR NOx units included in the pool specified in subsection (2)(a) of this section, the cabinet shall allocate CAIR NOx allowances to each CAIR NOx unit in an amount equal to the result obtained by:

(a) Multiplying the total amount of CAIR NOx allowances specified in subsection (2)(a) of this section by the baseline heat input for each unit or the heat input established under subsection (3)(c) of this section;

(b) Dividing by the total amount of baseline heat input and the heat input established under subsection (3)(c) of this section for all applicable CAIR NOx units; and

(c) Rounding to the nearest whole CAIR NOx allowance, as appropriate.

(7) The cabinet shall submit to the U.S. EPA and CAIR NOx sources the CAIR NOx allowances to be allocated and sold from the pools specified in subsection (2) of this section in a format prescribed by the U.S. EPA by:

(a) October 31, 2006, for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014;

(b) October 31, 2009, for control period 2015; and

(c) October 31 of each year thereafter, for the control period in the sixth year after the year of the applicable deadline for submission under this paragraph.

Section 4. Compliance Supplement Pool. The CAIR designated representative may request early reduction credits and the allocation of CAIR NOx allowances from the compliance supplement pool established under 40 C.F.R. 96.143(a) for any CAIR NOx unit in the Commonwealth that achieves emission reductions in 2007 or 2008 or in both years when compared to the unit's NOx emission rate during the 2005 control period. Only emission reductions achieved in 2007 or 2008 or in both years that are not necessary to comply with any state or federal emissions limitation applicable during 2007 and 2008 may be used to request early reduction credits as specified in this section.

(1) The owners and operators of the CAIR NOx unit shall monitor and report the NOx emissions rate and the heat input of the unit in accordance with 40 C.F.R. 96.170 to 96.175 in each control

period for which the early reduction is requested and for the 2005 control period. The difference resulting from subtracting the applicable 2007 or 2008 control period NOx emission rate from the 2005 control period NOx emission rate multiplied by the applicable 2007 or 2008 control period heat input divided by 2000, shall provide the amount in tons of the early reduction credit request.

(2) The CAIR designated representative shall submit to the cabinet by July 1, 2009, a request for allocation of an amount of CAIR NOx allowances from the compliance supplement pool:

(a) Not exceeding the sum of the amounts, in tons, of the unit's NOx emission reductions in 2007 and 2008 that are not necessary to comply with any state or federal emissions limitation applicable during the years, determined in accordance with 40 C.F.R. 96.170 to 96.175; or

(b) Not exceeding the minimum amount of CAIR NOx allowances necessary to remove undue risk to the reliability of electricity supply.

(3) To request allocations pursuant to subsection (2)(b) of this section, the CAIR designated representative shall demonstrate that, in the absence of allocation of an amount of CAIR NOx allowances requested, the unit's compliance with CAIR NOx emissions limitation for the control period in 2009 would create an undue risk to the reliability of electricity supply during the control period. This demonstration shall include a showing that the owners and operators cannot feasibly obtain a sufficient amount of:

(a) Electricity from other electricity generating facilities during the installation of control technology at the unit for compliance with the CAIR NOx emissions limitation to prevent undue risk; or

(b) CAIR NOx allowances in accordance with this section, or otherwise, to prevent undue risk.

(4) Early reduction credits shall be rounded to the nearest whole number and distributed in the form of one (1) NOx allowance for one (1) ton of NOx emission reduction.

(5) The cabinet shall distribute the early reduction credits on a proportional basis.

(a) The total amount of early reduction credit available to a CAIR NOx unit shall be determined by the following calculation:

1. The unit's baseline heat input determined in Section 3(3)(a)1 of this administrative regulation;

2. Divided by the total amount baseline heat input from all sources pursuant to Section 3(3)(a)1 of this administrative regulation; and

3. Multiplied by the early reduction credits available pursuant to 40 C.F.R. 96.143(a).

(b) The unused early reduction credits shall be combined together and distributed pro rata to those CAIR NOx units with early reduction credits that exceeded the amount of credits made available by the cabinet pursuant to paragraph (a) of this subsection by the following calculation:

1. The applicable unit's emission reductions that exceeded the credits made available pursuant to paragraph (a) of this subsection;

2. Divided by the total NOx emission reductions that exceeded the credits provided under paragraph (a) of this subsection from all applicable units;

3. Multiplied by the total number of unused early reduction credits.

(c) Early reduction credits provided under paragraph (b) of this subsection shall not cause the early reduction credits allocated to the source to exceed the number of early reduction credits requested.

(6) By November 30, 2009, the cabinet shall determine and submit to the U.S. EPA the allocations under this section.

(7) By January 1, 2010, the U.S. EPA shall record the allocations submitted under subsection (6) of this section.

Section 5. Sale of CAIR NOx Allowances by the Commonwealth of Kentucky. (1) The Commonwealth of Kentucky shall establish an account pursuant to 40 C.F.R. 96.151(b) for the purpose of selling the CAIR NOx allowances in the pool specified in Section 3(2)(b) of this administrative regulation.

(2) The proceeds from the sale of the CAIR NOx allowances shall be deposited in the general fund of the Commonwealth of Kentucky.

(33 Ky.R. 1015; Am. 1611; 1798; eff. 2-2-2007.)

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
Division for Air Quality

401 KAR 51:220. CAIR NOx ozone season trading program.

RELATES TO: KRS 224.10-100, 224.20-100, 224.20-110, 224.20-120, 40 C.F.R. 51.121, 51.122, 72.2, 75.1, 75.2, 75.4, 75.11-75.13, 75.17, 75.19, 75.20, 75.24, 75.70, 75.72, 75.74, 75.75, Part 96, 42 U.S.C. 7410

STATUTORY AUTHORITY: KRS 224.10-100(5), 42 U.S.C. 7410

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(5) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation establishes requirements for the control of nitrogen oxides (NOx) emissions from large boilers and turbines used in power plants and other industrial applications, pursuant to the federal mandate published under the Clean Air Interstate Rule (CAIR), 40 C.F.R. 96.301 to 96.388. This administrative regulation is not more stringent than the provisions allowed under the federal mandate.

Section 1. Applicability. This administrative regulation shall apply to:

(1) CAIR NOx Ozone Season units in Kentucky that are subject to 40 C.F.R. 96.304; or

(2) An industrial boiler or turbine as defined in 401 KAR 51:001 that was previously allocated NOx allowances pursuant to 401 KAR 51:160; or

(3) A unit that qualifies as a cogeneration unit pursuant to 40 C.F.R. 96.304(b)(1)(i) and that was previously allocated NOx allowances pursuant to 401 KAR 51:160.

Section 2. CAIR NOx Ozone Season units shall comply with the following requirements:

(1) 40 C.F.R. 96.301 to 96.308 (Subpart AAAA), "CAIR NOx Ozone Season Trading Program General Provisions";

(2) 40 C.F.R. 96.310 to 96.315 (Subpart BBBB), "CAIR Designated Representative for CAIR NOx Ozone Sources";

(3) 40 C.F.R. 96.320 to 96.324 (Subpart CCCC), "Permits";

(4) 40 C.F.R. 96.350 to 96.357 (Subpart FFFF), "CAIR NOx Ozone Season Allowance Tracking System";

(5) 40 C.F.R. 96.360 to 96.362 (Subpart GGGG), "CAIR NOx Ozone Season Allowance Transfers";

(6) 40 C.F.R. 96.370 to 96.375 (Subpart HHHH), "Monitoring and Reporting"; and

(7) 40 C.F.R. 96.380 to 96.388 (Subpart IIII, "CAIR NOx Ozone Season Opt-in Units".

Section 3. Methodology for the Allocation of CAIR NOx Ozone Season Allowances. The number of CAIR NOx Ozone Season allowances to be allocated to each CAIR NOx Ozone Season unit by the cabinet and to be sold by the Commonwealth of Kentucky shall be determined pursuant to this section.

(1) The total number of CAIR NOx Ozone Season allowances shall be:

(a) For the 2009 through 2014 control periods, 36,109 tons, which includes 36,045 tons as specified in 40 C.F.R. 96.340, and sixty-four (64) allowances previously allocated under 401 KAR 51:160 for units specified in Section 1(2) of this administrative regulation; and

(b) For the 2015 control periods and thereafter, 30,651 tons, which includes 30,587 tons as specified in 40 C.F.R. 96.340, and sixty-four (64) allowances previously allocated under 401 KAR 51:160 for units specified in Section 1(2) of this administrative regulation.

(2) The total number of CAIR NOx Ozone Season allowances assigned to Kentucky shall be divided into separate pools as follows:

(a). Ninety-eight (98) percent of the total number of allowances shall be allocated for each control period to units that commence operation or commence commercial operation before:

1. January 1, 2006, for the control periods 2009, 2010, 2011, 2012, 2013, and 2014;

2. January 1, 2009, for the 2015 control period; and

3. Thereafter, before January 1 of the year that is six (6) years before the next control period; and

(b) Two (2) percent of the total number of allowances for each control period shall be sold by the Commonwealth of Kentucky in accordance with Section 4 of this administrative regulation.

(3) For each CAIR NOx Ozone Season unit, the baseline heat input or adjusted control period heat input in mmBtu shall be determined and shall be used to determine CAIR NOx Ozone Season allowances for the pool specified in subsection (2) of this section as follows:

(a) For CAIR NOx Ozone Season units commencing operation or commencing commercial operation before January 1, 2001, and:

1. Operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for 2001 through 2005;or

2. For units not having operated each calendar year for a period of five (5) or more consecutive years, the baseline heat input shall be established during the next allocation period when the unit has five (5) consecutive years of operation, using the average of the three (3) highest amounts of the unit's adjusted control period heat input for the most recent five (5) consecutive years of operation; or

(b) For CAIR NOx Ozone Season units commencing operation or commencing commercial operation on or after January 1, 2001, and operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three highest amounts of the unit's adjusted control period heat input over the most recent consecutive five (5) years of operation; or

(c) For CAIR NOx Ozone Season units that have not operated each calendar year during a period of five (5) or more consecutive years, the average of the three (3) highest amounts of the unit's adjusted control period heat input for the previous five (5) years of operation, where the:

1. Unit shall not establish a baseline heat input;

2. Adjusted control period heat input for a control period of not operating shall equal zero;

3. Cabinet shall allocate CAIR NOx Ozone Season allowances for the unit.

(4) The adjusted control period heat input for each ozone season shall be calculated as follows for CAIR NOx Ozone Season units specified in subsection (2)(a) of this section:

(a) If the unit is coal-fired during the year, the unit's control period heat input for that year shall be multiplied by 100 percent;

(b) If the unit is oil-fired during the year, the unit's control period heat input for that year shall be multiplied by sixty (60) percent; and

(c) If the unit is not subject to paragraphs (a) or (b) of this subsection, the unit's control period heat input for that year shall be multiplied by forty (40) percent; and

(5) The adjusted control period heat input for CAIR NOx Ozone Season units specified in subsection (2)(b) of this section shall equal the unit's control period heat input multiplied by 100 percent.

(6) For an ozone season, the unit's control period heat input and the unit's status as coal-fired or oil-fired shall be determined:

(a) In accordance with 40 C.F.R. Part 75, if the unit is subject to 40 C.F.R. Part 75;

(b) By the best available data reported to the cabinet for the unit if the unit is not otherwise subject to 40 C.F.R. Part 75; or

(c) By the best available data obtained by the cabinet.

(7) For CAIR NOx Ozone Season units included in the pool specified in subsection (2)(a) of this section, the cabinet shall allocate CAIR NOx Ozone Season allowances to each CAIR NOx Ozone Season unit in an amount equal to the result obtained by:

(a) Multiplying the total amount of CAIR NOx Ozone Season allowances specified in subsection (2)(a) of this section by the baseline heat input for each unit or the heat input established under subsection (3)(c) of this section;

(b) Dividing by the total amount of baseline heat input and the heat input established under subsection (3)(c) of this section for all applicable CAIR NOx Ozone Season units; and

(c) Rounding to the nearest whole CAIR NOx Ozone Season allowance, as appropriate.

(8) The cabinet shall submit to the U.S. EPA the CAIR NOx Ozone Season allowances to be allocated and sold from the pools specified in subsection (2) of this section in a format prescribed by the U.S. EPA by:

(a) October 31, 2006, for the control periods in 2009, 2010, 2011, 2012, 2013, and 2014; and

(b) October 31, 2009, for control period 2015; and

(c) October 31 of each year thereafter, for the control period in the sixth year after the year of the applicable deadline for submission.

Section 4. Sale of CAIR NOx Allowances by the Commonwealth of Kentucky.

(1) The Commonwealth of Kentucky shall establish an account pursuant to 40 C.F.R. 96.351(b) for the purpose of selling the CAIR NOx Ozone Season allowances in the pool specified in Section 3(2)(b) of this administrative regulation.

(2) The proceeds from the sale of the CAIR NOx Ozone Season allowances shall be deposited in the general fund of the Commonwealth of Kentucky.

(33 Ky.R. 1018; Am. 1614; 1799; eff. 2-2-2007.)

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
Division for Air Quality

401 KAR 51:230. CAIR SO_2 trading program.

RELATES TO: KRS 224.10-100, 224.20-100, 224.20-110, 224.20-120, 40 C.F.R. 51.124, 51.125, 73, 74, 77, 78, Part 96, 42 U.S.C. 7410

STATUTORY AUTHORITY: KRS 224.10-100(5), 42 U.S.C. 7410

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(5) requires the Environmental and Public Protection Cabinet to promulgate administrative regulations for the prevention, abatement, and control of air pollution. This administrative regulation establishes the provisions of the CAIR SO_2 Trading Program as codified at 40 C.F.R. 96.201 to 96.288 for applicable sources located in the Commonwealth of Kentucky.

Section 1. Applicability. This administrative regulation shall apply to CAIR SO_2 sources and CAIR SO_2 units under the CAIR SO_2 Trading Program located in Kentucky that are subject to 40 C.F.R. 96.204.

Section 2. Compliance requirements. CAIR SO_2 sources and CAIR SO_2 units shall comply with the following requirements:

(1) 40 C.F.R. 96.201 to 96.208 (Subpart AAA), "CAIR SO_2 Trading Program General Provisions";

(2) 40 C.F.R. 96.210 to 96.215 (Subpart BBB), "CAIR Designated Representative for CAIR SO_2 Sources";

(3) 40 C.F.R. 96.220 to 96.224 (Subpart CCC), "Permits";

(4) 40 C.F.R. 96.250 to 96.257 (Subpart FFF), "CAIR SO_2 Allowance Tracking System";

(5) 40 C.F.R. 96.260 to 96.262 (Subpart GGG), "CAIR SO_2 Allowance Transfers";

(6) 40 C.F.R. 96.270 to 96.275 (Subpart HHH), "Monitoring and Reporting"; and

(7) 40 C.F.R. 96.280 to 96.288 (Subpart III), "CAIR SO_2 Opt-in Units".

(33 Ky.R. 1020; Am. 1617; eff. 2-2-2007.)

Appendix B

Public Hearing Notice and Summary of Public Comments and Cabinet Responses

NOTICE OF PUBLIC HEARING
KENTUCKY DIVISION FOR AIR QUALITY
KENTUCKY STATE IMPLEMENTATION PLAN REVISIONS
PROPOSED AIR QUALITY REGULATIONS

The Kentucky Environmental and Public Protection Cabinet will conduct a public hearing on September 25, 2006, at 10:00 a.m. (ET) in the Conference Room of the Division for Air Quality, 803 Schenkel Lane, Frankfort, Kentucky. This hearing will be held to receive comments on three proposed new regulations to address the federally mandated Clean Air Interstate Rule (CAIR) and the associated revisions to the Kentucky State Implementation Plan.

401 KAR 51:210.	**CAIR NOx annual trading program.**
401 KAR 51:220.	**CAIR NOx ozone season trading program.**
401 KAR 51:230.	**CAIR SO_2 trading program.**

401 KAR 51:210 and 401 KAR 51:220 are proposed to control nitrogen oxides (NOx) emissions from affected electric generating units having a nameplate capacity of more than 25 MWe producing electricity for sale. 401 KAR 51:220 will also include non-EGU sources with previous requirements under the NOx SIP Call. Owners and operators of sources subject to these regulations will be required to possess allowances for the tons of emissions of NOx for each required control period.

401 KAR 51:230 is proposed to control emissions of sulfur dioxide (SO_2) from affected electric generating units (EGUs) having a nameplate capacity of more than 25 MWe producing electricity for sale. Owners and operators of sources subject to this regulation will be required to possess allocations for tons of SO_2 for the subject control period.

This hearing is open to the public and all interested persons will be given the opportunity to present testimony. To assure that all comments are accurately recorded, the Division requests that oral comments presented at the hearing are also provided in written form, if possible. Written comments must be received by October 2, 2006, to be considered part of the hearing record. The Environmental and Public Protection Cabinet does not discriminate on the basis of race, color, national origin, sex, age, religion, or disability and provides, upon request, reasonable accommodation including auxiliary aids and services necessary to afford an individual with a disability an equal opportunity to participate in all services, programs, and activities.

The full text of the SIP submittal and the proposed regulations is available for public inspection and copying during regular business hours (8:00 a.m. to 4:30 p.m., ET) at the locations listed below. Any individual requiring copies may submit a request to the Division for Air Quality in writing, by telephone, by FAX, or e-mail. Requests for copies should be directed to a contact person. In addition, an electronic version of the complete proposed SIP revision can be downloaded at: http://www.air.ky.gov/homepage_repository/Public+Hearings.htm. The proposed regulations can be accessed at: http://www.lrc.state.ky.us/KAR/TITLE401.htm.

CONTACT PERSONS: John Gowins, Supervisor, Evaluation Section, and Gerry Ennis, Regulation Development Section, Division for Air Quality, 803 Schenkel Lane, Frankfort, Kentucky 40601. The phone number is (502) 573-3382 and FAX number (502) 573-3787. E-mail addresses are: John.Gowins@ky.gov and Gerry.Ennis@ky.gov.

Louisville Metro APCD **850 Barret Ave # 205** **Louisville, KY 40204**	**Ashland Regional** **1550 Wolohan Dr #1** **Ashland, KY 41102**	**Bowling Green Regional** **1508 Westen Ave** **Bowling Green, KY 42104**
Florence Regional **8020 Veterans Memorial Dr. #110** **Florence, KY 41042**	**Frankfort Regional** **643 Teton Trail #B** **Frankfort, KY 40601**	**Hazard Regional** **233 Birch St #2** **Hazard, KY 41701**
London Regional **875 S Main St** **London, KY 40741**	**Owensboro Regional** **3032 Alvey Park Dr W #700** **Owensboro, KY 42303**	**Paducah Regional** **130 Eagle Nest Dr** **Paducah, KY 42003**
Fayette County Clerk **162 E Main St** **Lexington, KY 40507**	**Hardin County Clerk** **Hardin Co Courthouse** **Elizabethtown, KY 42701**	**Henderson County Clerk** **Henderson Co Courthouse** **Henderson, KY 42420**

KENTUCKY DIVISION FOR AIR QUALITY
KENTUCKY STATE IMPLEMENTATION PLAN REVISIONS
PROPOSED AIR QUALITY REGULATIONS

The Kentucky Environmental and Public Protection Cabinet will conduct public hearings [illegible] will be held to receive comments on three proposed new regulations to address the federally mandated Clean Air Interstate Rule (CAIR) and the associated revisions to the Kentucky State Implementation Plan.

401 KAR 51:210.	CAIR NOx annual trading program.
401 KAR 51:220.	CAIR NOx ozone season trading program.
401 KAR 51:230.	CAIR SO2 trading program.

401 KAR 51:210 and 401 KAR 51:220 are proposed to control nitrogen oxide (NOx) emissions from affected electric generating units having a nameplate capacity of more than 25 MWe producing electricity for sale. 401 KAR 51:210 will also include non-EGU sources with previous requirements under the NOx SIP Call. Owners and operators of sources subject to these regulations will be required to possess allowances for the tons of emissions of NOx for each required control period.

401 KAR 51:230 is proposed to control emissions of sulfur dioxide (SO2) from affected electric generating units (EGU) having a nameplate [illegible]

The full text of the SIP submittal and the proposed regulations is available for public inspection and copying during regular business hours (8:00 a.m. to 4:30 p.m., ET) at the locations listed below. Any individual requiring copies may submit a request to the Division for Air Quality in writing, by telephone, by FAX, or e-mail. Requests for copies should be directed to a contact person. In addition, an electronic version of the complete proposed SIP revision can be downloaded at: http://www.air.ky.gov/homepage_repository/Public+Hearings.htm. The proposed regulations can be accessed at: http://www.lrc.state.ky.us/KAR/TITLE401.htm.

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850 Barret Ave # 205
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Bowling Green, KY 42104

Florence Regional
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Florence, KY 41042

Frankfort Regional
643 Teton Trail #B
Frankfort, KY 40601

Hazard Regional
233 Birch St #2
Hazard, KY 41701

London Regional
875 S Main St
London, KY 40741

Owensboro Regional
3032 Alvey Park Dr W #700
Owensboro, KY 42303

Paducah Regional
130 Eagle Nest Dr
Paducah, KY 42003

Fayette County Clerk
162 E Main St
Lexington, KY 40507

Hardin County Clerk
Hardin Co Courthouse
Elizabethtown, KY 42701

Henderson County Clerk
Henderson Co Courthouse
Henderson, KY 42420

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07/31/06 - 08/27/06	STATE OF KY NREP AIR QUALITY

23 TOTAL AMOUNT DUE	*UNAPPLIED AMOUNT	3 TERMS OF PAYMENT
2,741.33		DUE ON - 09/16/06

21 CURRENT NET AMOUNT DUE	22 30 DAYS	60 DAYS	OVER 90 DAYS
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1	08/28/06

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8 BILLED ACCOUNT NAME AND ADDRESS:
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Division for Air Quality

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OCT - 5 2006
NINA C. HOCKENSMITH
MB Entered 10/5/06

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21 CURRENT NET AMOUNT DUE	22 30 DAYS	60 DAYS	OVER 90 DAYS	*UNAPPLIED AMOUNT	23 TOTAL AMOUNT DUE
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STATEMENT OF CONSIDERATION RELATING TO
401 KAR 51:210. (Amended After Comments)
401 KAR 51:220. (Amended After Comments)
401 KAR 51:230. (Amended After Comments)

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION FOR AIR QUALITY

I. A public hearing on the above administrative regulations was held on September 25, 2006, at 10:00 AM, at the offices of the Division for Air Quality, 803 Schenkel Lane, Frankfort, Kentucky 40601.

II. The following persons attended this public hearing or submitted written comments:

Name and Title	Organization
Mark Bertram, Environmental Compliance Specialist	Big Rivers Electric Company
Carolyn Brown, Chair Environmental Committee	Kentucky Chamber of Commerce
Leslie Eggan, Environmental Control Technologist I	Division for Air Quality
Bridgette K. Ellis, Sr. Vice President Environmental Stewardship and Policy	Tennessee Valley Authority
Kevin Frizzell Technical Services Superintendent	Owensboro Municipal Utilities
Yelena Goldin, Environmental Control Technologist I	Division for Air Quality
Gregory C. Hansrote, Vice President Wickliffe Operations	Wickliffe Paper Company
Shea Hogan, Environmental Control Technologist	Division for Air Quality
Wallace McMullen, For the	Cumberland Chapter, Sierra Club

Steve Noland, Chairman **Air Subcommittee**	**Utility Information Exchange of KY**
Russell E. Presswood, **Plant Manager**	**Air Products and Chemicals, Inc.**
Kay Prince, Chief, Air Programs	**U.S. Environmental Protection Agency**

III. The following persons from the promulgating administrative body, the Division for Air Quality responded to the comments:

Lona Brewer, Manager, Program Planning and Administration Branch
***Gerry Ennis, Environmental Technologist III**
John Gowins, Supervisor, Evaluation Section
Martin Luther, Environmental Scientist II

*** Agency Representative**

IV. Summary of Comments and Responses

401 KAR 51:210, 51:220, 51:230.

(1) **Subject Matter: General comment.**

(a) Comment: As we have discussed with KDAQ, CAIR is a significant rulemaking and will continue to help improve air quality in Kentucky and the region. Due to the level and schedule of reductions contained in these rules, compliance will be a challenge, one that will strain material and labor resources in the region. UIEK members will respond to the additional reductions required by CAIR as cost effectively as possible, but it will not be cheap. *(Steve Noland, UIEK)*

(b) Response: The cabinet acknowledges this comment.

(2) **Subject Matter: General comment.**

(a) Comment: The commenter, overall, supports the proposed version of the regulations and applauds the KDAQ for moving forward with these cap and trade programs. CAIR is the kind of regional approach to resolving air quality problems that we have long supported. The regulations will require large emission reductions, but the proposed cap and trade provisions will allow compliance flexibility so that the reductions can be made on the most cost effective units and minimize the cost to our ratepayers while providing real, sustained regional air quality improvements. *(Steve Noland, UIEK)*

(b) Response: The cabinet acknowledges this comment.

(3) **Subject Matter: General comment.**

(a) Comment: The Chamber supports the proposal to the extent that it adopts the federal model Clean Air Implementation Rule ("CAIR"). The federal model rule represents a carefully thought out approach to obtaining emission reductions following the model of other successful air programs such as the acid rain program. Adoption of the model rule will allow Kentucky sources to participate in the federal trading program which will be beneficial. *(Carolyn Brown, Ky Chamber of Commerce)*

(b) Response: The cabinet acknowledges this comment.

(4) **Subject Matter: General comment.**

(a) Comment: The commenter states that the proposed rules for Kentucky's State Implementation Plan show some careful work by the staff of the Division for Air Quality noting that they do not stand alone as a comprehensible part of the Kentucky Administrative Regulations. *(Wallace McMullen, Sierra Club)*

(b) Response: The cabinet acknowledges this comment.

(5) **Subject Matter: General Comment.**

(a) **Comment:** The commenter reiterates that the TVA worked closely in developing joint comments submitted by the Utility Information Exchange of Kentucky (UIEK). TVA fully endorses UIEK's comments and request that those comments be carefully considered. Further, the commenter supplements UIEK's comments with a few general observations, including commending the Division for its continued leadership in addressing regional air quality problems. *(Bridgette Ellis, TVA)*

(b) **Response:** The cabinet acknowledges this comment.

(6) **Subject Matter: General comment of support for these rule changes.**

(a) **Comment:** The commenter states that TVA supports these rule changes, with the minor changes identified by UIEK, in part, because they present a rational approach to integrating several regulatory requirements, including regional haze. Moving down this path, we can continue to have sustained improvements to both regional air quality and economic expansion of the Commonwealth. *(Bridgette Ellis, TVA)*

(b) **Response:** The cabinet acknowledges this comment.

(7) **Subject Matter: System of allocating NOx allowances.**

(a) **Comment:** The commenter believes the system of allocating NOx allowances by heat input, particularly for EGUs, tends to reward inefficient facilities and does not reward facilities generating electricity more efficiently with less pollution. The commenter suggests allocation by Kwh output would be better than by heat input, because it would encourage efficiency, and encourage minimizing the amount of pollution per electrical output. *(Wallace McMullen, Sierra Club)*

(b) **Response:** The cabinet does not concur. Kentucky chose to follow the federal model rule in order to provide the most equitable approach in implementing this program. In developing the state emissions budgets under these rules, U.S. EPA used historic heat input data, tied to fuel adjustments. U.S. EPA, in finalizing the Clean Air Interstate Rules (CAIR), noted that economic theory indicates that neither a heat input, nor an output-based approach, if allocated once and based on historical baseline, would provide any incentives for more or less efficient generation. The cap and trade system itself, regardless of how the allowances are distributed, provides the primary incentive for more efficient, cleaner generation of electricity.

(8) **Subject Matter: Cost effective emission reductions.**

(a) **Comment:** The commenter states that utilities in Kentucky have invested in and are operating more emission control equipment than utilities in many states in the southeast. As a consequence, emissions of nitrogen oxides and sulfur dioxides already have been significantly reduced in the Commonwealth. The proposed rules, if promulgated, will require additional, significant emission reductions that will help to continue the improvement in air quality and is a worthwhile goal that TVA fully supports. The commenter continues by stating that this progress, however, is expensive and as additional reductions are made at units it is becoming more costly

on a ton-removed basis; cheap tons are nonexistent. It is important, therefore, that the Division support the regulated community in achieving further reductions as cost effectively as possible. The cap and trade foundation of CAIR and the proposed regulations are critical in accomplishing this. *(Bridgette Ellis, TVA)*

(b) Response: The cabinet acknowledges this comment.

(9) Subject Matter: Definitions in the CAIR regulations.

(a) Comment: The commenter states that despite the statement in 401 KAR 51:001 that it contains all the definitions for Chapter 51, 401 KAR 51:210 and 401 KAR 51:220 contain a number of terms which are not defined, which include "CAIR NOx unit," CAIR NOx Ozone Season unit(s)," and "control period." *(Wallace McMullen, Sierra Club)*

(b) Response: The cabinet acknowledges this comment. However, the agency has adopted the federal definitions, including these terms, into the respective regulations in order to make it less confusing and more convenient for those sources impacted by these rules. 401 KAR 51:210, 40 C.F.R. 96.102, incorporates the definitions to be used under that regulation for the annual program, 401 KAR 51:220, §96.302, incorporates the definitions to be used under that regulation for the seasonal program, and §96.202, in 401 KAR 51:230, for the SO_2 trading program.

(10) Subject Matter: TVA's Clean Air Program.

(a) Comment: The commenter presents TVA's system-wide costs at $4.4 billion on clean air controls. TVA will spend another $1.3 billion on on-going clear air projects, that include a new state-of-the-art scrubber, entering commercial service this month, which new technology will be installed at several other facilities. The commenter further estimates the CAIR and Clean Air Mercury rules full implementation costs at $3 to $3.5 billion additional over and above these historic and on-going costs. *(Bridgette Ellis, TVA)*

(b) Response: The cabinet acknowledges this comment.

(11) Subject Matter: General comment.

(a) Comment: The commenter states that implementation of the proposed KY CAIR rule and proposed Non-EGU NOx budget will constrain not only the Cogen operation, whose level of performance exceeds the forty percent NOx emission reduction standard established in the CAIR Rule, but also operation of the chemical plant. The commenter further asks that the Division make a final applicability determination for the Cogen Combustion Turbine unit before promulgating a final CAIR Rule. *(Russell Presswood, Air Products)*

(b) Response: The cabinet acknowledges this comment and recognizes the concern of the company. However, emission reductions must be obtained and the cabinet is attempting to provide as much flexibility for sources as possible while ensuring that implementation of CAIR in the Commonwealth meets with U.S. EPA approval. A

final determination of regulatory applicability for a single facility does not have to be determined prior to finalization of the regulations. However, a final determination of regulatory applicability will be accomplished before final allocations are made for the seasonal and annual NOx allowances and before the final revision to Kentucky's State Implementation Plan is submitted to U.S. EPA.

(12) Subject Matter: Non-EGU NOx budget allocations.

(a) Comment: The commenter states that its natural gas-fired power boilers are considered Non-EGUs under the proposed rules and participate in the NOx SIP Call Program for ozone season only *"reporters."* To comply with the NOx allocation schedule in the rule, the units operate as backup units during the ozone season, requiring a change of operating schedules to move maintenance outages for other steam generating units outside the ozone season. This constraint on operating flexibility and permitted growth potential is particularly troubling. The entire Non-EGU sector is being strapped by this proposed regulation into a cycle of continuous significant reductions in NOx emissions and operating hours. The owners in this sector do not have the ability to move allocations between units or facilities. *(Gregory Hansrote, Wickliffe Paper)*

The commenter requests that the Division consider implementing compliance options that provide greater flexibility to the Non-EGU NOx budget allocations recognizing their insignificance in the overall NOx budget of the CAIR Program and unpredictable demand patterns. *(Russell Presswood, Air Products)*

(b) Response: The cabinet does not concur. U.S. EPA, in targeting sources with the potential to have substantial NOx emissions to impact regional ozone levels under the previous program known as the NOx SIP Call, chose to recommend controls on those boilers with a design capacity of 250 mmBTU or higher, due to the potential to be controlled at a reasonable dollar per ton amount. EPA also provided the option to allow for the cap and trade program in order to give sources the maximum flexibility in complying with those requirements. Kentucky adopted U.S. EPA's model cap and trade program, including provisions to allow trading among those non-EGUs with requirements.

The methodology used to allocate allowances to non-EGU boilers was the same as the methodology used in allocating allowances to EGUs. Historic average heat input for the ozone season was used in determining both the appropriate "trading budgets" and allocations made under this program. To state that operational flexibility is being stifled at this point in time, when budgets and allocations using historic data were used in determining emission allocations for these types of facilities, is confusing. The very premise of cap and trade programs is to allow sources to choose what is the most economical means of compliance. The source can buy and/or trade allowances; or limit use, rather than the state mandating specific control levels. This provides sources the maximum flexibility to address individual business needs.

In order to further accommodate non-EGUS being carried forward into the seasonal CAIR program from the NOx-SIP Call program, Kentucky has chosen to combine the two former EGU and Non-EGU NOx SIP Call budgets into one CAIR trading budget to allow for further trading between all impacted sources.

(13) **Subject Matter: Regulating Non-EGUs and EGUs.**

(a) **Comment:** The commenter suggests that if Kentucky feels compelled to regulate Non-EGUs separately but in a manner similar to EGUs, that Kentucky choose the best single ozone season to establish future budgets. *(Russell Presswood, Air Products)*

(b) **Response:** The cabinet does not concur. In order to provide a more clear and concise look at the needs for all sources impacted, U.S. EPA used an average of the highest three out of five years. For those same reasons, Kentucky has chosen to use the average of the highest three out of five years. To allow sources to use one specific year could cause a disadvantage to other regulated sources. Using an average makes the program fair across the network of sources impacted. In actuality, if all sources were allowed to use the highest single year of heat input data to determine allocations, it would skew the allocation process and would have the potential to be detrimental for many sources within the Commonwealth.

(14) **Subject Matter: Kentucky's adoption of Opt-In provisions.**

(a) **Comment:** The commenter notes that Kentucky adopts opt-in provisions in its CAIR SO_2 regulation (Subpart III) but not in the CAIR NOx Annual (Subpart II) or NOx Ozone Season (Subpart IIII) rules and questions if this is Kentucky's intent. *(Kay Prince, EPA)*

(b) **Response:** The cabinet acknowledges this comment, noting that the cabinet inadvertently omitted Subpart II in 401 KAR 51:210 and Subpart III in 401 KAR 51:220. The regulations have been amended accordingly.

(15) **Subject Matter: Expanded applicability provisions.**

(a) **Comment:** The commenter states that the expanded applicability provision to include non-EGUs in Kentucky's NOx Budget Trading Program under the NOx SIP Call only includes sources previously allocated allowances. Kentucky must also include any non-EGUs that could meet the NOx SIP Call trading program applicability provisions in the future. *(Kay Prince, EPA)*

(b) **Response**: The cabinet concurs and has added language to 401 KAR 51:220 to ensure that any new non-EGUs meeting the requirements are included for control.

(16) **Subject Matter: CAIR applicability.**

(a) **Comment:** The commenter notes that Attachments 3 and 4 of the SIP submittal that contains initial allocations for the NOx annual and NOx seasonal trading programs does not list Units 1 and 2 at East Kentucky Power Cooperative's Dale Station. These units are subject to CAIR because they serve generators with a nameplate

capacity of greater than 25 megawatts, and asks Kentucky to consider adding these units to the list. The commenter further recommends that the Division take measures to identify any other units subject to CAIR's applicability requirements. *(Kay Prince,EPA)*

(b) **Response:** The cabinet concurs. Those units will be added to the sources with applicability requirements under this program. A thorough search of all available data has been performed to ensure that all sources meeting applicability requirements have been identified and will be listed in the final revisions when initial allocations are submitted to U.S. EPA.

(17) **Subject Matter: Seasonal NOx Budget**

(a) **Comment:** The commenter notes that the seasonal budget figure of 36, 095 in Section 2.2., in the third sentence, should be 36,045. *(Kay Prince, EPA)*

(b) **Response:** The cabinet concurs. Additionally, as recommended by U.S. EPA, Kentucky has chosen to combine the EGU and Non-EGU seasonal budgets. The new budget amounts have been added to the regulatory provisions of both 401 KAR 51:210 and 401 KAR 51:220.

(18) **Subject Matter: Sunsetting the NOx SIP Call Trading Program.**

(a) **Comment:** The commenter states that because EPA will not be administering the NOx Budget Trading Program for any ozone seasons after 2008, Kentucky will need to sunset the current NOx SIP Call trading program provisions under 40 CFR 51.121(r). While the trading program will not apply to the 2009 control period and thereafter, some of the reconciliation activities for the 2008 control period will take place in calendar year 2009. *(Kay Prince, EPA)*

The commenter further suggests the following language: "The provisions of 401 KAR 51:160 shall not apply to the control period beginning in 2009 and any control period thereafter." *(Kay Prince, EPA)*

(b) **Response:** The cabinet does not concur. Within Kentucky regulatory framework, an agency may not amend a regulation with provisions added to another regulation. It is Kentucky's intent to repeal 401 KAR 51:160 after compliance and reporting requirements are met for the 2008 season. Language has been added in Kentucky's narrative portion of the submittal that documents the intent for this future activity.

(19) **Subject Matter: Excess emissions penalties for 2008 control period.**

(a) **Comment:** The commenter states that under the NOx SIP Call Trading Program, an excess emissions penalty assessed for the 2008 control period requires the deduction of allowances from a future control period. However, there will generally be no NOx SIP Call allowances for 2009. Therefore, Kentucky should consider adding to the compliance provisions of its current NOx SIP Call trading rules, language stating that, for purposes of making deductions for excess emissions for the 2008 control period,

the Administrator will deduct allowances allocated under the CAIR NOx Ozone Season Program for the 2009 control period. *(Kay Prince, EPA)*

(b) Response: The cabinet disagrees in part. 401 KAR 51:160 which provides the framework of the NOx SIP Call was not part of this regulatory action and therefore not open for comment nor amendment. However, language has been inserted in the narrative to ensure clarity on this issue.

(20) Subject Matter: NOx SIP Call allowances for 2009.

(a) Comment: The commenter states that Kentucky's current NOx SIP Call trading rules provide for sales of allowances by the State. Kentucky should consider adding language stating that the State will not sell allowances for any control period after 2008. *(Kay Prince,EPA)*

(b) Response: The cabinet acknowledges the comment. Please see response to comment #19. 401 KAR 51:160 is not open for comment. However, to further explain, in the last allocation process under the NOx SIP Call, Kentucky did not notify U.S. EPA to populate any account with 2009 emissions due to the onset of the new CAIR requirements.

(21) Subject Matter: Applicability: NOx SIP Call trading rule.

(a) Comment: The commenter states that Kentucky has the option of bringing in, for the CAIR NOx ozone season program only, those units in the State's NOx SIP Call trading program that are not CAIR NOx Ozone Season units under 40 CFR 96.304. Kentucky needs to add the applicability provisions in the State's NOx SIP Call trading rule (including any changes in the NOx SIP Call Phase II) for non-EGUs to the applicability provisions in 40 CFR 96.304 in order to include in the CAIR NOx ozone season trading program all units required to be in the State's NOx SIP Call trading program that are not already included under 40 CFR 96.304. The commenter notes that because the language limits applicability to non-EGUs "previously allocated" allowances, the language seems to inappropriately exclude new non-EGUs. *(Kay Prince, EPA)*

(b) Response: The Cabinet acknowledges this comment and has added language to 401 KAR 51:220 to include applicability for any new non-EGUs as well as bringing forward those units presently regulated under the NOx SIP Call in 401 KAR 51:160.

<u>401 KAR 51:210</u>

<u>Section 2. Compliance requirements.</u>

(22) Subject Matter: Final CAIR Rule revisions.

(a) Comment: The commenter states that recent revisions to the final CAIR Rules must be included in the CAIR rules of each State that wants to participate in the EPA-administered trading programs. These revisions include the addition of §96.115 and deletion of §96.176. *(Kay Prince, EPA)*

(b) **Response:** The cabinet acknowledges this comment and has amended the regulation accordingly.

(23) **Subject Matter: Clarification of terms.**

(a) **Comment:** The commenter suggests changing the frequently used term "control period" to "annual control period" or some alternative phrase for clarification and to avoid conflict with the definitions in 401 KAR 51:001, which defines "control period" as May through September. *(Steve Noland, UIEK)*

(b) **Response:** The cabinet does not concur. In both 401 KAR 51:210 and 401 KAR 51:220, the regulations cite the specific definitions provided in the federal rule. Therefore, control period, as used under 401 KAR 51:210 is governed by §96.102, and as used in 401 KAR 51:220, is governed by §96.302.

Section 3. Methodology for the allocation and sale of CAIR NOx annual allowances.

(24) **Subject Matter: Inclusion of the budget in the regulation.**

(a) **Comment:** The commenter states that subsection (1) must state Kentucky's trading budgets for the 2009 through 2014 and 2015 control periods and thereafter according to 40 CFR 96.140. Further, the commenter adds that the budget should be included in the regulation itself, not just in the narrative, "Kentucky's CAIR SIP Plan." *(Kay Prince, EPA)*

(b) **Response:** The cabinet acknowledges this comment and has amended the regulation accordingly.

(25) **Subject Matter: Allowance allocations based upon source operation date.**

(a) **Comment:** The commenter has concerns about the initial allocation of 98 percent of CAIR NOx allowances to sources in commercial operation as of January 1, 2006. Further, tying the definition of the pool to a date that precedes by months the date is of concern as a matter of general regulatory policy. In those circumstances the regulated community does not have adequate notice of the impact of decisions as to modes of operation, or in this instance, not being in operation. *(Carolyn Brown, Ky Chamber)*

(b) **Response:** The cabinet does not concur. States are required to distribute allowances three years prior to the first year of compliance, which for the CAIR rules is 2009. In order to have quality assured heat input on which to make those calculations, the cabinet must have the ability to use the last full year of heat input data available. In this case it would be for the period of time ending with December 31, 2005.

(26) **Subject Matter: No provisions for allocations to new sources.**

(a) **Comment:** The commenter states that the rule allocates 98 percent of the budgeted allowances to existing operating sources and then provides for the remaining two percent to be auctioned with the money going to the general fund. The proposal

makes no provisions for allocation to new sources-those sources will not have a guaranteed pool from which to draw. While it is important to protect existing sources, the Chamber believes that the allocation scheme adopted by the Division should provide adequate room for growth within the limitations of the federally established budget. *(Carolyn Brown, Ky Chamber)*

(b) Response: The cabinet disagrees in part. The commenter wants to ensure that the allocation scheme adopted by the Division should provide adequate room for growth within the limitations of the federally established budget. The agency believes this is done by the very nature of the cap and trade program. Kentucky could have mandated specific, more stringent levels of control for both existing and new sources, but chose instead to opt into the federal, 28 state region cap and trade program to ensure continued flexibility for sources with impacts under the Clean Air Interstate Rules. The very nature of the cap and trade program provides provisions for allowing new source growth while encouraging emission reductions from existing entities.

(27) Subject Matter: Clarify the language connection between (3)(a)1. and (3)(a)2.

(a) Comment: The commenter states it is not clear from the language under (3)(a) if 1. and 2. are disjunctive or conjunctive and asks if "or" should be added. *(Carolyn Brown, Ky Chamber)*

The commenter states that the "baseline heat input established under subsection (3)(a) or (3)(b) of this section" - should read "or" [not "and"] the heat input established under subsection (3)(c) of this section." *(Kay Prince, EPA)*

(b) Response: The cabinet concurs and has amended the regulation in subsection (3) (a) and (b).

(28) Subject Matter: Methodology for determining a baseline. (subsection (3)(a) and (b)).

(a) Comment: The commenter requests clarification of the language to specify when the five-or-more-years-of-operation determination is to be made (e.g., as the deadline for submitting allocations for the first round) under these paragraphs. In addition, the text does not clearly state which five-year period is to be considered. Kentucky should clearly state which five-year period is to be used and could choose the five-year period to be the first five years of operation, or that the five-year period change as the unit operates for more years. *(Kay Prince, EPA)*

(b) Response: Subsection 3(a)1 specifies that 2001-2005 data will be used to set initial baseline. 3(a)2 outlines that after the initial setting of baseline, other units may have five consecutive years, beginning anytime after 2002 (amended), and that when five consecutive years of operation have taken place, that baseline calculations can also be made for those units at the next time allocations are done. It is at anytime after the initial 2001-2005 period that a unit operates for five or more consecutive years. An "or" has been added between 3(a)1 and 3(a)2 to further clarify.

(29) Subject Matter: Units not in operation for five or more consecutive years in (3)(c).

(a) **Comment:** The commenter asks what is the result if a unit has only been operating two out of five years, if it is possible to use any consecutive five-year period, and how "adjusted control period' is defined. The current definition in 401 KAR 51:001 defines "control period" with reference to the ozone season. *(Carolyn Brown,Ky Chamber)*

The commenter believes there is some confusion regarding existing units that have not operated consecutively for five (5) years (presumably 2001 through 2005). Does KDAQ intend that these units continue to receive an allocation based upon the available data (the average of the 3 highest adjusted control period heat input with zeros if the unit did not operate for at least 3 years), but not a baseline heat input? In 401 KAR 51:220 under the same section, the KDAQ refers to "the" five consecutive years. The commenter asks if that is referring to future years or can a unit look back to the last 5 consecutive years of operation? *(Steve Noland, UIEK)*

The commenter states that the provision is not internally consistent because the text states that no "baseline heat input" shall be established but then discusses "heat input" calculation. It should be clarified that a unit initially covered by this provision becomes subject to subsection (3)(a)2 or (3)(b) once a unit has five years of operation and provide the criteria for allocating allowances to these units. It should also be clarified whether (3)(c)2 refers to a different allocation procedure than the provision in subsection (6). *(Kay Prince, EPA)*

(b) **Response:** The cabinet acknowledges these comments. The method of determining adjusted control period heat input for purposes of allocating allowances is found in (4) and is a calculated value using the unit's control period heat input.

In determining allocations under the Clean Air Interstate Rules, it became evident that Kentucky would need to provide a mechanism to allocate allowances to sources that had not yet operated five consecutive years and therefore, could not establish a baseline heat input on which to allocate.

Additionally, it was realized that some of these sources would eventually operate for five consecutive years and therefore, would, at some future point in time, be able to establish a baseline heat input on which future allocations would be made. The portions under comment outline the methodology for determining a baseline heat input for existing as well as future units that have operated, or may operate consecutively for five years.

Also outlined are provisions for allocating to units in Kentucky that have not as of yet operated consecutively for five years and may never operate consecutively for a five year period. In this last instance, it is the cabinet's intent to use zero in the calculation to have three years heat input data to average in determining the appropriate average on which to provide allocations.

The agency has amended both 401 KAR 51:210 and 401 KAR 52:220 to address these comments and more adequately describe the years of operation relative to setting baseline heat input for this first and subsequent allocation periods.

(30) **Subject Matter: Determination of a unit's status in subsection (5).**

(a) **Comment:** The Chamber notes that 40 C.F.R. 96.102, adopted in this regulation, also defines "oil-fired" and "coal-fired". The possibility for inconsistency between the definitions and this section should be reviewed. *(Carolyn Brown, Ky Chamber)*

(b) **Response:** The cabinet does not concur. The provisions of 40 C.F.R. 96.102 outline the specific use relative to Subpart EE.

(31) **Subject Matter: Clarify methodology for calculating allowances in subsection (6)(a).**

(a) **Comment:** The commenter says the "and" in line two should be "or" to be clearer that a unit will have a baseline heat input or a heat input established for new units (or units without 5 years of consecutive operation as assumed in previous comment concerning subsection (3)(a). *(Steve Noland, UIEK)*

(b) **Response:** The cabinet concurs and has amended the regulation accordingly.

(32) **Subject Matter: Clarify allowances to be sold in subsection (7).**

(a) **Comment:** The commenter states it is unclear with regard to the allowances to be sold by Kentucky. It appears that the submission deadlines are for notifying EPA of the number of allowances to be placed in the set-aside for sale, not for notifying EPA of the individual allowance holdings that result from the sale. This needs to be clarified. *(Kay Prince, EPA)*

(b) **Response:** The cabinet acknowledges this comment. Kentucky will provide initial notification to U.S. EPA on the number of allowances to be distributed to sources within the state and placed in appropriate accounts, including Kentucky's general account to handle the 2% set-aside to be sold. After that initial population of accounts, the provision of the rules themselves will track the transfer of allowances from one account to another.

Section 4. Compliance Supplement Pool.

(33) **Subject Matter: Changing the baseline year for comparing reductions.**

(a) **Comment:** The commenter acknowledges that the Compliance Supplement Pool distributes allowances for early reductions made in 2007 & 2008, when compared to 2006. The UIEK suggest comparing reductions using 2005 as the baseline year, rather than 2006. The control period for 2005 is after the reductions were made to comply with the NOx SIP and therefore indicative of normal operation before CAIR. The 2006 control period has yet to be completed and therefore sources could theoretically increase emissions while still complying with permit limits, and be rewarded for increasing those emissions. *(Steve Noland, UIEK)*

(b) **Response:** The cabinet concurs. The change has been made to use 2005 as the baseline year for allocating the compliance supplement pool.

(34) **Subject Matter: Exceeding emission limits and baseline emission rates.**

(a) **Comment:** The UIEK recommends that periods of time that exceeded a unit's permitted emission limits in the baseline year should be excluded in determining units' baseline emission rates. Otherwise units would be rewarded for such excess emissions. *(Steve Noland, UIEK)*

(b) **Response:** The cabinet concurs and will review data before determining baseline emission rates for units, taking appropriate enforcement action for instances where emission rates of NOx above permit limits have occurred.

(35) **Subject Matter: Reliability of electricity supply demonstration in subsection (3).**

(a) **Comment:** The commenter believes that the last phrase should read " . . .owners and operators cannot feasibly . . " rather than ". . . shall not feasibly . . ." *(Carolyn Brown, Ky Chamber)*

(b) **Response:** The cabinet concurs and has amended the regulation accordingly.

(36) **Subject Matter: Early reduction credits.**

(a) **Comment:** The commenter says that in subsection (5), it appears that early reduction credits initially would be provided to units that achieve early emission reductions, up to a pre-determined amount in accordance with paragraph (a). In general, the UIEK supports this approach because of the limited number available on a state-wide basis and it provides a known target and reward for early emissions reductions. *(Steve Noland, UIEK)*

(b) **Response:** The cabinet acknowledges this comment.

(37) **Subject Matter: Limited distribution of allowances in subsection (5)(a).**

(a) **Comment:** Paragraph (a) appears to limit the distribution of allowances to units that establish a baseline under Section 3(3)(a)1. The commenter makes this comment only to ensure that this is what Kentucky intends. *(Kay Prince, EPA)*

(b) **Response:** This is the cabinet's intent.

(38) **Subject Matter: Unused early reduction credits distribution.**

(a) **Comment:** The commenter acknowledges that subsection (5)(b) provides procedures to distribute unused early reduction credits. The commenter believes, however, that this pro-rata basis creates uncertainty of the benefits because they are limited in number. Specifically, companies will not know how many allowances they might earn by achieving additional reductions. Further, companies will be forced to blindly decide whether to voluntarily incur considerable expense to operate control equipment with a possibility of low reward or to not operate the control equipment which would lessen the intended environmental benefits of early emission reductions.

The UIEK suggests that unused or unearned allowances (under paragraph(a)) first be made available to other units having the same CAIR designated representative. This provides the certainty needed for companies to make an informed decision to voluntarily operate their control equipment beyond what is required. *(Steve Noland, UIEK)*

(b) Response: The cabinet agrees and this is the reason subsection Section 4(5)(b) is written as it is. Early reduction credits (ERCs) may only be awarded to those units that have achieved early reductions and the maximum amount that can be awarded to a unit cannot exceed the amount requested. Once the initial distribution of ERCs has been completed under (5)(a), any unused early reduction credits are then redistributed on a pro rata basis to those units that have achieved early reductions. To make the allocations outlined in (5)(b) to the CAIR designated representative for multiple units would remove the focus on the early reductions achieved at those individual units, thereby possibly creating the situation of not being able to determine the correct number associated with the specific unit in question. Through cap and trade programs, units and networks of units are allowed to trade allowances between units. The present allocation scheme will allow units who do voluntarily reduce their emissions early to be rewarded on a unit by unit basis.

(39) Subject Matter: Early reduction credits allocation in subsection (5).

(a) Comment: The commenter states it is unclear whether the procedures apply to both allowances requested based on early reductions and allowances requested based on undue risk to reliability. Both types need to be addressed and must clearly state that the total amount allocated pursuant to such requests cannot exceed the amount of the State's compliance supplement pool. *(Kay Prince, EPA)*

(b) Response: The cabinet disagrees. As written, 401 KAR 51:210, Section 4 adequately outlines the provisions of the Compliance Supplement Pool, that it is established relative to 40 C.F.R. 96.143(a). Section 4(2)(a) describes the process for distribution of allowances to sources that make early reductions in 2007 and/or 2008, and Section 4(2)(b) outlines the process for units to request allowances that demonstrate the need to prevent undue risk to the reliability of the electricity supply.

Section 5. Sale of CAIR NOx Allowances by the Commonwealth of Kentucky.

(40) Subject Matter: Establishing allowance accounts. Error to cite in subsection (1).

(a) Comment: The commenter suggests that rather than establishing a general account "pursuant to 40 CFR 96.351(b)" that Kentucky simply state that it will establish a "set-aside account." Additionally, the reference cites the NOx ozone season rule, rather than the annual rule. *(Kay Prince, EPA)*

(b) Response: The cabinet concurs in part and will correct the citation. However, 40 CFR 96.151(b) does appear to be the mechanism the Commonwealth should take to establish a "general" account in order to be able to transfer the 2% "set-aside" for the

annual program and 40 CFR 96.351(b) provides that same mechanism for the seasonal program.

(41) **Subject Matter: Sale of CAIR NOx allowances and recipient of the funds.**

(a) **Comment:** The commenter states that even more troubling is the continued move to utilize the allowances that EPA allocates for industry use under the model rule as a money-making tool for the state. The allowance system has been established by EPA as a way for sources to achieve significant emission reductions without the traditional command and control approach to environmental regulation. The Chamber believes that the intended beneficiaries of the allowances should in fact receive the benefit.

To the extent that the Division rejects the Chamber's position and retains the auction scheme, those funds should at least be earmarked for the Division for Air Quality. Although improvements have been made recently, the Division could use additional staff and would benefit from the ability to increase technical staff compensation. This is particularly true given the anticipated loss of career employees over the next few years through retirement. *(Carolyn Brown, Ky Chamber)*

(b) **Response:** The cabinet does not concur. The distribution of NOx allowances under this regulatory scheme is similar in scope to the U.S. EPA acid rain program where EPA withheld 2.8% of the emissions cap to place on the market for sale and has continued to do so. However, unlike the Acid Rain program where EPA allocates SO2 allowances directly to units, under the NOx provisions of the federal Clean Air Interstate Rules, the allowances are not given directly to the sources, rather to the Commonwealth of Kentucky to distribute them as best serves the interest of the Commonwealth. Having the proceeds from the sale of these allowances deposited in the General Fund allows the Commonwealth to use the money to benefit all citizens of the Commonwealth.

(42) **Subject Matter: Adding a new section for the allowance tracking system.**

(a) **Comment:** The commenter asks if there should also be a Section 6 "CAIR NOx Ozone Season Allowance Tracking System" to be consistent with 401 KAR 51:220. *(Steve Noland, UIEK)*

(b) **Response:** The cabinet acknowledges the comment and has amended the title of the section in 401 KAR 51:220 to be consistent with 401 KAR 51:210.

(43) **Subject Matter: Clarify allowances to be sold in subsection (7).**

(a) **Comment:** The commenter states it is unclear with regard to the allowances to be sold by Kentucky. It appears that the submission deadlines are for notifying EPA of the number of allowances to be placed in the set-aside for sale, not for notifying EPA of the individual allowance holdings that result from the sale. This needs to be clarified. *(Kay Prince, EPA)*

(b) **Response:** This is correct. Kentucky will provide initial notification to U.S. EPA on the number of allowances to be distributed to sources within the state and placed in

appropriate accounts, including Kentucky's general account to handle the 2% set-aside to be sold. After that initial population of accounts the provision of the rules themselves will track the transfer of allowances from one account to another.

401 KAR 51:220

(44) Subject Matter: Definitions for the CAIR NOx Ozone Season Trading Program.

(a) Comment: The commenter states there are a number of differences between the CAIR applicability provisions and the Kentucky NOx Budget trading program applicability. Therefore, in order to ensure that all units covered by Kentucky's NOx Budget trading program and not by the CAIR model rule applicability provisions are brought into the Kentucky CAIR NOx ozone season trading program, the applicability provision should include definitions of both "electric generating unit" and "industrial boiler or turbine," not just the "industrial boiler or turbine" definition. The commenter further suggests two categories of units that are CAIR NOx Ozone Season units, first would be those units subject to 40 CFR 96.304; the second category would be described as units not covered by 96.304 and that are covered by the definitions in 401 KAR 51:001. *(Kay Prince, EPA)*

(b) Response: The cabinet concurs and has amended the regulation accordingly.

(45) Subject Matter: Supplement to Definitions.

(a) Comment: The commenter states that Kentucky incorporated by reference the NOx ozone season definitions. However, because Kentucky is including non-EGUs, Kentucky needs to supplement the definition section with the definitions for "fossil fuel fired," "commence commercial operation," and "commence operation." *(Kay Prince, EPA)*

(b) Response: The cabinet does not concur. Terms not cited from the CAIR provisions, but used in 401 KAR 51:220, will continue to be defined by 401 KAR 51:001.

Section 1. Applicability.

(46) Subject Matter: Support for including non-EGU sources.

(a) Comment: The Chamber supports the Division's decision to include non-EGU sources in the program as specified in Section 1(2) to allow continued trading between those sources and EGUs. The commenter asks how the requirements of 401 KAR 51:220 and 401 KAR 51:160 work together under the new regulatory scheme. *(Carolyn Brown, Ky Chamber)*

(b) Response: The cabinet acknowledges this comment. The provisions of 401 KAR 51:220 and 401 KAR 51:160 will not work together. Once applicable sources have fully complied with 401 KAR 51:160 at the end of the 2008 ozone season (covered under 51:160), it is the cabinet's intent to repeal 401 KAR 51:160 because sources will be covered by 401 KAR 51:220 beginning in calendar year 2009.

Section 2. CAIR NOx Ozone Season units compliance requirements.

(47) **Subject Matter: Final CAIR Rule revisions.**

(a) **Comment:** The commenter states that recent revisions to the final CAIR Rules must be included in the CAIR rules of each State that wants to participate in the EPA-administered trading programs. These revisions include the addition of §96.315 and deletion of §96.376. *(Kay Prince, EPA)*

(b) **Response:** The cabinet concurs and has amended the regulation accordingly.

(48) **Subject Matter: General comment also applicable to 401 KAR 51:210.**

(a) **Comment:** The commenter reiterates comment on 401 KAR 51:210 for this regulation as well as regarding the percentage of allowances allocated to existing sources and the need to provide for growth by providing some set aside for new sources. *(Carolyn Brown, Ky Chamber)*

(b) **Response:** The cabinet acknowledges this comment. Please see response to comment #26.

Section 3. Methodology for the Allocation of CAIR NOx Ozone Season Allowances.

(49) **Subject Matter: Inclusion of the budget in the regulation.**

(a) **Comment:** The commenter states that subsection (1) must state Kentucky's trading budgets for the 2009 through 2014 and 2015 control periods and thereafter according to 40 CFR 96.340. Further, the commenter adds that the budget should be included in the regulation itself, not just in the narrative, "Kentucky's CAIR SIP Plan." *(Kay Prince, EPA)*

(b) **Response:** The cabinet acknowledges this comment and has amended the regulation accordingly

(50) **Subject Matter: CAIR NOx Ozone Season Budget.**

(a) **Comment:** The commenter notes that since Kentucky has chosen to include the NOx SIP Call non-EGUs in the CAIR NOx Ozone Season trading program, Kentucky may increase the CAIR NOx Ozone Season budget by the portion of the NOx SIP Call trading budget attributed to non-EGUs, under 40 CFR 51.123(aa)(2)(iii)(A) and (B). This may include the allowances sold by Kentucky out of that portion of the budget. Subsection (2) does not need to break the budget under subsection (1) into two separate portions, (2)(a) and (2)(b), for CAIR EGUs and CAIR non-EGUs. *(Kay Prince, EPA)*

(b) **Response:** The cabinet agrees and has amended the regulation to combine the EGU and non-EGU budgets into one trading budget.

(51) **Subject Matter: Methodology for determining a baseline in (3)(a)1., 2., and (3)(b).**

(a) **Comment:** The commenter requests clarification of the language to specify when the five-or-more-years-of-operation determination is to be made (e.g., as the deadline for submitting allocations for the first round) under these paragraphs. In addition, the text does not clearly state which five-year period is to be considered. Kentucky should clearly state which five-year period is to be used. *(Kay Prince, EPA)*

(b) **Response:** See response to Comment #28

(52) **Subject Matter: Clarify the language connection between (3)(a)1. and (3)(a)2.**

(a) **Comment:** The commenter states it is not clear from the language under (3)(a) if 1. and 2. are disjunctive or conjunctive and asks if "or" should be added. *(Carolyn Brown, Ky Chamber)*

The commenter states that the "baseline heat input established under subsection (3)(a) or (3)(b) of this section" should read "or [not "and"] the heat input established under subsection (3)(c) of this section." *(Kay Prince, EPA)*

(b) **Response:** The cabinet concurs and has amended the regulation accordingly.

(53) **Subject Matter: Units not in operation for five or more consecutive years in (3)(c).**

(a) **Comment:** The commenter states that the provision is not internally consistent because the text states that no "baseline heat input" shall be established but then discusses "heat input" calculation. It should be clarified that a unit initially covered by this provision becomes subject to subsection (3)(a)2 or (3)(b) once a unit has five years of operation and provide the criteria for allocating allowances to these units. It should also be clarified whether (3)(c)2 refers to a different allocation procedure than the provision in subsection 6. *(Kay Prince, EPA)*

The commenter believes there is some confusion regarding existing units that have not operated consecutively for five (5) years (presumably 2001 through 2005). Does KDAQ intend that these units continue to receive an allocation based upon the available data (the average of the 3 highest adjusted control period heat input with zeros if the unit did not operate for at least 3 years), but not a baseline heat input? In 401 KAR 51:220 under the same section, the KDAQ refers to "the" five consecutive years. The commenter asks if that is referring to future years or can a unit look back to the last 5 consecutive years of operation? *(Steve Noland, UIEK)*

(b) **Response:** See response to comment #29

(54) **Subject Matter: The basis of allocations for years of operation in subsection (3)(a)(2)**

(a) **Comment:** The commenter makes the same comments concerning the basis of allocations for years of operation as for 401 KAR 51:210. *(Steve Noland, UIEK)*

(b) **Response: See Response to Comment #** 29

(55) **Subject Matter: Clarify methodology for calculating allowances in subsection (6)(a).**

(a) **Comment:** The commenter says the "and" in line two should be "or" to be clearer that a unit will have a baseline heat input or a heat input established for new units (or units without 5 years of consecutive operation as assumed in previous comment concerning subsection (3)(a). *(Steve Noland, UIEK)*

(b) **Response:** The cabinet concurs and has amended the regulation accordingly.

(56) **Subject Matter: Multiple definitions of "oil-fired" and "coal-fired" in subsection (6).**

(a) **Comment**: The Chamber reiterates its comments regarding consistency of multiple definitions of "oil-fired" and coal-fired" in the regulation. *(Carolyn Brown, Ky Chamber)*

(b) **Response:** The cabinet disagrees (see response to comment #30)

(57) **Subject Matter: Clarify different heat inputs in Section 3(7)(a) and (8)(a).**

(a) **Comment:** The commenter makes the same comments concerning clarification that a unit will have a baseline heat input or a heat input established for new units and presumably for non-EGUs. *(Steve Noland, UIEK)*

(b) **Response: See Response to Comment # 29**

(58) **Subject Matter: Calculating non-EGU allowances in subsection (8)(a).**

(a) **Comment:** The commenter states that the "baseline heat input established under subsection (3)(a) or (3)(b) of this section" should read "or [not "and"] the heat input established under subsection (3)(c) of this section." *(Kay Prince, EPA)*

(b) **Response:** The cabinet acknowledges this comment. The agency has revised the regulation to include EGUs and Non-EGUs in the same pool.

(59) **Subject Matter: Clarify submission deadlines in subsection (9).**

(a) **Comment:** The commenter states that it is unclear with regard to the allowances to be sold by Kentucky. It appears that the submission deadlines in this subsection are for notifying EPA of the number of allowances to be place in the set-aside for sale, not for notifying EPA of the individual allowance holdings that result from the sale. This needs to be clarified. *(Kay Prince, EPA)*

(b) **Response:** That is the cabinet's intent – see response to comment #32

<u>Section 5. CAIR NOx Ozone Season Allowance Tracking System.</u>

(60) **Subject Matter:** Change the title to this section.

(a) **Comment:** The commenter says that Kentucky may want to change the title of this Section to "Sale of CAIR NOx Ozone Season Allowances by the Commonwealth of Kentucky." *(Kay Prince, EPA)*

The commenter asks if there should also be a Section *5* "Sale of CAIR NOx Allowances by the Commonwealth of Kentucky" to be consistent with 401 KAR 51:210. *(Steve Noland, UIEK)*

(b) Response: The cabinet has amended the regulation accordingly.

(61) Subject Matter: Establish a set-aside account (subsection (1).

(a) Comment: The commenter suggests that rather than establishing a general account pursuant to 40 CFR 96.351(b) that Kentucky simply state that it will establish a set-aside account. *(Kay Prince, EPA)*

(b) Response: See response to comment #40

401 KAR 51:230

Section 2. Compliance requirements.

(62) Subject Matter: Final CAIR Rule revisions.

(a) Comment: The commenter states that recent revisions to the final CAIR Rules must be included in the CAIR rules of each State that wants to participate in the EPA-administered trading programs. These revisions include the addition of §96.215 and deletion of §96.276. *(Kay Prince, EPA)*

(b) Response: The cabinet concurs and has amended the regulation accordingly.

(63) Subject Matter: General support of this proposed regulation.

(a) Comment: The commenter states the Kentucky Chamber of Commerce supports the Division's proposal which adopts the federal rule. *(Carolyn Brown, Ky Chamber)*

(b) Response: The cabinet acknowledges this comment.

(64) Subject Matter: Rubberstamp of the federal model rule.

(a) Comment: The commenter states that this rule consists of essentially nothing but references to federal regulation and therefore, can fairly be characterized as a rubber stamp version of the model rule that was proposed by the EPA. The commenter asks if promulgating a rule that is rubberstamp of the federal model rules provide full and appropriate protection from air pollution for the citizens of the Commonwealth, suitably tailored to the unique circumstances of this state. He further asks if the Division is choosing the course which generates the fewest complaints from industry, rather than fighting for the best interests of the citizenry. The commenter would like to see the responsible Kentucky officials think carefully about that question. *(Wallace McMullen, Sierra Club)*

(b) Response: The cabinet acknowledges the comments concerning the references to the federal regulations in 401 KAR 51:230. The provisions of 401 KAR 51:230 refer to the federal SO2 emission reduction requirements for the acid rain program; a program

which is not transferable to states. So, in essence, yes, Kentucky is adopting the provisions to include federal regulatory requirements in Kentucky permits, but the allocation of allowances remains a federal responsibility as is required by the Clean Air Act.

Summary of Statement of Consideration

The proposed administrative regulations were published in the September 1, 2006 *Administrative Register of Kentucky*, and a public hearing notice was placed in ten newspapers throughout the Commonwealth. The *Regulatory Impact Analysis*, *Federal Mandate Comparison*, and *Fiscal Note on State or Local Government* to the proposed regulations and the public hearing notice were mailed to 891 individuals who have requested to be placed on a mailing list maintained by the cabinet. Copies of the hearing notice, proposed regulations, and State Implementation Plan (SIP) revisions were also made available for public inspection at the Division for Air Quality's field offices, the Louisville Metro Air Pollution Control District, and selected County Clerk offices. The U.S. EPA and the Kentucky Environmental Quality Commission were provided copies of the proposed regulations and SIP revisions for review and comment.

This document presents a summary of all related comments submitted and the Environmental and Public Protection cabinet's responses. The Environmental and Public Protection Cabinet received seven (7) written statements regarding the proposed administrative regulations, 401 KAR 51:210, 51:220, and 51:230.

Implications for Future Regulatory Action

Kentucky intends to repeal 401 KAR 51:160, NOx requirements for large utility and industrial boilers, after compliance and reporting requirements are met for the 2008 season.

V. SUMMARY OF ACTION TAKEN BY PROMULGATING AGENCY

The Environmental and Public Protection Public Cabinet, Division for Air Quality, has considered all comments and suggests the following changes to the administrative regulations.

401 KAR 51:210 - CAIR NOx annual trading program.

Page 1
Necessity, Function, and Conformity
Line 15

After "40 C.F.R. 96.101 to," insert "96.188 "
Delete "96.176"

Page 2
Section 2(2)
Line 5

After "96.110 to" insert "96.115"
Delete "96.114"

Page 2
Section 2(5)
Line 11

After "Allowance Transfers";" delete "and"

Page 2
Section 2(6)
Line 12

After "96.170 to" insert "96.175"
Delete "96.176"

After "Reporting" Insert "; and"
Delete "."

Page 2
Section 2(7)
Line 14

Before "Section 3." add a line and Insert:
(7) 40 C.F.R. 96.180 to 96.188 (Subpart II), "CAIR NOx Opt-in Units".

Page 2
Section 3(1)
Line 19

After "shall be" Insert ":"

Page 2
Section 3(1)(a),(b)
Line 20

Add a line and Insert:

"(a) For the 2009 through 2014 control periods, 83,205 tons, as specified in 40 C.F.R. 96:140; and
(b) For the 2015 control periods, and thereafter, 69, 337 tons, as specified in 40 C.F.R. 96.140."

Delete "the number of CAIR NOx allowances assigned to Kentucky by the U.S. EPA and approved in Kentucky's State Implementation Plan (SIP)."

Page 3
Section 3(3)
Line 13

After "heat input" Insert "or adjusted control period heat input"

Page 3
Section 3(3)(a)1.
Line 19

After "through 2005;" Insert "or"

Page 3
Section 3(3)(a)2.
Line 20

After "2." Insert new language

"For units not having operated each calendar year for a period of five (5) or more consecutive years, the baseline heat input shall be established during the next allocation period when the unit has five (5) consecutive years of operation, using the average of the three (3) highest amounts of the unit's adjusted control period heat input for the most recent five (5) consecutive years of operation; or"

Delete "Not previously operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for five (5) consecutive years of operation;"

Page 4
Section 3(3)(b)
Line 10

After "heat input for" Insert "the most recent"

Page 4
Section 3(3)(b)
Line 10

After "years of operation;" Insert "or"

Page 5
Section 3(6)(a)
Line 13

After "for each unit" Insert "or"
Delete "and"

Page 6
Section 4
Line 7

After "rate during the" Insert "2005"
Delete "2006"

Page 6
Section 4(1)
Line 14

After "to" Insert "96.175"
Delete "96.176"

Page 6
Section 4(1)
Line 15

After "for the" Insert "2005"
Delete "2006"

Page 6
Section 4(1)
Line 16

After "rate from the" Insert "2005"
Delete "2006"

Page 7
Section 4(2)(a)
Line 4

After "C.F.R. 96.170 to" Insert "96.175"
Delete "96.176"

Page 7
Section 4(3)
Line 12

After "owners and operators" Insert "cannot"
Delete "shall not"

Page 9
Section 5(1)
Line 3

After "C.F.R. " insert "96.151(b)"
Delete "96.351(b)"

401 KAR 51:220 – CAIR NOx ozone season trading program.

Page 1
Necessity, Function, and Conformity
Line 16

After "96.301 to" Insert "96.388"
Delete "96.376"

Page 2
Section 1(2),(3)
Line 1

After "(2)" Insert new language:

"An industrial boiler or turbine as defined in 401 KAR 51:001 that was previously allocated NOx allowances pursuant to 401 KAR 51:160; or
(3) A unit that qualifies as a cogeneration unit pursuant to 40 C.F.R. 96.304(b)(1)(i) and that was previously allocated NOx allowances under the NOx SIP Call pursuant to 401 KAR 51:160."

Delete: "A fossil-fuel-fired boiler, combustion turbine, or a combined cycle system having a maximum design heat input of 250 MMBtu per hour or more that was previously allocated NOx allowances pursuant to 401 KAR 51:160."

Page 2
Section 2(2)
Line 13

After "96.310 to" Insert "96.315"
Delete "96.314"

Page 2
Section 2(5)
Line 19

After "Allowance Transfers";" Delete "and"

Page 2
Section 2(6)
Line 20

After "96.370 to" Insert "96.375"
Delete "96.376"

Page 2
Section 2(6)
Line 21

After "Reporting" Insert "; and"
Delete "."

Page 2
Section 2(7)
Line 22

Add a line and Insert "(7) 40 C.F.R. 96.380 to 96.388 (Subpart IIII), "CAIR NOx Ozone Season Opt-in Units"."

Page 3
Section 3(1)
Line 5

After "shall be" Insert ":"

Page 3
Section 3(1)(a)
Line 6

Add a line and Insert " (a) For the 2009 through 2014 control periods, 36,109 tons, which includes 36,045 tons as specified in 40 C.F.R. 96:340, and sixty-four (64) allowances previously allocated under 401 KAR 51:160 for units specified in Section 1(2) of this administrative regulation; and

(b) For the 2015 control periods and thereafter, 30,651 tons, which includes 30,587 tons as specified in 40 C.F.R. 96:340, and sixty-four (64) allowances previously allocated under 401 KAR 51:160 for units specified in Section 1(2) of this administrative regulation."

Delete "the number of CAIR NOx Ozone Season allowances assigned to Kentucky by the U.S. EPA and approved in Kentucky's State Implementation Plan (SIP)."

Page 3
Section 3(2)
Line16

After "(2)" Insert "The total number of CAIR NOx Ozone Season allowances assigned to Kentucky shall be divided into separate pools as specified in this subsection. The number of allowances specified in subsection (1) of this Section with:"

Page 3
Section 3(2)(a)
Line 19

Renumber: Insert " (a) "
Delete "1."

Page 3
Section 3(2)(a)
Line 20

After "units that commence" Insert " operation or commence "

Page 3
Section 3(2)(a)1., 2.
Line 21

Renumber: Insert " 1. "
Delete " a. "

Line 23

Renumber: Insert " 2. "
Delete " b. "

Page 4
Section 3(2)(a)3.
Line 1

Renumber: Insert " 3. "
Delete " c. "

Page 4
Section 3(2)(b)
Line 3

Renumber: Insert " (b)"
Delete " 2. "

Page 4
Section 3(2)(b)
Line 4

After "general fund" Insert "."

Page 4
Section 3(2)
Lines 5-12

Delete "The total number of CAIR NOx Ozone Season allowances assigned to Kentucky shall be divided into separate pools as follows:
(a) The number of CAIR NOx Ozone Season allowances specified in Kentucky's approved SIP for CAIR NOx Ozone Season units specified in Section 1(1) of this administrative regulation with:

; and (b) The number of CAIR NOx Ozone Season allowances specified in Kentucky's approved SIP for CAIR NOx Ozone Season units specified in Section 1(2) of this administrative regulation. "

Page 4
Section 3 (3)
Line 13

After "heat input" Insert "or adjusted control period heat input"

Page 4
Section 3(3)
Line 15

After "allowances for the" Insert "pool"
Delete "pools"

Page 4
Section 3(3)
Line 15-16

After "specified in" Insert "subsection (2)"
Delete "subsection (2)(a)1 and subsection (2)(b)"

Page 4
Section 3((3)(a)
Line 17

After "units commencing" Insert "operation or commencing commercial"

Page 4
Section 3(3)(a)1.
Line 21

After "through 2005;" Insert "or"

Page 4
Section 3(3)(a)2.
Line 22

After "2." Insert "For units not having operated each calendar year for a period of five (5) or more consecutive years, the baseline heat input shall be established during the next allocation period when the unit has five (5) consecutive years of operation, using the average of the three (3) highest amounts of the unit's adjusted control period heat input for the most recent five (5) consecutive years of operation; or"

Delete "Not previously operating each calendar year during a period of five (5) or more consecutive years, the baseline heat input shall be the average of the three (3) highest amounts of the unit's adjusted control period heat input for the five (5) consecutive years of operation;"

Page 5
Section 3((3)(b)
Line 8

After "commencing operation" Insert "or commencing commercial operation"

Page 5
Section 3(3)(b)
Line 12

After "over the" Insert "most recent"
After "years of operation;" Insert "or"

Page 6
Section 3(7)
Line16-17

After "subsection" Insert "(2)(a)"
Delete "(2)(a)1"

Page 6
Section 3(7)(a)
Line 21

After "subsection" Insert "(2)(a)"
Delete "(2)(a)1"

After "for each unit" Insert "or"
Delete "and"

Page 7
Section 3(8)
Line 6

Renumber - Delete (9)

Page 7
Section 3(8)
Lines 6-7

After "Season" Insert "allowances"
Delete "allowance"

Page 7
Section 3
Lines 14-23

Delete "For CAIR NOx Ozone Season units included in the pool specified in subsection (2)(b) of this section, the cabinet shall allocate CAIR NOx Ozone Season allowances to each CAIR NOx Ozone Season unit in an amount equal to the result obtained by:
(a) Multiplying the total number of CAIR NOx Ozone Season allowances specified in subsection (2)(b) of this section by the baseline heat input for

each unit and the heat input established under subsection (3)(c) of this section;
(b) Dividing by the total amount of baseline heat input and the heat input established under subsection (3)(c) of this section for all applicable units specified in subsection (2)(b) of this section; and
(c) Rounding to the nearest whole CAIR Ozone Season NOx allowance, as appropriate."

Page 8
Section 4
Lines 3-9

Insert "Section 4. Sale of CAIR NOx Allowances by the Commonwealth of Kentucky.
(1) The Commonwealth of Kentucky shall establish an account pursuant to 40 C.F.R. 96.351(b) for the purpose of selling the CAIR NOx Ozone Season allowances in the pool specified in Section 3(2)(b) of this administrative regulation.
(2) The proceeds from the sale of the CAIR NOx Ozone Season allowances shall be deposited in the general fund of the Commonwealth of Kentucky."

Delete "Section 4. CAIR NOx Ozone Season Allowance Tracking System.
(1) The Commonwealth of Kentucky shall establish an account pursuant to 40 C.F.R. 96.351(b) for the purpose of selling the CAIR NOx Ozone Season allowances in the pool specified in Section 3(2)(a)2 of this administrative regulation. The proceeds from the sale of the CAIR NOx Ozone Season allowances shall be deposited in the general fund of the Commonwealth of Kentucky.
(2) A CAIR NOx Ozone Season unit shall comply with the CAIR NOx Ozone Season Allowance Tracking System requirements established in 40 C.F.R. 96.351 to 96.357."

401 KAR 51:230 – CAIR SO_2 trading program.

Page 2
Section 2(2)
Line 1

After "96.210 to" Insert "96.215"
Delete "96.214"

Page 2
Section 2(6)
Line 7

After "96.270 to" Insert "96.275"
Delete "96.276"

Attachment 1

Kentucky SO_2 and NOx Budget

Technical Support Document
for the
Clean Air Interstate Rule
Notice of Final Rulemaking

Regional and State SO_2 and NOx Emissions Budgets

March 2005

Prepared by
Office of Air and Radiation
U.S. Environmental Protection Agency

EPA Docket: OAR 2003-0053

Regional and State SO_2 and NOx Emissions Budgets

This technical support document (TSD) provides a description of the data sources used in the calculation of regional and State emission budgets for sulfur dioxide (SO_2) and nitrogen oxides (NOx) under the final Clean Air Interstate Rule (CAIR) and EPA's proposal to include Delaware and New Jersey in the CAIR region. In addition, it describes in further detail the approaches used in State budget calculations, and the data used in each of these approaches.

This TSD outlines the calculation of the following:

- Regional Annual SO_2 Budgets with and without NJ and DE
- State Annual SO_2 Budgets with and without NJ and DE
- Regional Annual and Ozone Season NOx Budgets with and without NJ and DE
- State NOx Budgets with and without NJ and DE
  - Annual
  - Ozone Season
- Annual NOx Compliance Supplement Pool

Overview

EPA developed annual regional and state emissions budgets for SO_2 and NOx in three steps. EPA's first step was to determine the total amount of emissions reductions that would be achievable based on a highly cost-effective control strategy for the set of States covered. The Agency found this level of reductions was not possible at the program outset in 2010 (2009 for NOx), but achievable by 2015. The levels set for 2010 (2009) reflect the Agency's assessment of what was reasonable to achieve by these dates (with the dates driven largely by process requirements, i.e. development of State SIPs, and providing adequate time to install equipment). In the second step, EPA used the amount of emissions reductions that were highly cost-effective across the region for electricity generating units (EGUs) to set annual NOx and SO_2 emissions caps in 2010 (2009) and 2015 that would apply for States that chose to obtain reductions from EGUs. In the third step, EPA apportioned the regional emissions reductions – and the associated EGU caps – on a State-by-State basis, so that the affected States may determine the necessary controls of SO_2 and NOx emissions.

Under CAIR, States have several options for reducing emissions that significantly contribute to downwind non-attainment. They can adopt EPA's approach of reducing the emissions in a cost-effective manner through an interstate cap and trade program primarily for EGUs. This approach would, by definition, achieve the required cost-effective reductions. As an alternative, States could achieve all of the necessary emissions reduction from EGUs, but choose not use EPA's interstate emissions trading program. In this case, a State would need to demonstrate that it is meeting the EGU budgets outlined in this TSD. Finally, States could obtain at least some, or all, of their required emissions reductions from sources other than EGUs.

EPA's final air quality modeling found that 23 States + DC contribute significantly to PM 2.5 nonattainment, while 25 States + DC contribute to ozone nonattainment. The 23 States in addition to the District of Columbia found to contribute significantly to PM 2.5 nonattainment, and thus subject to the CAIR annual reduction requirements for SO_2 and NO_X, are Alabama, Florida, Georgia, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Missouri, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia, West Virginia, and Wisconsin. The 25 States in addition to the District of Columbia found to contribute significantly to ozone nonattainment and thus subject to the CAIR seasonal requirement for NOx are Alabama, Arkansas, Connecticut, Delaware, Florida, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Mississippi, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, West Virginia, and Wisconsin. Note that Kansas, which was found to contribute significantly in earlier EPA modeling is no longer included in the program based on results of EPA's most recent modeling. Likewise, Massachusetts, which was originally found to contribute to PM 2.5 and ozone nonattainment, was found to contribute only to ozone nonattainment, and thus is now only subject to a seasonal requirement.

Regional SO_2 Budgets

The regional annual SO_2 budget represents the total cap level for SO_2 emissions for the region, whether it is achieved by EGUs or non-EGUs, or some combination of the two. For facilities in States that elect to control EGUs and participate in a cap-and-trade program, their portion of the regional budget is linked directly to existing allowance allocations under the Acid Rain Program. The calculated regional budget applies specially-designed allowance retirement ratios to existing Acid Rain Program allowances under CAIR beginning in 2010, (2:1), and increasing in 2015 and beyond (2.86:1). These ratios were developed to cut the allowance emission levels by half beginning in 2010 and 65 percent beginning in 2015.

EPA determined, through IPM analysis, that the resulting regionwide emissions caps (if all States choose to obtain reductions from EGUs) are highly cost-effective levels. More detail can be found in section IV of the preamble.

Under the final rule the annual regionwide SO_2 budget is calculated by adding together the title IV Phase-II allowances for all of the States in the control region, as listed in the Acid Rain Program 1998 Reallocation of Allowances for 2010 (63 FR 51,705) and making a 50 percent reduction for the 2010 cap and a 65 percent reduction for the 2015 cap. This results in a first phase SO_2 cap of about 3.6 million tons and a second phase cap of about 2.5 million tons, in the 23-State and DC control region. When Delaware and New Jersey are included, the total first phase cap is increased to approximately 3.7 million tons, and the total second phase cap to about 2.6 million tons. The regionwide budget is then apportioned to individual States, as is discussed in the following section.

As is discussed in the Notice of Final Rulemaking (NFR), EPA believes that basing budgets on title IV allowances is necessary in order to ensure the preservation of a viable title IV program. EPA believes it is important not to undermine the confidence that has developed in the market for title IV allowances, recognizing that it is key to the success of a trading program under CAIR.

Title IV allocation data based on the 1998 reallocation is available online at <http://www.epa.gov/airmarkets/allocations/index.html> .[1] In addition to the final title IV allowances from the 1998 reallocation, EPA also included the "Special Allowance Reserve" – a 250,000 annual set-aside from sources that was created for auction by EPA. Each boiler/generator included in the program contributes to this set-aside. This 250,000 allowance set-aside is created by deducting from each State's adjusted basic allowances on a pro rata basis, according to their share of total adjusted basic allowances. In calculating the CAIR SO_2 budgets, EPA redistributes the Special Allowance Reserve back to States on that same basis. Thus, the share of this reserve that is redistributed to States in the CAIR region is included in the calculation of the CAIR regional SO_2 budget. The column "250,000 Ton Special Allowance Reserve" in Table 1 shows the State results from this redistribution. Note, however, that this redistribution is merely an accounting mechanism for calculating State budgets. The actual allowances are not redistributed to the sources, but sold through the existing title IV auction.

State SO_2 Budgets

In the NFR, EPA is finalizing the proposal that annual State SO_2 budgets be based on each State's allowances under title IV of the CAA Amendments adjusted by CAIR retirement ratios for 2010 and 2015. As discussed above, before adjusting title IV allocations by these retirement ratios, EPA distributes the "Special Allowance Reserve" allowances back to sources in the States. Table 1 presents the 1998 title IV SO_2 allowance allocation that is used as a basis for CAIR state budgets.[2]

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[1] The 1998 Reallocation of Allowances is discussed in detail in the document "Technical Documentation for the 1998 Reallocation of Allowances," available at http://www.epa.gov/airmarkets/allocations/arp/techdoc.pdf.

[2] The column "Additional allowances for Phase I Units" represents State shares of an additional permanent 50,000 tons that was allocated to Phase I units under Sec. 405 (a)(3) of the CAAA.

Table 1. Original Title IV Allowance Allocations that Include Special Allowance Reserve and Serve as a Basis for CAIR Calculation of SO_2 State Budgets for Electric Generation Units (tons)

	2010 title IV Allocation with Phase I Addition			2010 Total Annual Allowances with Special Allowance Reserve	
State	**1998 Final Allocation**	**Additional Allowances for Phase I Units**	**Total Annual**	**250,000 Ton Special Allowance Reserve**	**Total Annual for CAIR Adjustment**
Alabama	303,781	2,580	306,361	8,803	315,164
District of Columbia	1,375	0	1,375	40	1,415
Florida	492,741	0	492,741	14,159	506,900
Georgia	407,677	6,534	414,211	11,903	426,114
Illinois	371,340	3,237	374,577	10,764	385,341
Indiana	489,082	5,892	494,974	14,223	509,197
Iowa	124,608	0	124,608	3,581	128,189
Kentucky	363,834	3,166	367,000	10,546	377,546
Louisiana	116,546	0	116,546	3,349	119,895
Maryland	137,444	0	137,444	3,950	141,394
Michigan	347,232	0	347,232	9,978	357,210
Minnesota	97,181	0	97,181	2,793	99,974
Mississippi	65,640	0	65,640	1,886	67,526
Missouri	262,797	3,965	266,762	7,666	274,428
New York	262,728	0	262,728	7,550	270,278
North Carolina	267,011	0	267,011	7,673	274,684
Ohio	639,630	8,778	648,408	18,632	667,040
Pennsylvania	530,637	5,925	536,562	15,418	551,980
South Carolina	111,342	0	111,342	3,199	114,541
Tennessee	262,449	4,316	266,765	7,666	274,431
Texas	623,962	0	623,962	17,930	641,892
Virginia	123,410	0	123,410	3,546	126,956
West Virginia	414,095	5,607	419,702	12,060	431,762
Wisconsin	169,653	0	169,653	4,875	174,528
Total CAIR Region	**6,986,195**	**50,000**	**7,036,195**	**202,190**	**7,238,385**
Delaware	43,569	0	43,569	1,252	44,821
New Jersey	62,973	0	62,973	1,810	64,783
Total CAIR + DE, NJ	**7,092,737**	**50,000**	**7,142,737**	**205,252**	**7,347,989**

Source: US EPA

EPA is finalizing the budgets as noted in the Supplemental Notice of Proposed Rulemaking (SNPR), correcting for the proper inclusion of States covered under the final CAIR. The final annual State SO_2 Budgets are included in Table 2, below. State annual budgets for the years 2010-2014 (Phase I) are based on a 50 percent reduction from title IV allocations appearing in the "Total Annual for CAIR Adjustment" column in Table 1 for all units in the affected State. The State annual budgets for 2015 and beyond (Phase II) are based on a 65 percent reduction of title IV allocations in that column.

Table 2. Final Annual Electric Generation Units State SO_2 Budgets , 23 States + DC Region (tons)

State	State SO2 Budget 2010 - 2014	State SO2 Budget 2015 and thereafter
Alabama	157,582	110,307
District of Columbia	708	495
Florida	253,450	177,415
Georgia	213,057	149,140
Illinois	192,671	134,869
Indiana	254,599	178,219
Iowa	64,095	44,866
Kentucky	188,773	132,141
Louisiana	59,948	41,963
Maryland	70,697	49,488
Michigan	178,605	125,024
Minnesota	49,987	34,991
Mississippi	33,763	23,634
Missouri	137,214	96,050
New York	135,139	94,597
North Carolina	137,342	96,139
Ohio	333,520	233,464
Pennsylvania	275,990	193,193
South Carolina	57,271	40,089
Tennessee	137,216	96,051
Texas	320,946	224,662
Virginia	63,478	44,435
West Virginia	215,881	151,117
Wisconsin	87,264	61,085
Total CAIR Region	**3,619,196**	**2,533,434**
Delaware	22,411	15,687
New Jersey	32,392	22,674
Total CAIR + DE, NJ	**3,673,999**	**2,571,795**

Source: US EPA

The 23 final and 2 proposed State budgets would serve as effective binding caps, if States chose to control only EGUs, but did not want to participate in the trading program. For States controlling both EGUs and non-EGUs (or controlling only non-EGUs), these budgets would be compared to the States' 2010 total annual title IV allocation (with Special Allowance Reserve) to calculate the emissions reduction requirements for non-EGUs and the required caps for EGUs. Emissions reduction requirements for non-EGUs are described in detail in the section VII discussion in the CAIR preamble on SIP approvability. Table 3 presents the annual SO_2 emissions reduction requirements under CAIR.

Table 3. SO_2 Emissions Reduction Requirements under CAIR and the Proposal to Include DE and NJ (tons)

State	2010			2015		
	Total Annual 2010 Title IV Allowances	State Budget	Reduction Requirement	Total Annual 2010 Title IV Allowances	State Budget	Reduction Requirement
Alabama	315,164	157,582	157,582	315,164	110,307	204,857
District of Columbia	1,415	708	707	1,415	495	920
Florida	506,900	253,450	253,450	506,900	177,415	329,485
Georgia	426,114	213,057	213,057	426,114	149,140	276,974
Illinois	385,341	192,671	192,670	385,341	134,869	250,472
Indiana	509,197	254,599	254,598	509,197	178,219	330,978
Iowa	128,189	64,095	64,094	128,189	44,866	83,323
Kentucky	377,546	188,773	188,773	377,546	132,141	245,405
Louisiana	119,895	59,948	59,947	119,895	41,963	77,932
Maryland	141,394	70,697	70,697	141,394	49,488	91,906
Michigan	357,210	178,605	178,605	357,210	125,024	232,186
Minnesota	99,974	49,987	49,987	99,974	34,991	64,983
Mississippi	67,526	33,763	33,763	67,526	23,634	43,892
Missouri	274,428	137,214	137,214	274,428	96,050	178,378
New York	270,278	135,139	135,139	270,278	94,597	175,681
North Carolina	274,684	137,342	137,342	274,684	96,139	178,545
Ohio	667,040	333,520	333,520	667,040	233,464	433,576
Pennsylvania	551,980	275,990	275,990	551,980	193,193	358,787
South Carolina	114,541	57,271	57,270	114,541	40,089	74,452
Tennessee	274,431	137,216	137,215	274,431	96,051	178,380
Texas	641,892	320,946	320,946	641,892	224,662	417,230
Virginia	126,956	63,478	63,478	126,956	44,435	82,521
West Virginia	431,762	215,881	215,881	431,762	151,117	280,645
Wisconsin	174,528	87,264	87,264	174,528	61,085	113,443
Total CAIR	**7,238,385**	**3,619,196**	**3,619,189**	**7,238,385**	**2,533,434**	**4,704,951**
Delaware	44,821	22,411	22,410	44,821	15,687	29,134
New Jersey	64,783	32,392	32,391	64,783	22,674	42,109
Total CAIR + DE, NJ	**7,347,989**	**3,673,999**	**3,673,990**	**7,347,989**	**2,571,795**	**4,776,194**

Source: US EPA

Regional NOx Budgets

EPA is finalizing CAIR regional annual and ozone season NOx emissions budgets. The regional NOx budgets represent the total annual (or ozone season) cap level for NOx emissions for EGUs in the program. If a State wants to have non-EGUs make some of the reduction, the reductions in emissions from the base case need to be estimated to determine the level of emission reduction required.

In developing regional NOx budgets, EPA initially identified NOx budget amounts, as target levels for further evaluation, through the methodology of determining the highest recent Acid Rain Program (ARP) heat input from years 1999-2002 for each affected State, summing the highest State heat inputs into a regionwide heat input, and multiplying the regionwide heat input by 0.15 lb/mmBtu and 0.125 lb/mmBtu for 2009 and 2015, respectively. The EPA determined, through IPM analysis, that the resulting regionwide emissions caps (if all States choose to obtain reductions from EGUs) are highly cost-effective levels.

EPA proposed regional budgets as calculated above in the NPR. EPA determined that using the highest of recent years' Acid Rain Program heat input provided an approximation of the regionwide heat input, even though it did not include heat input from non-Acid Rain sources. Acid Rain Program data is available online in EPA's Clean Air Markets Division Data and Maps database (http://dcjsweb01.customs.epa.gov/gdm/index.cfm). The data set used by EPA in these budget calculations is available in the docket. This data is reported at the unit level, and was aggregated to the State level by EPA for use in budget calculations.

A number of commenters expressed concern that the regional budgets did not include heat input data from non-Acid Rain units. Multiplying the approximate recent heat input by 0.125 lb/mmBtu to develop a regionwide annual 2015 NOx cap could reasonably be expected to yield an average effective NOx emission rate (considering all EGUs potentially affected by CAIR for annual reductions, not only the Acid Rain units, and considering growth in heat input) somewhat less than 0.125 lb/mmBtu, on the order of about 0.12 lb/mmBtu or less. Likewise, multiplying the approximate recent heat input by 0.15 lb/mmBtu to develop a regionwide annual 2010 NOx cap could reasonably be expected to yield an average effective NOx emission rate for all CAIR units of about 0.15 lb/mmBtu or less. The EPA believes that the use of the highest annual heat input provides for a reasonable adjustment to reflect that there are some non-Acid Rain units that operate in these States that will be subject to the NOx budgets.

A number of commenters interpreted the correction of annual State NOx budgets made in the Notice of Annual Data Availability (NODA) to imply that non-ARP heat input had been incorporated into the calculation of the total regional NOx budget. EPA did not propose calculating region-wide budgets that reflected non-ARP heat input. However, as is discussed later in this document, State budgets – the distribution of the regional budget – were calculated using both ARP and non-ARP heat input. The NOx regionwide budget presented in the NODA remains unchanged from that presented in the SNPR. The Regional NOx budgets in the SNPR are slightly higher than those in the NPR because of the use of updated ARP heat input data in calculating the regional budget. The SNPR notes this in its discussion of the NOx budgets.

In the final rule, EPA is establishing both an annual and an ozone season only regionwide budget for NOx. The annual NOx budget applies to the 23 States + DC that the Agency finds contribute to PM 2.5 nonattainment. EPA is finalizing the approach of calculating the regional NOx budget using the highest Acid Rain Program heat input for each State for the years 1999-2002, multiplied by 0.15 lb/mmBtu (for 2009) and 0.125 lb/mmBtu (for 2015). This proposed approach provides a regionwide budget of 1.5 million tons beginning in 2010 and 1.3 beginning

in 2015. For the proposal to include Delaware and New Jersey, EPA calculated these States' contributions to the total regional budget in the same way. When these States are included, the regionwide NOx budget beginning in 2009 increases by approximately 18,000 tons, and the regionwide NOx budget beginning in 2015 increases by approximately 15,000 tons.

The ozone season regionwide budget applies to 25 States + DC that the Agency finds contribute to ozone nonattainment. These budgets are calculated using the same methodology as the annual regional budget, with the exception that ozone season Acid Rain Heat input data (May through September) is substituted for annual heat input data. The total NOx regionwide ozone-season budget is approximately 568,000 tons beginning in 2009 and 485,000 tons beginning in 2015.

State NOx Budgets

State Annual NOx Budgets

In the January 2004 proposal, EPA proposed annual NOx State budgets for a 28-State (and D.C.) region based on each jurisdiction's average heat input – using heat input data from Acid Rain Program units - over the years 1999 through 2002. EPA summed the average heat input from each of the applicable jurisdictions to obtain a regional total average annual heat input. Then, each State received a pro rata share of the regional NOx emissions budget based on the ratio of its average annual heat input to the regional total average annual heat input.

In the June 2004 SNPR, EPA proposed to revise its determination of State NOx budgets by supplementing Acid Rain Program unit data with annual heat input data from the U.S. Energy Information Administration (EIA), for the non-Acid Rain unit data, subtracting the heat input for potentially exempt cogeneration plants. A number of commenters had suggested that this would better reflect the heat input of the units that will be controlled under CAIR, and EPA agrees. For example, a State with a large number of non-Acid Rain units would not have the heat input from those units reflected in the percent of regional average annual heat input that the State's generation represents.

EPA also took comment in the SNPR on an alternative methodology that determines State budgets by multiplying heat input data by adjustment factors for different fuels. In the August NODA, EPA presented the corrected annual NOx budgets resulting from the improved methodology proposed in the SNPR.

The EIA data used by EPA for budget calculations can be downloaded from the EIA's electricity website, http://www.eia.doe.gov/cneaf/electricity/page/data.html The databases used by EPA to calculate heat input were the EIA-860 (2001 and 2002), EIA-860 A and B (1999 and 2000), EIA-759, 900, and 906, EIA-767, and the Federal Energy Regulatory Commission (FERC) FERC-423. These databases are described in Appendix A of this document. The specific datasets assembled by EPA are also described in Appendix A, and are available in the docket. The annual fossil fuel heat inputs used in budget calculations were calculated on a plant-level basis using

fuel and heat content information provided in various EIA databases and the FERC 423 database. Heat input was calculated at the plant level for plants having a generator using a fossil energy source with a nameplate capacity greater than 25 MW. Plant-level calculations were performed because the EIA data format prevented unit-level calculations for combustion turbines in the 1999-2002 data, and in the 1999 and 2000 data for non-utility boilers. In using State heat input totals from EIA data, EPA only considered heat input from plants that did not have any units reporting Acid Rain Program heat inputs for the specific year.

Furthermore, EPA subtracted heat input from potentially exempt cogeneration plants from the EIA heat input data. CAIR contains an exemption for FERC-qualifying cogenerators that do not sell more than one-third of their potential generating capacity to the grid. FERC-qualifying cogenerator plants were identified based on information in the 1999 and 2000 EIA-860B and 2002 EIA-860 databases. Potential exempt facilities were identified by calculating the ratio of annual sales to potential capacity (plant nameplate capacity times 8,760 potential operating hours) for FERC-qualifying cogenerators in the 1999 and 2000 EIA-860B databases. Sales data were no longer available with consolidation to a single EIA-860 database after 2000. A plant was flagged as potentially exempt if the ratio did not exceed 0.33 in 1999 and 2000, and the plant was not subject to the Acid Rain Program.

To calculate total State-level heat inputs for use in apportioning the regionwide budget to States, EPA summed the State-level ARP heat input total with the EIA non-Acid Rain plant heat input data for each of the four data years.

For the final rule, EPA has made a number of revisions to the heat input data used for NOx State budget calculations in reponse to comments. These comments in general addressed missing or erroneous unit heat input data, and correction of the exempt cogeneration status of plants. A detailed summary of revisions to heat input data in the response to comments is included in Appendix B.

EPA is finalizing an approach of calculating States budgets through a fuel-adjusted heat-input basis. State budgets would be determined by multiplying historic heat input data (summed by fuel) by different adjustment factors for the different fuels. These factors reflect for each fuel (coal, gas and oil), the 1999-2002 average emissions by State, summed for the CAIR region, divided by average heat input by fuel by State, summed for the CAIR region. The resulting adjustment factors from this calculation are 1.0 for coal, 0.4 for gas and 0.6 for oil. The factors would reflect the inherently higher emissions rate of coal-fired plants, and consequently the greater burden on coal plants to control emissions.

Such an approach is not equivalent to an approach based on historical emissions (which would give fewer allowances to States which have already cleaned up their coal plants). Under this approach, all coal, whether clean or controlled, would be counted equally in determining State budgets.

EPA believes that such an approach provides more allowances to States which are expected to

face the greatest costs of installing controls. It would also better match each State's projected need for allowances in the future (after installing controls) with the number of allowances they would receive.

It is not expected that this decision would disadvantage States with significant gas-fired generation. One reason is that the determination of the adjustment factor for natural gas included the contribution of heat input and emissions from older steam gas units. These units' capacity factors are declining and are expected to decline further over time as new cleaner combined-cycle gas units ramp up generation.

State NOx budgets are calculated for both the annual regional NOx trading program and the ozone season regional NOx trading program. State budgets were determined by multiplying State-level average historic annual season heat input data (summed by fuel) by different adjustment factors for the different fuels. These factors reflect for each fuel (coal, gas and oil), the 1999-2002 average emissions by State, summed for the CAIR region, divided by average heat input by fuel by State, summed for the CAIR region. The resulting adjustment factors from this calculation are 1.0 for coal, 0.4 for gas and 0.6 for oil. The total State budgets are then determined by calculating each State's share of total fuel-adjusted heat input, and multiplying this share by the regionwide budget.

Proposed Inclusion of Delaware and New Jersey

EPA's proposal to include Delaware and New Jersey in CAIR would make these two States subject to an annual NOx reduction requirement. However, including these States in the apportionment calculation for States currently included in the CAIR annual NOx program, would change the budgets for those States. To maintain a consistent methodology, but avoid having to recalculate States' budgets, EPA considered these three States the equivalent of a small "region." EPA took the highest year heat input of 1999-2002 annual Acid Rain Program heat input for each of these States, and multiplied the total of these highest heat inputs by 0.15 for 2009-2014 and 0.125 for 2015 and beyond. The total budget for these two States is equal to approximately 17,000 tons annually in 2009-2014 and approximately 14,000 tons annually in 2015 and beyond (equal to these States' contribution to the regionwide budget when they are included). State budgets for DE and NJ are apportioned from the total budget for these two States based on each State's share of total fuel-adjusted heat input for the two States. Table 4 presents the Annual EGU State NOx budgets for the CAIR region plus DE and NJ.

Table 4. Final Annual Electric Generating Units NOx Budgets (tons)

State	State NOx Budget 2009*	State NOx Budget 2015**
Alabama	69,020	57,517
District of Columbia	144	120
Florida	99,445	82,871
Georgia	66,321	55,268
Illinois	76,230	63,525
Indiana	108,935	90,779
Iowa	32,692	27,243
Kentucky	83,205	69,337
Louisiana	35,512	29,593
Maryland	27,724	23,104
Michigan	65,304	54,420
Minnesota	31,443	26,203
Mississippi	17,807	14,839
Missouri	59,871	49,892
New York	45,617	38,014
North Carolina	62,183	51,819
Ohio	108,667	90,556
Pennsylvania	99,049	82,541
South Carolina	32,662	27,219
Tennessee	50,973	42,478
Texas	181,014	150,845
Virginia	36,074	30,062
West Virginia	74,220	61,850
Wisconsin	40,759	33,966
Total CAIR Region	**1,504,871**	**1,254,061**
Delaware	4,166	3,472
New Jersey	12,670	10,558
Total CAIR + DE, NJ	**1,521,707**	**1,268,091**

* Annual budget for NOx tons covered by allowances for 2009-2014.
** Annual budget for NOx tons covered by allowances for 2015 and thereafter.
Source: US EPA

These final State budgets would serve as effective binding caps, if States chose to control only EGUs, but did not want to participate in the trading program. For States controlling both EGUs and non-EGUs (or controlling only non-EGUs), these budgets would be compared to a baseline level of emissions to calculate the emissions reduction requirements for non-EGUs and the required caps for EGUs. Emissions reduction requirements for non-EGUs are described in detail in the Section VII discussion on SIP approvability in the CAIR preamble. Table 5 presents the annual NOx emissions reduction requirements under CAIR.

Table 5. Annual NOx Emissions Reduction Requirements under CAIR (tons)

State	2009			2015		
	Base Case	State Budget	Reduction Requirement	Base Case	State Budget	Reduction Requirement
Alabama	132,019	69,020	62,999	133,842	57,517	76,325
District of Columbia	0	144	0	35	120	0
Florida	151,094	99,445	51,649	150,997	82,871	68,126
Georgia	143,140	66,321	76,819	140,759	55,268	85,491
Illinois	146,248	76,230	70,018	159,452	63,525	95,927
Indiana	233,833	108,935	124,898	233,303	90,779	142,524
Iowa	75,934	32,692	43,242	81,311	27,243	54,068
Kentucky	175,754	83,205	92,549	176,208	69,337	106,871
Louisiana	49,460	35,512	13,948	50,274	29,593	20,681
Maryland	56,662	27,724	28,938	57,366	23,104	34,262
Michigan	117,031	65,304	51,727	120,234	54,420	65,814
Minnesota	71,896	31,443	40,453	74,289	26,203	48,086
Mississippi	36,807	17,807	19,000	37,477	14,839	22,638
Missouri	115,916	59,871	56,045	117,912	49,892	68,020
New York	45,145	45,617	0	43,994	38,014	5,980
North Carolina	59,751	62,183	0	61,235	51,819	9,416
Ohio	263,814	108,667	155,147	274,372	90,556	183,816
Pennsylvania	198,255	99,049	99,206	202,249	82,541	119,708
South Carolina	48,776	32,662	16,114	50,429	27,219	23,210
Tennessee	106,398	50,973	55,425	105,613	42,478	63,135
Texas	185,798	181,014	4,784	179,448	150,845	28,603
Virginia	67,890	36,074	31,816	59,823	30,062	29,761
West Virginia	179,125	74,220	104,905	175,828	61,850	113,978
Wisconsin	71,112	40,759	30,353	69,280	33,966	35,314
Total CAIR	**2,731,858**	**1,504,871**	**1,230,035**	**2,755,730**	**1,254,061**	**1,501,754**
Delaware	9,389	4,166	5,223	10,678	3,472	7,206
New Jersey	16,760	12,670	4,090	17,924	10,558	7,336
Total CAIR + DE, NJ	**2,758,007**	**1,521,707**	**1,239,348**	**2,784,332**	**1,268,091**	**1,516,296**

Source: US EPA

States Subject to Ozone-season NOx Requirements

EPA apportioned the ozone season regional budget to the 25 States + DC that were found to contribute significantly to ozone nonattainment using a methodology analogous to that which was used to apportion the annual regionwide NOx budget to States that were found to contribute significantly to PM nonattainment. In EPA's final air quality modeling for CAIR, CT and MA were found to contribute significantly to ozone nonattainment, and were included in the program. TX and GA, which were found to contribute to PM nonattainment but not ozone nonattainment, are not included in the ozone season program, and rather are subject only to the annual NOx

requirements.

For States subject to the ozone season NOx reduction requirements under CAIR, the budget calculation was performed using ARP and EIA heat input data that covers only the five month ozone season. State-level average ozone season heat input data (summed by fuel) was multiplied by different adjustment factors for the different fuels (1.0 for coal, 0.4 for gas, and 0.6 for oil). The total State budgets were then determined by calculating each State's share of total fuel-adjusted heat input, and multiplying this share by the regionwide ozone season NOx budget. For States that have lower EGU budgets under the SIP call than their 2009 CAIR budget, their SIP Call budgets are their State budgets under the CAIR seasonal NOx program.[3] State ozone-season NOx budgets are presented in Table 6, below.

[3] For Connecticut, the SIP call budget is also used in 2010 and beyond.

Table 6. Final Ozone Seasonal Electricity Generating Unit NOx Budgets (tons)

State	State NOx Budget 2009*	State NOx Budget 2015**
Alabama	32,182	26,818
Arkansas	11,515	9,596
Connecticut	2,559	2,559
Delaware	2,226	1,855
District of Columbia	112	94
Florida	47,912	39,926
Illinois	30,701	28,981
Indiana	45,952	39,273
Iowa	14,263	11,886
Kentucky	36,045	30,587
Louisiana	17,085	14,238
Maryland	12,834	10,695
Massachusetts	7,551	6,293
Michigan	28,971	24,142
Mississippi	8,714	7,262
Missouri	26,678	22,231
New Jersey	6,654	5,545
New York	20,632	17,193
North Carolina	28,392	23,660
Ohio	45,664	39,945
Pennsylvania	42,171	35,143
South Carolina	15,249	12,707
Tennessee	22,842	19,035
Virginia	15,994	13,328
West Virginia	26,859	26,525
Wisconsin	17,987	14,989
Total	**567,744**	**484,506**

* Seasonal budget for NOx tons covered by allowances for 2009-2014. For States that have lower EGU budgets under the SIP Call than their 2009 CAIR budget, this table includes their SIP Call budget.
** Seasonal budget for NOx tons covered by allowances for 2015 and thereafter.
Source: US EPA

Like the annual NOx State budgets, these final State budgets would serve as effective binding caps, if States chose to control only EGUs, but did not want to participate in the trading program. For States controlling both EGUs and non-EGUs (or controlling only non-EGUs), these budgets would be compared to a baseline level of emissions to calculate the emissions reduction requirements for non-EGUs and the required caps for EGUs. Emissions reduction requirements for non-EGUs are described in detail in the Section VII discussion on SIP approvability in the preamble.

Annual NOx Compliance Supplement Pool

EPA is establishing a NOx compliance supplement pool in the final CAIR of 198,494 tons of NOx allowances, which would result in a total compliance supplement pool of approximately

200,000 tons of NOx allowances when combined with EPA's proposed rulemaking to include Delaware and New Jersey. EPA is apportioning the compliance supplement pool to States based on the assumption that a State's need for allowances from the pool is proportional to the magnitude of the State's required emissions reductions (as calculated using the State's base case emissions and annual NOx budget). EPA is apportioning the 200,000 tons of NOx on a pro-rata basis, based on each State's share of the total emissions reduction requirement for the region in 2009. This is consistent with the methodology used in the NOx SIP Call. The compliance supplement pools for CAIR States and DE and NJ are calculated from these 200,000 tons. Table 7 presents each State's compliance supplement pool. Adjusting State shares of the 200,000 ton CSP to round to the nearest whole allowance results in a total CSP of 199,997 tons of NOx.

Table 7. State Annual NOx Compliance Supplement Pool (allowance tons)

State	Base Case 2009 Emissions	2009 State Annual NOX Budget	Reduction Requirement	Compliance Supplement Pool
Alabama	132,019	69,020	62,999	10,166
District Of Columbia	0	144	0	0
Florida	151,094	99,445	51,649	8,335
Georgia	143,140	66,321	76,819	12,397
Illinois	146,248	76,230	70,018	11,299
Indiana	233,833	108,935	124,898	20,155
Iowa	75,934	32,692	43,242	6,978
Kentucky	175,754	83,205	92,549	14,935
Louisiana	49,460	35,512	13,948	2,251
Maryland	56,662	27,724	28,938	4,670
Michigan	117,031	65,304	51,727	8,347
Minnesota	71,896	31,443	40,453	6,528
Mississippi	36,807	17,807	19,000	3,066
Missouri	115,916	59,871	56,045	9,044
New York	45,145	45,617	0	0
North Carolina	59,751	62,183	0	0
Ohio	263,814	108,667	155,147	25,037
Pennsylvania	198,255	99,049	99,206	16,009
South Carolina	48,776	32,662	16,114	2,600
Tennessee	106,398	50,973	55,425	8,944
Texas	185,798	181,014	4,784	772
Virginia	67,890	36,074	31,816	5,134
West Virginia	179,125	74,220	104,905	16,929
Wisconsin	71,112	40,759	30,353	4,898
CAIR Region Subtotal				**198,494**
Delaware	9,389	4,166	5,223	843
New Jersey	16,760	12,670	4,090	660
Total				**199,997**

Source: EPA

Regional and State SO_2 and NOx Emissions Budgets

Appendix A

Heat Input Calculations

Regional and State SO_2 and NOx Emissions Budgets

Overview of EPA Heat Input Data Files in the Docket and Online

EPA revised and updated heat input data files that were used for budget calculations in the SNPR and NODA, in response to comments. Revised data files are available in the docket. Plant heat input, both Acid Rain and Non-Acid Rain for the years 1999 to 2002 are provided in the "Plant 1999 to 2002 HI.xls" spreadsheet file, available in the docket. The file identifies at the plant level for each year the plant heat input used in the State heat input totals for each year, the classification of that heat input by Acid Rain or Non-Acid Rain (Plant Program field), and the source of the heat input data (HI Data Source field). State total heat input summaries can be checked using this spreadsheet by filtering on plant program, State, and year. EIA plant level heat input data is available in the spreadsheet "Rev EIA Plant HI.xls." Additionally, Acid Rain unit heat input data is available in the spreadsheet "CAIR State Acid Rain Units.xls." Both of these spreadsheets are available in the docket.

Revised State-level heat input values for the 1999 through 2002 period have been summarized for the States subject to the Clean Air Interstate Rule. The data are in the "CAIR State Annual HI.xls" spreadsheet, available in the docket. This spreadsheet also provides State totals for Acid Rain heat input data and the supplemental EIA heat input data, excluding exempt cogeneration.

In addition to the updated State, unit, and plant files outlined above, heat input files differentiated by fuel type, which were used for the final State NOx budget calculations, were added to the docket. State level heat input by fuel type is available in the file "State Heat Input by Fuel.xls." This file contains State total heat input by fuel, State level Acid Rain Program heat input by fuel, and State level non-Acid Rain Program heat input by fuel. Also available in the docket are Acid Rain unit and non-Acid Rain plant level annual heat input by fuel, in the spreadsheet "Unit and Plant Level Fuel Annual Heat Input.xls." For ozone season heat input, State level heat input by fuel type is contained in the spreadsheet "State Ozone Season Heat Input by Fuel.xls." Acid Rain unit and non-Acid Rain plant level ozone season heat input by fuel is available in the spreadsheet "Unit and Plant Level Fuel Ozone Season Heat Input.xls."

Acid Rain Program Heat Input Data

Acid Rain Program units annual heat input data (million Btus) for the 1999 to 2002 were assembled by querying EPA's Data and Maps database. The data are summarized by State in the file "CAIR State Total HI.xls" and by unit in the file "CAIR State Acid Rain Units.xls."

Acid Rain Program unit level heat input data for the ozone season was also downloaded from EPA's Data and Maps database.

For the final rule, fuel-specific heat input data was used for the budget calculations. Fuel type information is not available for the hourly heat input reported by Acid Rain units that use flow CEMS to determine heat input (the majority of the total heat input). The primary fuel for the

units, however, is reported in Emission Data Report monitoring plan records. For estimating fuel-specific heat input EPA attributed all of a unit's heat input to the primary fuel. Some Acid Rain units had refuse or wood listed as a primary fuel. Because these units had been included in State-level ARP heat input data for calculation of the regional NO_X budgets, they were retained for the calculation of fuel-specific heat input. For the actual budget calculation, they were assigned the same adjustment factor as gas. Fuel types and EPA's classification of them are presented in Table A-1.

Table A-1. Acid Rain Program Fuel Codes and Categories

[illegible]	[illegible]	[illegible]
C	Coal	Coal
DSL	Diesel	Oil
G	Gas	Gas
NNG	Natural Gas	Gas
OGS	Other Gas	Gas
OIL	Oil	Oil
OOL	Other Oil	Oil
PNG	Pipeline Natural Gas	Gas
PRG	Process Gas	Gas
R	Refuse	Refuse
W	Wood	Wood

EIA Annual Heat Input Data

The EIA annual fossil fuel heat inputs in the spreadsheet tables were calculated on a plant-level basis using fuel use and heat content information provided in various EIA databases and the Federal Energy Regulatory Commission (FERC) 423 database (see Table A-2). Heat input was calculated at the plant level for plants having a generator with a nameplate capacity greater than 25 MW - fossil energy source. Plant-level calculations were performed because the EIA data format prevented unit-level calculations for combustion turbines in all years, and for non-utility boilers prior to 2001. Changes in EIA data reporting in 2001, which will be explained in more detail, resulted in different calculation methodologies for 1999 and 2000 heat input compared to 2001 and 2002 heat input. There is a drop-off in EIA heat input from 1999-2000 levels to 2001-2002 levels that may be because of the different methodologies.

EIA Heat Input Calculations

For utility units, annual heat inputs were calculated separately for boilers and turbines. The EIA-767 database was used for boilers. The database provides annual fuel quantity along with the corresponding heat content. The EIA-759 and FERC-423 databases were used to calculate heat input for utility combustion turbines. EIA-759 provides annual fuel quantity for all combustion turbines combined at a plant. To calculate heat input, the fuel quantity was matched with the fuel heat content reported for the plant in the FERC-423 database. Average FERC-423 fuel heat contents were used when there were no FERC-423 data for the fuel and plant. The EIA-759 is

now called EIA-906.

The calculations for non-utility plants were performed in two different ways because of a change in EIA databases after 2000. The 1999 and 2000 heat inputs were calculated using the EIA-860B data with heat input first calculated by the fuel burned based on reported quantity and heat content, and then totaled for all fossil fuels.

Some plants reported both non-utility and utility data (plants that were sold to a non-utility at some point during the reporting year) in 1999 and 2000. In those cases, the higher of the two calculated plant heat inputs was used, which in most cases was the utility heat input.

The 2001 and 2002 non-utility data were calculated similarly to the utility calculations due to changes in EIA reporting. Combustion turbine heat inputs were calculated at the prime mover level, based on consumption data in the EIA-906 database and fuel heat content data from the 2000 EIA-860B database. The post-2000 EIA-860 database no longer has fuel heat content and consumption information for non-utilities. The data in EIA-906 correspond to the utility EIA-759/900/906 data, and contain the amount of fuel burned by prime mover type, but do not contain fuel heat content information. Therefore, average fuel contents were calculated based on all fuels used and reported in the prior year 2000 EIA-860B, then applied to the EIA-906 fuel data to calculate heat input.

Non-utility plants began reporting the EIA-767 form for boilers in 2001, so the EIA-767 fuel quantity and heat content data were calculated on a boiler-specific basis for non-utility boilers having a generator with a nameplate capacity greater than 25 MW for 2001 and 2002.

It is important to note that the heat input calculated for all combustion turbine units (and for non-utility boilers prior to 2001) may contain heat input for generators under 25 MW. There was no way to segregate the fuel use for smaller units from the plant or prime mover level data.

The better segregation of non-utility boiler data after 2001 may account for some of the drop-off in EIA plant heat input when comparing 2001-2002 to 1999-2000. It also appears that not all of the non-utility boilers serving an affected generator were represented in the 2001 and 2002 data, but we estimate the magnitude of this missing data at about 1% of the total annual heat input (based on comparisons to the 1999-2000 methodology).

Exempt FERC Qualifying Cogenerators

The final CAIR contains an exemption for FERC-qualifying cogenerators that do not sell more than 33% of the potential generating capacity to the grid. FERC-qualifying cogenerator plants were identified based on information in the 1999 and 2000 EIA-860B and 2002 EIA-860 databases. Potential exempt facilities were identified by calculating the ratio of annual sales to potential capacity [plant nameplate capacity times 8,760] for FERC-qualifying cogenerators in the 1999 and 2000 EIA-860B databases. Sales data were no longer available with consolidation to a single EIA-860 database after 2000. A plant was flagged as potentially exempt in the EIA

Plant HI worksheet if the ratio did not exceed 0.33 in 1999 and 2000, and the plant was not subject to the Acid Rain Program.

EIA Ozone Season Heat Input Data

For the EIA ozone season heat input data, calculations and adjustments were done using the methodology described above, used fuel use data only for the months of May through September. The exception to this is non-utility plant fuel data in the EIA-860B database, which was used for the 1999 and 2000 heat input calculations, and available only on an annual basis. Annual heat input based on these files was adjusted by a factor of 5/12.

Table A-2 describes the EIA databases used in heat input calculations.

Table A-2. EIA and FERC Databases Used in Calculation of Heat Input Data to Supplement Acid Rain Program Heat Input Data

EIA-860 (Utility and Non-utility 2001-2002)	Plant- and generator-level data for power plants owned and operated by electric utilities and non-utilities. Includes generator nameplate, energy source, and FERC cogenerator status. Does not include electricity delivered to a utility by a non-utility plant.
EIA-860A (Utility 1999-2000)	Plant- and generator-level data for electric power plants owned and operated by electric utilities. Includes generator nameplate capacity and energy source.
EIA-860B (Non-utility 1999-2000)	Plant- and generator-level data, including specific information about generators and plant-level fuel usage and heat content, qualifying facility status, and electricity delivered to a utility for non-utility electric power plants.
EIA-759/900/906 (Utility all years and Non-utility 2001-2002)	Monthly and annual data on generation and fuel consumption at the power plant and prime mover level. Non-utility plants began reporting this data in 1999. No heat content data.
EIA-767 (Utility all years and Non-utility 2001-2002)	Monthly and annual steam-electric plant data from organic-fueled or combustible renewable steam-electric plants with a generator nameplate rating of 10 or more megawatts. Non-utilities began reporting EIA-767 beginning in 2001. Includes monthly generator generation and boiler fuel consumption and heat content.
FERC-423 (Utility all years)	Monthly deliveries of fossil fuels to utility, and now non-utility, generating facilities. Included are the specific energy source, quantity of fuel delivered, the Btu content, sulfur content, ash content, coal state and county of origin, coal mine type (surface/underground), as well as the supplier of fuel. Includes facilities with a fossil-fueled nameplate generating capacity of 50 or more megawatts.
Note: Databases were downloaded from EIA's electricity website: http://www.eia.doe.gov/cneaf/electricity/page/data.html	

EIA Annual And Ozone Season Heat Input Data by Fuel Type

To categorize EIA annual and ozone season heat input data by fuel type, fossil fuel heat inputs were calculated as described above using fuel type, fuel use, and heat content information provided in the various EIA databases and the FERC Form 423 database. For the purposes of calculating adjusted heat input by fuel type, EPA did not include non-fossil EIA heat input. To categorize heat input on a fuel basis, fuels were categorized as described in Table A-3.

Table A-3. EIA Database Fuel Codes and Categories

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AB	Agriculture Byproducts (Bagasse, Rice Hulls, Peanut Hulls, Nut Shells, Cow Manure)	No	Yes	No	No	No
AC	Anthracite Culm	Yes	No	Yes	No	No
BG	Bituminous Culm	Yes	No	Yes	No	No
BL	Black Liquor	No	Yes	No	No	No
BP	Butane (Liquid)	Yes	No	No	No	Yes
BT	Batteries	No	No	No	No	No
BU	Butane (Gas)	Yes	No	No	No	Yes
COL	Coal (Generic)	Yes	No	Yes	No	No
DG	Digester Gas	No	Yes	No	No	No
DI	Diesel	Yes	No	No	Yes	No
FC	Fine Coal	Yes	No	Yes	No	No
FO1	Fuel Oil No 1	Yes	No	No	Yes	No
GAS	Gas (Generic)	Yes	No	No	No	Yes
GE	Geothermal	No	No	No	No	No
HY	Hydrogen	No	Yes	No	No	No
KE	Kerosene	Yes	No	No	Yes	No
LB	Liquid Byproduct	No	Yes	No	No	No
LF	Landfill Gas	No	Yes	No	No	No
LW	Lignite Waste	Yes	No	Yes	No	No
ME	Methane	No	Yes	No	No	No
MW	Municipal Solid Waste (Refuse)	No	Yes	No	No	No
NU	Nuclear	No	No	No	No	No
OW	Oil Waste	Yes	No	No	Yes	No
PET	Petroleum (Generic)	Yes	No	No	Yes	No
PG	Propane (Gas)	Yes	No	No	No	Yes
PH	Pitch	Yes	No	No	Yes	No
PL	Propane (Liquid)	Yes	No	No	No	Yes
PP	Paper Pellets	No	Yes	No	No	No
PS	Purchased Steam	No	No	No	No	No
PT	Peat	No	Yes	No	No	No
RL	Red Liquor	No	Yes	No	No	No
RT	Railroad Ties	No	Yes	No	No	No
SB	Solid Byproducts	No	Yes	No	No	No
SL	Solar	No	No	No	No	No
SM	Sludge Waste	No	Yes	No	No	No

SP	Sludge Oil	Yes	No	No	Yes	No
SS	Spent Sulfite Liquor	No	Yes	No	No	No
SU	Sulfur	No	Yes	No	No	No
SW	Sludge Wood	No	Yes	No	No	No
TI	Tires	No	Yes	No	No	No
TO	Tall Oil	No	Yes	No	No	No
UP	Utility Poles	No	Yes	No	No	No
WA	Waste Alcohol	No	Yes	No	No	No
WC	Waste Coal	Yes	No	Yes	No	No
WH	Waste Heat	Yes	No	No	No	No
WN	Wind	No	No	No	No	No
WT	Water	No	No	No	No	No
WW	Wood/Wood Waste	No	Yes	No	No	No
BFG	Blast-Furnace Gas	Yes	No	No	No	Yes
BIT	Bituminous Coal	Yes	No	Yes	No	No
DFO	Distillate Fuel Oil (Diesel, No 1 Fuel Oil, No. 2 Fuel Oil, No. 4 Fuel Oil)	Yes	No	No	Yes	No
JF	Jet Fuel	Yes	No	No	Yes	No
KER	Kerosene	Yes	No	No	Yes	No
LFG	Landfill Gas	No	Yes	No	No	No
LIG	Lignite	Yes	No	Yes	No	No
MSW	Municipal Solid Waste (Refuse)	No	Yes	No	No	No
NG	Natural Gas	Yes	No	No	No	Yes
NUC	Nuclear (Uranium, Plutonium, Thorium)	No	No	No	No	No
OBG	Other BioMass Gases (Digester Gas, Methane, other gases)	No	Yes	No	No	No
OBL	Other Biomass Liquids	No	Yes	No	No	No
OBS	Other Biomass Solids	No	Yes	No	No	No
OG	Other Gas	Yes	No	No	No	Yes
OO	Other Oil	Yes	No	No	Yes	No
OTH	Other (Batteries, Chemicals, Hydrogen, Pitch, Sulfur, misc technologies)	No	No	No	No	No
PC	Petroleum Coke	Yes	No	No	Yes	No
RFO	Residual Fuel Oil (No 5 Fuel Oil, No 6 Fuel Oil)	Yes	No	No	Yes	No
SLW	Sludge Waste	No	Yes	No	No	No
SUB	Subbituminous Coal	Yes	No	Yes	No	No
SUN	Solar (Photovoltaic, Thermal)	No	No	No	No	No
WOC	Waste/Other Coal (Anthracite, Coal Mixtures, Coke Breeze, Fine Coal, Tar Coal)	Yes	No	Yes	No	No
WDL	Wood/Wood Waste Liquids	No	Yes	No	No	No

WDS	Wood/Wood Waste Solids (Peat, Railroad Ties, Utility Poles, Wood Chips,other solids)	No	Yes	No	No	No
WND	Wind	No	No	No	No	No
WAT	Water	No	No	No	No	No
UR	Nuclear	No	No	No	No	No
FO2	Fuel Oil No 2	Yes	No	No	Yes	No
FO6	Fuel Oil No 6	Yes	No	No	Yes	No
ANT	Anthracite	Yes	No	Yes	No	No
OIL	Fuel Oil (Used prior to 1980)	Yes	No	No	Yes	No
GEO	Geothermal	No	No	No	No	No
WOD	Wood	No	Yes	No	No	No
WAS	Waste	No	Yes	No	No	No
WI	Wind	No	No	No	No	No
SP	Solar - Photovoltaic	No	No	No	No	No
SO	Solar - Thermal	No	No	No	No	No
	Water	No	No	No	No	No
1	Nuclear	No	No	No	No	No
2	Light Oil	Yes	No	No	Yes	No
3	Heavy Oil	Yes	No	No	Yes	No
4	Anthracite	Yes	No	Yes	No	No
5	Coke	Yes	No	Yes	No	No
6	Bituminous	Yes	No	Yes	No	No
7	Lignite	Yes	No	Yes	No	No
8	Fuel Oil (Used prior to 1980)	Yes	No	No	Yes	No
9	Natural Gas	Yes	No	No	No	Yes
A	Geothermal	No	No	No	No	No
B	Wood	No	Yes	No	No	No
C	Waste	No	Yes	No	No	No
D	Wind	No	No	No	No	No
E	Solar - Photovoltaic	No	No	No	No	No
F	Solar - Thermal	No	No	No	No	No
BTM	Bitumen	Yes	No	Yes	No	No
REF	Refuse	No	Yes	No	No	No
WD	Wood	No	Yes	No	No	No
RG	Refinery Gas	No	No	No	No	No
COG	Coke Oven Gas	Yes	No	No	No	Yes
FO4	Fuel Oil No 4	Yes	No	No	Yes	No
FO5	Fuel Oil No 5	Yes	No	No	Yes	No
CRU	Crude Oil	Yes	No	No	Yes	No
TOP	Top Crude	Yes	No	No	Yes	No
BKO	Bunker Oil	Yes	No	No	Yes	No
LPG	Liquified Gas	Yes	No	No	No	Yes
RRO	Rerefined Motor Oil	Yes	No	No	Yes	No
MIX	Coal-Oil Mixture	Yes	No	No	Yes	No
TDF	Tire-Derived Fuel	No	Yes	No	No	No

WO	Waste/Other Coal (Anthracite, Coal Mixtures, Coke Breeze, Fine Coal, Tar Coal)	Yes	No	Yes	No	No
BLQ	Black Liquor	No	Yes	No	No	No
OTG	Other Gas	Yes	No	No	No	Yes
SC	Coal-based Synfuel (includes briquettes, pellets, or extrusions formed by binding materials and othe	Yes	No	Yes	No	No

Heat Input for Non-Acid Rain Plants Provided by Commenters

There were a number of non-Acid Rain plants for which commenters had provided heat input data for the 1999-2002 period to replace plant heat input calculated based on EIA data. These were all plants with units subject to the NO_X Budget Program, and which had submitted primary fuel information in EDR monitoring plans. Heat input for these plants was attributed entirely to the primary fuel as described for Acid Rain Program units. Thes commenters provided only annual heat input. To calculate ozone season heat input for these plants, the annual heat input was multiplied by 5/12. Specific changes to the heat input data made in response to commenters are discussed in Appendix B.

Regional and State SO_2 and NOx Emissions Budgets

Appendix B

Data Set Corrections

Regional and State SO_2 and NOx Emissions Budgets

Revised EIA Heat Input Values

Heat inputs for individual plants were changed as a result of comments from Exelon, Dominion Power, and the Massachusetts Department of Environmental Protection. The revised annual heat inputs for the plants are identified in the table below.

Table B-1. Revised Facility Heat Inputs from Commenters (mmBtus)

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PA	3168	Richmond	174,437	117,683	115,893	196,329
PA	8012	Croydon Generating Station	678,112	461,682	344,261	686,569
PA	7704	Fairless Hills	2,687,828	3,001,110	2,780,378	3,068,851
VA	3797	Chesterfield 7	8,751,684	6,016,004	6,095,216	54,75,243
MA	1588	Mystic River 81 and 82				2,159,197
MA	10176	South Boston Combustion Turbine				33,273
MA	52026	Dartmouth Power			2,005,226	

In addition, three plants (one in New Jersey and two in Maine) had been incorrectly identified as Massachusetts plants. The State locations of the plants have been revised.

Massachusetts also pointed out missing heat input for other Non-Acid Rain plants, but did not provide heat input data, and in addition OTC NOx Budget Program data were not available in CAMD's Data and Maps Database. No changes were made in these cases, presented in Table B-2:

Table B-2. Missing Heat Input Data Noted in Comments but Not Provided

[illegible]	[illegible]	[illegible]	[illegible]
MA	1678	Waters River	2000 and 2001
MA	10802	Lowell Cogen	1999, 2000, and 2001

The April 14, 2004, EIA heat input data left out heat input from plants with fossil energy source steam turbines greater than 25 MWs that were located at plants with less than 100 MW total capacity. The error has been corrected in the "Sept1 Revised EIAPlantHI.xls" spreadsheet. Revised heat input values, as well as other corrections, are highlighted in red.

One commenter pointed out duplication errors in the EIA plant level heat input data. In these cases, the spreadsheet contained a duplicate plant row locating the plant in a different State in addition to the row with the correct location. EPA has corrected the data so that the spreadsheet

contains only the correct row. The list of corrections made is in Table B-3, below. State heat input budgets were revised for New Jersey. In most cases, the existence of a duplicate row had no effect on heat input data, because the data for the plant was only used if no units from the plant were included in the Acid Rain heat input data.

Table B -3. Duplicate Rows Deleted from EIA Plant Heat Input Worksheet

Incorrect State	Plant	ORIS	Impact
FL	William F. Wyman	1507	None - Used correct Acid Rain data
MA	North Jersey Energy Associates	10308	None - Plant was initially identified as an exempt cogeneration plant.
MI	Fitchburg	1601	None - No heat input during period.
MI	Georgetown Substation	7759	None - Used correct Acid Rain data.
NE	John S. Rainey Generating Station	7834	None - Used correct Acid Rain data.
NJ	Hunterstown	3110	Reduces NJ 1999 heat input
NJ	Mountain	3111	Reduces NJ 1999 - 2002 heat input.
NJ	Portland	3113	None - Used correct Acid Rain data.
NJ	Titus	3115	None - Used correct Acid Rain data.
NJ	Conemaugh	3118	None - Used correct Acid Rain data.
NJ	Seward	3130	None - Used correct Acid Rain data.
NJ	Shawville	3131	None - Used correct Acid Rain data.
NJ	Warren	3132	None - Used correct Acid Rain data.
NJ	Wayne	3134	Reduces NJ 1999 - 2002 heat input.
NJ	Keystone	3136	None - Used correct Acid Rain data.

Exempt Cogeneration Status

There were also comments on the exempt cogeneration status of four cogeneration plants, one in Virginia, and three in Massachusetts. The plants are all Acid Rain plants, so the plants are now identified as EGUs and not exempt. Affected plants are shown in Table B-4.

Table B-4. Plants for which Cogeneration Status Was Corrected in EPA Data

State	Oris Code	FACILITY NAME
MA	10502	Indeck Pepperell
MA	10802	Lowell Cogen
MA	54586	Lowell Power, LLC
VA	54844	Gordonsville

Additionally, EPA has revisited the list of non-Acid Rain plants and has flagged and also excluded from heat input budget calculations any industrial plant which while operating, did not deliver electricity to a utility in 1999 or 2000 (years for which the data are available from EIA). The CAIR budgets only apply to plants which generate electricity for sale, and the industrial plants without sales should not have been included.

Further revisions to cogeneration status are highlighted in the spreadsheet "Rev EIA Plant HI.xls," available in the docket. The exemption flag, a "Y" in the column "F" field - "Exempt FERC Cogen (H and I $\leq$0.33) of the worksheet is based on whether the plant is a FERC qualifying cogeneration plant, and the amount of electricity delivered to utilities in 1999 or 2000. As is discussed earlier, heat input for plants for which the ratio of electricity sales to potential capacity did not exceed 0.33 were dropped from the data set.

Attachment 2

Kentucky Seasonal NOx Allocations

OZONE SEASON NOx ALLOCATIONS FOR 2009-2014

COMPANY	PLANT NAME	ORISPL	UNITID	GENERATOR NAMEPLATE CAPACITY (MWe)	UNIT TYPE	PRIMARY FUEL	HEAT INPUT FUEL DJUSTMEN FACTOR	EPA 2001*** OZONE SEASON HEAT INPUT (MMBTU)	EPA 2002*** OZONE SEASON HEAT INPUT (MMBTU)	2003*** OZONE SEASON HEAT INPUT (MMBTU)	2004*** OZONE SEASON HEAT INPUT (MMBTU)	2005*** OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** EPA 2001 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** EPA 2002 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** 2003 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** 2004 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** 2005 OZONE SEASON HEAT INPUT (MMBTU)	BASLINE**** HEAT INPUT ESTABLISHED	AVERAGE OF THREE HIGHEST YEARS HEAT INPUT (MMBTU)	SUM TOTAL OF HIGH THREE AVERAGE HEAT INPUT (MMBTU)	KY TOTAL 2009-2014 CONTROL PERIOD EGU NOx OZONE SEASON ALLOWANCES (OZONE SEASON TONS) (BEFORE ROUNDING)	FINAL KY TOTAL 2009-2014* CONTROL PERIOD OZONE SEASON ALLOWANCES (OZONE SEASON TONS) (ROUNDED)
American Ele	Big Sandy	1353	BSU1	281	Dry bottom	Coal	1	6752486	6375543	6326657	4525497	5265252	6752486	6375543	6326657	4525497	5265252	YES	6484895	449417516	510.616084	511
American Ele	Big Sandy	1353	BSU2	816	Dry bottom	Coal	1	23073850	20888211	18459285	20026055	22830241	23073850	20888211	18459285	20026055	22830241	YES	22264101	449417516	1753.059697	1753
KU & LG&E	E W Brown	1355	1	114	Dry bottom	Coal	1	2755650	3114126	3265381	2790139	2827118	2755650	3114126	3265381	2790139	2827118	YES	3068875	449417516	241.6410651	242
KU & LG&E	E W Brown	1355	10	110	Combustio	Pipeline Natural Gas	0.4	160666	220215	12482	5883	13462	64266	88086	4993	2353	5385	YES	52579	449417516	4.140033582	4
KU & LG&E	E W Brown	1355	11	110	Combustio	Pipeline Natural Gas	0.4	92218	129341	4747	6039	11725	36887	51736	1899	2416	4690	YES	31104	449417516	2.449107144	2
KU & LG&E	E W Brown	1355	2	180	Tangentiall	Coal	1	2516799	4888578	5555326	4510213	3756531	2516799	4888578	5555326	4510213	3756531	YES	4984706	449417516	392.4922543	392
KU & LG&E	E W Brown	1355	3	446	Tangentiall	Coal	1	11074192	11173088	13251671	11443739	7283476	11074192	11173088	13251671	11443739	7283476	YES	11956166	449417516	941.4201251	941
KU & LG&E	E W Brown	1355	5	145	Combustio	Pipeline Natural Gas	0.4	559832	637671	4482	5741	1123374	223933	255068	1793	2296	449350	YES	309450	449417516	24.36587596	24
KU & LG&E	E W Brown	1355	6	177	Combustio	Pipeline Natural Gas	0.4	36602	972260	157172	50835	1559185	14641	388904	62869	20334	623674	YES	358482	449417516	28.22662125	28
KU & LG&E	E W Brown	1355	7	177	Combustio	Pipeline Natural Gas	0.4	437233	520859	138980	139404	1199071	174893	208344	55592	55762	479628	YES	287622	449417516	22.64715455	23
KU & LG&E	E W Brown	1355	8	110	Combustio	Diesel Oil	0.4	335144	388795	17148	9335	17118	134058	155518	6859	3734	6847	YES	98812	449417516	7.780387576	8
KU & LG&E	E W Brown	1355	9	110	Combustio	Diesel Oil	0.4	247654	298251	12699	5957	13403	99062	119300	5080	2383	5361	YES	74574	449417516	5.871904456	6
KU & LG&E	Ghent	1356	1	557	Tangentiall	Coal	1	16301311	11784129	12882041	15324336	16866261	16301311	11784129	12882041	15324336	16866261	YES	16163969	449417516	1272.739582	1273
KU & LG&E	Ghent	1356	2	556	Tangentiall	Coal	1	13701750	12718985	12153707	10909103	12151210	13701750	12718985	12153707	10909103	12151210	YES	12858147	449417516	1012.441476	1012
KU & LG&E	Ghent	1356	3	557	Dry bottom	Coal	1	14145475	14205890	11198058	13480576	14338700	14145475	14205890	11198058	13480576	14338700	YES	14230022	449417516	1120.461952	1120
KU & LG&E	Ghent	1356	4	556	Dry bottom	Coal	1	13554683	11823037	13133565	13803814	14351476	13554683	11823037	13133565	13803814	14351476	YES	13903324	449417516	1094.73798	1095
KU & LG&E	Green River**	1357	1	37.5	Dry bottom	Coal	1	239441	357851	0	0.0	0	239441	357851	0	0	0	NO	199097	449417516	15.67675814	16
KU & LG&E	Green River**	1357	2	37.5	Dry bottom	Coal	1	236827	364449	0	0.0	0	236827	364449	0	0	0	NO	200425	449417516	15.78132393	16
KU & LG&E	Green River**	1357	3	37.5	Dry bottom	Coal	1	176094	290178	0	0.0	0	176094	290178	0	0	0	NO	155424	449417516	12.23797675	12
KU & LG&E	Green River	1357	4	75	Dry bottom	Coal	1	1857180	1285080	1362763	1310152	1671384	1857180	1285080	1362763	1310152	1671384	YES	1630442	449417516	128.3798595	128
KU & LG&E	Green River	1357	5	114	Dry bottom	Coal	1	2430051	2279765	1356007	2163034	747028	2430051	2279765	1356007	2163034	747028	YES	2290950	449417516	180.3877962	180
KU & LG&E	Pineville*****	1360	3	37.5	Dry bottom	Coal	1	655295	0	0	0.0	0	655295	0	0	0	0	NO	218432	449417516	17.19918248	17
KU & LG&E	Tyrone	1361	1	31.3	Dry bottom	Diesel Oil	0.6	1402	0	0	0.0	0	841	0	0	0	0	NO	280	449417516	0.022047004	0
KU & LG&E	Tyrone	1361	2	31.3	Dry bottom	Diesel Oil	0.6	1381	0	0	0.0	0	829	0	0	0	0	NO	276	449417516	0.021732046	0
KU & LG&E	Tyrone	1361	3	31.3	Dry bottom	Diesel Oil	0.6	1462	0	0	0.0	0	877	0	0	0	0	NO	292	449417516	0.022991875	0
KU & LG&E	Tyrone	1361	4	31.3	Dry bottom	Diesel Oil	0.6	1211	0	0	0.0	0	727	0	0	0	0	NO	242	449417516	0.01905491	0
KU & LG&E	Tyrone	1361	5	75	Dry bottom	Coal	1	1798278	2017609	1377268	1019379	1654269	1798278	2017609	1377268	1019379	1654269	YES	1823385	449417516	143.572056	144
KU & LG&E	Cane Run	1363	4	163	Dry bottom	Coal	1	4306466	4860811	4190615	3952170	4635921	4306466	4860811	4190615	3952170	4635921	YES	4601066	449417516	362.2847098	362
KU & LG&E	Cane Run	1363	5	209	Dry bottom	Coal	1	5454042	4845874	4659200	3102624	4651116	5454042	4845874	4659200	3102624	4651116	YES	4986372	449417516	392.623434	393
KU & LG&E	Cane Run	1363	6	272	Tangentiall	Coal	1	6449820	1051221	6309480	5779788	7102829	6449820	1051221	6309480	5779788	7102829	YES	6620710	449417516	521.3100618	521
KU & LG&E	Mill Creek	1364	1	356	Tangentiall	Coal	1	10036033	9328134	7734836	7736229	7956622	10036033	9328134	7734836	7736229	7956622	YES	9106930	449417516	717.0732808	717
KU & LG&E	Mill Creek	1364	2	356	Tangentiall	Coal	1	10065031	8510619	7530047	7502626	7283456	10065031	8510619	7530047	7502626	7283456	YES	8701899	449417516	685.181424	685
KU & LG&E	Mill Creek	1364	3	463	Dry bottom	Coal	1	13216107	11690188	12148840	11196869	12716275	13216107	11690188	12148840	11196869	12716275	YES	12693741	449417516	999.4962633	999
KU & LG&E	Mill Creek	1364	4	544	Dry bottom	Coal	1	15066431	13791895	13630015	14610771	11824984	15066431	13791895	13630015	14610771	11824984	YES	14489699	449417516	1140.908737	1141
KU & LG&E	Paddy's Run	1366	12	29	Combustio	Natural Gas	0.4	0	0	2914	0.0	0	0	0	1166	0	0	NO	389	449417516	0.030629587	0
KU & LG&E	Paddy's Run	1366	13	151	Combustio	Pipeline Natural Gas	0.4	424349	874475	252789	121313	1137945	169740	349790	101116	48525	455178	YES	324903	449417516	25.58263434	26
Henderson P	Henderson I	1372	6	32.3	Stoker	Coal	1	224271	148706	68565	0.0	42270	224271	148706	68565	0	42270	NO	147181	449417516	11.58892871	12
Owensboro M	Elmer Smith	1374	1	151	Cyclone bc	Coal	1	6077589	4650933	5052006	4860967	4730116	6077589	4650933	5052006	4860967	4730116	YES	5330187	449417516	419.6951859	420
Owensboro M	Elmer Smith	1374	2	265	Tangentiall	Coal	1	9133931	8577959	7466309	9379541	6714595	9133931	8577959	7466309	9379541	6714595	YES	9030477	449417516	711.0534252	711
TVA	Paradise	1378	1	704	Cyclone bc	Coal	1	21731467	20661122	20149449	19073048	18384697	21731467	20661122	20149449	19073048	18384697	YES	20847346	449417516	1641.505402	1642
TVA	Paradise	1378	2	704	Cyclone bc	Coal	1	24059020	23463271	21235781	20195252	22270212	24059020	23463271	21235781	20195252	22270212	YES	23264168	449417516	1831.804271	1832
TVA	Paradise	1378	3	1150	Cyclone bc	Coal	1	24922640	26754407	20224773	25126396	26095901	24922640	26754407	20224773	25126396	26095901	YES	25992235	449417516	2046.610354	2047
TVA	Shawnee	1379	1	175	Dry bottom	Coal	1	4470245	4510072	4514171	4176678	4312069	4470245	4510072	4514171	4176678	4312069	YES	4498163	449417516	354.1821997	354
TVA	Shawnee	1379	10	175	Other boile	Coal	1	4007626	4183060	4243150	3667884	4677738	4007626	4183060	4243150	3667884	4677738	YES	4367983	449417516	343.9319178	344
TVA	Shawnee	1379	2	175	Dry bottom	Coal	1	4369710	4152680	4386108	4250497	4312706	4369710	4152680	4386108	4250497	4312706	YES	4356175	449417516	343.0021642	343
TVA	Shawnee	1379	3	175	Dry bottom	Coal	1	5130656	4692139	4357758	4309864	4600376	5130656	4692139	4357758	4309864	4600376	YES	4807724	449417516	378.5568157	379
TVA	Shawnee	1379	4	175	Dry bottom	Coal	1	4850797	4518773	4295594	3907569	4416962	4850797	4518773	4295594	3907569	4416962	YES	4595511	449417516	361.847313	362
TVA	Shawnee	1379	5	175	Dry bottom	Coal	1	4884466	4598456	4370605	4227643	4506348	4884466	4598456	4370605	4227643	4506348	YES	4663090	449417516	367.168436	367
TVA	Shawnee	1379	6	175	Dry bottom	Coal	1	4023374	4448221	4412634	4299759	4562997	4023374	4448221	4412634	4299759	4562997	YES	4474617	449417516	352.3282042	352
TVA	Shawnee	1379	7	175	Dry bottom	Coal	1	4761197	5421869	5129562	4099044	4420552	4761197	5421869	5129562	4099044	4420552	YES	5104209	449417516	401.9018367	402
TVA	Shawnee	1379	8	175	Dry bottom	Coal	1	4596955	5327165	5206277	4223873	4356207	4596955	5327165	5206277	4223873	4356207	YES	5043466	449417516	397.1189755	397
TVA	Shawnee	1379	9	175	Dry bottom	Coal	1	4651180	5035355	4507228	2897150	4560917	4651180	5035355	4507228	2897150	4560917	YES	4749151	449417516	373.9448188	374
Western Ky I	Coleman	1381	C1	160	Dry bottom	Coal	1	4758079	4750561	4398795	4262976	4766966	4758079	4750561	4398795	4262976	4766966	YES	4758535	449417516	374.6837084	375
Western Ky I	Coleman	1381	C2	160	Dry bottom	Coal	1	5065218	4730490	4009597	4813857	4250663	5065218	4730490	4009597	4813857	4250663	YES	4869855	449417516	383.4489671	383
Western Ky I	Coleman	1381	C3	160	Dry bottom	Coal	1	4740666	4653098	4080322	4125698	5030138	4740666	4653098	4080322	4125698	5030138	YES	4807967	449417516	378.5759494	379
Western Ky I	HMP&L Static	1382	H1	176	Dry bottom	Coal	1	5314298	5140526	4129763	4708930	5553792	5314298	5140526	4129763	4708930	5553792	YES	5336205	449417516	420.169039	420
Western Ky I	HMP&L Static	1382	H2	179	Dry bottom	Coal	1	4921339	5011241	4349275	5479696	5517963	4921339	5011241	4349275	5479696	5517963	YES	5336300	449417516	420.1765193	420
Western Ky I	Robert Reid	1383	R1	66	Dry bottom	Coal	1	2261403	2191153	2088090	465832	1698223	2261403	2191153	2088090	465832	1698223	YES	2180215	449417516	171.6686	172
Western Ky I	Robert Reid	1383	RT	72	Combustio	Diesel Oil	0.6	18868	65605	19905	77662	37719	11321	39363	11943	46597	22631	YES	36197	449417516	2.850126392	3
East Ky Pow	John S. Coop	1384	1	100	Dry bottom	Coal	1	2854254	3221622	2793089	3109661	2997130	2854254	3221622	2793089	3109661	2997130	YES	3109471	449417516	244.8375656	245
East Ky Pow	John S. Coop	1384	2	221	Dry bottom	Coal	1	5495008	6133899	4121698	6221215	5509115	5495008	6133899	4121698	6221215	5509115	YES	5954743	449417516	468.8722873	469
East Ky Pow	William C. Da	1385	1******		Dry bottom	Coal	1	645299	729045	771554	741971	787529	645299	729045	771554	741971	787529	YES	767018	449417516	60.39445935	60

OZONE SEASON NOx ALLOCATIONS FOR 2009-2014

COMPANY	PLANT NAME	ORISPL	UNITID	GENERATOR NAMEPLATE CAPACITY (MWe)	UNIT TYPE	PRIMARY FUEL	HEAT INPUT FUEL DJUSTMEN FACTOR	EPA 2001*** OZONE SEASON HEAT INPUT (MMBTU)	EPA 2002*** OZONE SEASON HEAT INPUT (MMBTU)	2003*** OZONE SEASON HEAT INPUT (MMBTU)	2004*** OZONE SEASON HEAT INPUT (MMBTU)	2005*** OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** EPA 2001 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** EPA 2002 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** 2003 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** 2004 OZONE SEASON HEAT INPUT (MMBTU)	ADJUSTED** 2005 OZONE SEASON HEAT INPUT (MMBTU)	BASLINE**** HEAT INPUT ESTABLISHED	AVERAGE OF THREE HIGHEST YEARS HEAT INPUT (MMBTU)	SUM TOTAL OF HIGH THREE AVERAGE HEAT INPUT (MMBTU)	KY TOTAL 2009-2014 CONTROL PERIOD EGU NOx OZONE SEASON ALLOWANCES (OZONE SEASON TONS) (BEFORE ROUNDING)	FINAL KY TOTAL 2009-2014* CONTROL PERIOD OZONE SEASON ALLOWANCES (OZONE SEASON TONS) (ROUNDED)
East Ky Pow	William C. Da	1385	2******		Dry bottom	Coal	1	645298	729044	771553	741970	787529	645298	729044	771553	741970	787529	YES	767017	449417516	60.39438061	60
East Ky Pow	William C. Da	1385	3	80	Dry bottom	Coal	1	2036660	2380325	2296229	1980483	2200191	2036660	2380325	2296229	1980483	2200191	YES	2292248	449417516	180.4899998	180
East Ky Pow	William C. Da	1385	4	80	Dry bottom	Coal	1	2070993	2114486	2403188	2102982	2515587	2070993	2114486	2403188	2102982	2515587	YES	2344420	449417516	184.5979865	185
East Ky Pow	Smith Genera	54	SCT1	120	Combustio	Pipeline Natural Gas	0.4	352298	464460	171189	146398	89548	140919	185784	68476	58559	35819	YES	131726	449417516	10.37201285	10
East Ky Pow	Smith Genera	54	SCT2	120	Combustio	Pipeline Natural Gas	0.4	408468	341107	154974	294494	877942	163387	136443	61990	117798	351177	YES	217002	449417516	17.08658528	17
East Ky Pow	Smith Genera	54	SCT3	120	Combustio	Pipeline Natural Gas	0.4	425569	857374	265319	262955	255525	170228	342950	106128	105182	102210	YES	206435	449417516	16.25454711	16
East Ky Pow	Smith Genera	54	SCT4	90	Combustio	Pipeline Natural Gas	0.4	0	515147	165986	174947	1056448	0	206059	66394	69979	422579	NO	232872	449417516	18.33617795	18
East Ky Pow	Smith Genera	54	SCT5	90	Combustio	Pipeline Natural Gas	0.4	0	473099	111303	140004	552791	0	189240	44521	56002	221116	NO	155453	449417516	12.24026019	12
East Ky Pow	Smith Genera	54	SCT6	N	Combustio	Pipeline Natural Gas	0.4	0	0	0	0.0	865700	0	0	0	0	346280	NO	115427	449417516	9.088641022	9
East Ky Pow	Smith Genera	54	SCT7	N	Combustio	Pipeline Natural Gas	0.4	0	0	0	0.0	661658	0	0	0	0	264663	NO	88221	449417516	6.946459664	7
Dynegy	Bluegrass Ge	55164	GTG1	208	Combustio	Pipeline Natural Gas	0.4	0	354058	15124	0.0	116216	0	141623	6050	0	46486	NO	64720	449417516	5.096007407	5
Dynegy	Bluegrass Ge	55164	GTG2	208	Combustio	Pipeline Natural Gas	0.4	0	484538	15161	519	122074	0	193815	6064	208	48830	NO	82903	449417516	6.527724074	7
Dynegy	Bluegrass Ge	55164	GTG3	208	Combustio	Pipeline Natural Gas	0.4	0	387982	10232	511	168171	0	155193	4093	204	67268	NO	75518	449417516	5.946234354	6
Dynegy	Riverside Ger	55198	GTG101	208	Combustio	Pipeline Natural Gas	0.4	71006	386558	42770	477	104647	28402	154623	17108	191	41859	YES	74961	449417516	5.902376564	6
Dynegy	Riverside Ger	55198	GTG201	208	Combustio	Pipeline Natural Gas	0.4	81881	543286	33986	475	95275	32752	217314	13594	190	38110	YES	96059	449417516	7.563618287	8
Dynegy	Riverside Ger	55198	GTG301	208	Combustio	Pipeline Natural Gas	0.4	80810	446613	22058	468	58804	32324	178645	8823	187	23522	YES	78164	449417516	6.154578538	6
Dynegy	Riverside Ger	55198	GTG401	208	Combustio	Pipeline Natural Gas	0.4	0	428175	38747	493	117833	0	171270	15499	197	47133	NO	77967	449417516	6.139066896	6
Dynegy	Riverside Ger	55198	GTG501	208	Combustio	Pipeline Natural Gas	0.4	0	363786	28220	124	123458	0	145514	11288	50	49383	NO	68728	449417516	5.411594516	5
KGen Marsh	KGen Marsha	55232	CT1	80	Combustio	Pipeline Natural Gas	0.4	0	10461	0	0.0	0	0	4184	0	0	0	NO	1395	449417516	0.109841322	0
KGen Marsh	KGen Marsha	55232	CT2	80	Combustio	Pipeline Natural Gas	0.4	0	17696	0	0.0	0	0	7078	0	0	0	NO	2359	449417516	0.185746005	0
KGen Marsh	KGen Marsha	55232	CT3	80	Combustio	Pipeline Natural Gas	0.4	0	30982	0	0.0	0	0	12393	0	0	0	NO	4131	449417516	0.325272043	0
KGen Marsh	KGen Marsha	55232	CT4	80	Combustio	Pipeline Natural Gas	0.4	0	21832	0	0.0	0	0	8733	0	0	0	NO	2911	449417516	0.229210098	0
KGen Marsh	KGen Marsha	55232	CT5	80	Combustio	Pipeline Natural Gas	0.4	0	15964	0	0.0	0	0	6386	0	0	0	NO	2129	449417516	0.167635967	0
KGen Marsh	KGen Marsha	55232	CT6	80	Combustio	Pipeline Natural Gas	0.4	0	15066	0	0.0	0	0	6026	0	0	0	NO	2009	449417516	0.158187251	0
KGen Marsh	KGen Marsha	55232	CT7	80	Combustio	Pipeline Natural Gas	0.4	0	1690	0	0.0	0	0	676	0	0	0	NO	225	449417516	0.017716342	0
KGen Marsh	KGen Marsha	55232	CT8	80	Combustio	Pipeline Natural Gas	0.4	0	1248	0	0.0	0	0	499	0	0	0	NO	166	449417516	0.013070724	0
Cincinnati Ga	East Bend	6018	2	669	Dry bottom	Coal	1	16934354	16666445	17506947	17893269	18667702	16934354	16666445	17506947	17893269	18667702	YES	18022639	449417516	1419.089954	1419
East Ky Pow	H L Spurlock	6041	1	305	Dry bottom	Coal	1	9747169	8649657	9101963	3531190	8673878	9747169	8649657	9101963	3531190	8673878	YES	9174337	449417516	722.3808607	722
East Ky Pow	H L Spurlock	6041	2	508	Tangentiall	Coal	1	15987041	17351283	16390299	16574826	14213121	15987041	17351283	16390299	16574826	14213121	YES	16772136	449417516	1320.626225	1321
East Ky Pow	H L Spurlock	6041	3	N	Circulating	Coal	1	0	0	0	0.0	7108055	0	0	0	0	7108055	NO	2369352	449417516	186.5611147	187
KU & LG&E	Trimble Count	6071	1	566	Tangentiall	Coal	1	17098273	15655571	12746672	16270405	16557881	17098273	15655571	12746672	16270405	16557881	YES	16642186	449417516	1310.394053	1310
KU & LG&E	Trimble Count	6071	10	N	Combustio	Pipeline Natural Gas	0.4	0	0	0	91203	765136	0	0	0	36481	306054	NO	114178	449417516	8.990295638	9
KU & LG&E	Trimble Count	6071	5	160	Combustio	Pipeline Natural Gas	0.4	0	868071	360654	109391	99378	0	347228	144262	43756	39751	NO	178415	449417516	14.04827196	14
KU & LG&E	Trimble Count	6071	6	160	Combustio	Pipeline Natural Gas	0.4	0	835047	267860	160087	239696	0	334019	107144	64035	95878	NO	179014	449417516	14.0954368	14
KU & LG&E	Trimble Count	6071	7	N	Combustio	Pipeline Natural Gas	0.4	0	0	0	220482	429938	0	0	0	88193	171975	NO	86723	449417516	6.828508195	7
KU & LG&E	Trimble Count	6071	8	N	Combustio	Pipeline Natural Gas	0.4	0	0	0	136568	657088	0	0	0	54627	262835	NO	105821	449417516	8.33227132	8
KU & LG&E	Trimble Count	6071	9	N	Combustio	Pipeline Natural Gas	0.4	0	0	0	169689	418137	0	0	0	67876	167255	NO	78377	449417516	6.171350008	6
Western Ky I	R D Green	6639	G1	242	Dry bottom	Coal	1	8259390	7823017	7772529	8066512	8543003	8259390	7823017	7772529	8066512	8543003	YES	8289635	449417516	652.7200458	653
Western Ky I	R D Green	6639	G2	242	Dry bottom	Coal	1	8516639	7657032	7963749	8261988	8376527	8516639	7657032	7963749	8261988	8376527	YES	8385051	449417516	660.2330347	660
Western Ky I	D B Wilson	6823	W1	440	Dry bottom	Coal	1	16148859	18429326	15510321	16983264	16371622	16148859	18429326	15510321	16983264	16371622	YES	17261404	449417516	1359.150844	1359
Air Products	Calvert City C	55308	C	26	Operating	Pipeline Natural Gas	0.4	865562	890734	800555	791133	787651	346225	356294	320222	316453	315060	YES	340914	449417516	26.84332925	27
Air Products	Calvert City C	55308	A	262.7/310 M	Operating	Pipeline Natural Gas	0.4	298332	374893	186101	259010	312072	119333	149957	74440	103604	124829	YES	131373	449417516	10.34421788	10
Air Products	Calvert City C	55308	B	262.7/310 M	Operating	Pipeline Natural Gas	0.4	244911	350825	222945	277169	322526	97964	140330	89178	110868	129010	YES	126736	449417516	9.979103751	10
Marathon As	Catlettsburg R	880038	061	295 MMBTU	Operating	Process Gas	0.4	466739	711903	598475	745987	689274	186696	284761	239390	298395	275710	YES	286289	449417516	22.54219506	23
MeadWestva	Wickliffe Pape	880065	01	325 MMBTU	Operating	Pipeline Natural Gas	0.4	93456	166605	45031	39688	42881	37382	66642	18012	15875	17152	YES	40679	449417516	3.203035929	3
MeadWestva	Wickliffe Pape	880065	02	325 MMBTU	Operating	Pipeline Natural Gas	0.4	89740	137620	40622	27316	23645	35896	55048	16249	10926	9458	YES	35731	449417516	2.813433879	3
American Ele	Big Sandy	1353	AUX2	642 MMBTU	Operating	Diesel Oil	0.6	69	0	41929	5580	9437	41	0	25157	3348	5662	NO	11389	449417516	0.896761872	1
																			449417516			
																						35384
																						725
																						36109

Attachment 3

Kentucky Annual NOx Allocations

ANNUAL NOx ALLOCATIONS FOR 2009-2014

COMPANY	PLANT NAME	ORISPL	UNITID	GENERATOR NAMEPLATE CAPACITY (MWe)	UNIT TYPE	PRIMARY FUEL	HEAT INPUT** FUEL ADJUST. FACTOR	EPA 2001*** ANNUAL HEAT INPUT (MMBTU)	EPA 2002*** ANNUAL HEAT INPUT (MMBTU)	2003*** ANNUAL HEAT INPUT (MMBTU)	2004*** ANNUAL HEAT INPUT (MMBTU)	2005*** ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2001 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2002 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2003 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2004 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2005 ANNUAL HEAT INPUT (MMBTU)	BASLINE**** HEAT INPUT ESTAB.	AVERAGE OF THREE HIGHEST YEARS HEAT INPUT (MMBTU)	SUM TOTAL OF HIGH THREE AVERAGE HEAT INPUT (MMBTU)	KY TOTAL 2009-2014 CONTROL PERIOD CAIR EGU NOx ANNUAL ALLOWANCES (ANNUAL TONS) (BEFORE ROUNDING)	FINAL KY TOTAL 2009-2014* CONTROL PERIOD CAIR EGU NOx ANNUAL ALLOWANCES (ANNUAL TONS) (ROUNDED)
American Electr	Big Sandy	1353	BSU1	281	Dry bottor	Coal	1	17802942	14847674	16854709	12653074	14338702	17802942	14847674	16854709	12653074	14338702	YES	16501775	1029610765	1306.872102	1307
American Electr	Big Sandy	1353	BSU2	816	Dry bottor	Coal	1	52203394	37719242	41246314	44962998	53422103	52203394	37719242	41246314	44962998	53422103	YES	50196165	1029610765	3975.327968	3975
KU & LG&E	E W Brown	1355	1	114	Dry bottor	Coal	1	6889703	6829953	7432074	6983251	6964790	6889703	6829953	7432074	6983251	6964790	YES	7126705	1029610765	564.4054622	564
KU & LG&E	E W Brown	1355	10	110	Combustipeline Natural Ga		0.4	219244	279363	63452	26074	34394	87698	111745	25381	10430	13758	YES	74941	1029610765	5.935016216	6
KU & LG&E	E W Brown	1355	11	110	Combustipeline Natural Ga		0.4	137948	164866	30870	30713	35089	55179	65946	12348	12285	14036	YES	45054	1029610765	3.568089839	4
KU & LG&E	E W Brown	1355	2	180	Tangentia	Coal	1	8143248	9298038	11171090	10301801	10973877	8143248	9298038	11171090	10301801	10973877	YES	10815589	1029610765	856.5497672	857
KU & LG&E	E W Brown	1355	3	446	Tangentia	Coal	1	24795511	23176171	28418079	23742966	16385071	24795511	23176171	28418079	23742966	16385071	YES	25652185	1029610765	2031.546603	2032
KU & LG&E	E W Brown	1355	5	145	Combustipeline Natural Ga		0.4	683514	923895	37865	11859	1556537	273406	369558	15146	4744	622615	YES	421860	1029610765	33.4095614	33
KU & LG&E	E W Brown	1355	6	177	Combustipeline Natural Ga		0.4	78794	1260093	236013	159139	1945085	31518	504037	94405	63656	778034	YES	458825	1029610765	36.33703601	36
KU & LG&E	E W Brown	1355	7	177	Combustipeline Natural Ga		0.4	559765	918464	186947	262331	1807410	223906	367386	74779	104932	722964	YES	438085	1029610765	34.69451407	35
KU & LG&E	E W Brown	1355	8	110	Combusti	Diesel Oil	0.4	572036	504728	85396	13372	56025	228814	201891	34158	5349	22410	YES	154954	1029610765	12.27171379	12
KU & LG&E	E W Brown	1355	9	110	Combusti	Diesel Oil	0.4	344687	373772	62540	22563	38199	137875	149509	25016	9025	15280	YES	104133	1029610765	8.246901478	8
KU & LG&E	Ghent	1356	1	557	Tangentia	Coal	1	39788760	33865535	35100337	33447166	37402490	39788760	33865535	35100337	33447166	37402490	YES	37430529	1029610765	2964.342571	2964
KU & LG&E	Ghent	1356	2	556	Tangentia	Coal	1	31094915	30417850	29645864	28207308	27381043	31094915	30417850	29645864	28207308	27381043	YES	30386210	1029610765	2406.461738	2406
KU & LG&E	Ghent	1356	3	557	Dry bottor	Coal	1	31224720	32033562	23600021	28475370	30655764	31224720	32033562	23600021	28475370	30655764	YES	31304682	1029610765	2479.200909	2479
KU & LG&E	Ghent	1356	4	556	Dry bottor	Coal	1	32694533	22798417	28994728	30710533	31763688	32694533	22798417	28994728	30710533	31763688	YES	31722918	1029610765	2512.323465	2512
KU & LG&E	Green River*****	1357	1	37.5	Dry bottor	Coal	1	491041	406118	244510	0	0	491041	406118	244510	0	0	NO	380556	1029610765	30.138456	30
KU & LG&E	Green River*****	1357	2	37.5	Dry bottor	Coal	1	461533	411266	312743	0	0	461533	411266	312743	0	0	NO	395181	1029610765	31.29669531	31
KU & LG&E	Green River*****	1357	3	37.5	Dry bottor	Coal	1	406490	334050	218016	0	0	406490	334050	218016	0	0	NO	319519	1029610765	25.30457889	25
KU & LG&E	Green River	1357	4	75	Dry bottor	Coal	1	4609609	2825661	3760322	3923034	4441837	4609609	2825661	3760322	3923034	4441837	YES	4324827	1029610765	342.5083516	343
KU & LG&E	Green River	1357	5	114	Dry bottor	Coal	1	5933060	5091515	3694847	4816026	3335088	5933060	5091515	3694847	4816026	3335088	YES	5280200	1029610765	418.1699287	418
KU & LG&E	Pineville*****	1360	3	37.5	Dry bottor	Coal	1	1650641	0	0	0	0	1650641	0	0	0	0	NO	550214	1029610765	43.57466557	44
KU & LG&E	Tyrone	1361	1	31.3	Dry bottor	Diesel Oil	0.6	1455	0	0	0	0	873	0	0	0	0	NO	291	1029610765	0.023045992	0
KU & LG&E	Tyrone	1361	2	31.3	Dry bottor	Diesel Oil	0.6	1433	53	0	0	0	860	32	0	0	0	NO	297	1029610765	0.023521168	0
KU & LG&E	Tyrone	1361	3	31.3	Dry bottor	Diesel Oil	0.6	1502	0	0	0	0	901	0	0	0	0	NO	300	1029610765	0.023758755	0
KU & LG&E	Tyrone	1361	4	31.3	Dry bottor	Diesel Oil	0.6	1262	0	0	0	0	757	0	0	0	0	NO	252	1029610765	0.019957354	0
KU & LG&E	Tyrone	1361	5	75	Dry bottor	Coal	1	3875270	3636433	3470885	3081364	4561802	3875270	3636433	3470885	3081364	4561802	YES	4024502	1029610765	318.7238579	319
KU & LG&E	Cane Run	1363	4	163	Dry bottor	Coal	1	10794589	10438996	10539158	8744885	11616391	10794589	10438996	10539158	8744885	11616391	YES	10983379	1029610765	869.8380389	870
KU & LG&E	Cane Run	1363	5	209	Dry bottor	Coal	1	11069450	11388214	10414830	9106646	10794524	11069450	11388214	10414830	9106646	10794524	YES	11084063	1029610765	877.8117939	878
KU & LG&E	Cane Run	1363	6	272	Tangentia	Coal	1	13748599	9632307	14563168	14325956	16263413	13748599	9632307	14563168	14325956	16263413	YES	15050846	1029610765	1191.964547	1192
KU & LG&E	Mill Creek	1364	1	356	Tangentia	Coal	1	22255762	19079190	18001102	17049959	20157853	22255762	19079190	18001102	17049959	20157853	YES	20497602	1029610765	1623.325019	1623
KU & LG&E	Mill Creek	1364	2	356	Tangentia	Coal	1	20077207	18954850	16757279	19570983	18185459	20077207	18954850	16757279	19570983	18185459	YES	19534347	1029610765	1547.03922	1547
KU & LG&E	Mill Creek	1364	3	463	Dry bottor	Coal	1	31118559	23838086	26342013	22942338	29907175	31118559	23838086	26342013	22942338	29907175	YES	29122582	1029610765	2306.387644	2306
KU & LG&E	Mill Creek	1364	4	544	Dry bottor	Coal	1	27578637	31325831	30906021	35452977	32152848	27578637	31325831	30906021	35452977	32152848	YES	32977219	1029610765	2611.658899	2612
KU & LG&E	Paddy's Run	1366	12	29	Combusti	Natural Gas	0.4	0	0	2914	0	0	0	0	1166	0	0	NO	389	1029610765	0.030807186	0
KU & LG&E	Paddy's Run	1366	13	151	Combustipeline Natural Ga		0.4	463048	1022208	282443	301811	1312104	185219	408883	112977	120724	524842	YES	372981	1029610765	29.53854744	30
Henderson Pow	Henderson I	1372	6	32.3	Stoker	Coal	1	305426	148706	68565	0	772726	305426	148706	68565	0	772726	NO	408953	1029610765	32.38738056	32
Owensboro Mur	Elmer Smith	1374	1	151	Cyclone b	Coal	1	14000079	9425162	11422449	11650483	11288650	14000079	9425162	11422449	11650483	11288650	YES	12357670	1029610765	978.6761832	979
Owensboro Mur	Elmer Smith	1374	2	265	Tangentia	Coal	1	21788581	17608433	17866345	19547296	15532562	21788581	17608433	17866345	19547296	15532562	YES	19734074	1029610765	1562.85677	1563
TVA	Paradise	1378	1	704	Cyclone b	Coal	1	51202415	43369993	33795213	51309080	43191734	51202415	43369993	33795213	51309080	43191734	YES	48627163	1029610765	3851.069521	3851
TVA	Paradise	1378	2	704	Cyclone b	Coal	1	46164253	58269001	43512272	41786049	53241516	46164253	58269001	43512272	41786049	53241516	YES	52558257	1029610765	4162.395853	4162
TVA	Paradise	1378	3	1150	Cyclone b	Coal	1	57906969	57718638	61701359	52061207	46316269	57906969	57718638	61701359	52061207	46316269	YES	59108989	1029610765	4681.186644	4681
TVA	Shawnee	1379	1	175	Dry bottor	Coal	1	9639959	10894691	11192055	10121435	9598840	9639959	10894691	11192055	10121435	9598840	YES	10736060	1029610765	850.2514004	850
TVA	Shawnee	1379	10	175	Other boi	Coal	1	8987433	7004641	9658375	10109194	9609417	8987433	7004641	9658375	10109194	9609417	YES	9792329	1029610765	775.5118215	776
TVA	Shawnee	1379	2	175	Dry bottor	Coal	1	10610282	10499937	9686162	10286199	9664872	10610282	10499937	9686162	10286199	9664872	YES	10465473	1029610765	828.8220329	829
TVA	Shawnee	1379	3	175	Dry bottor	Coal	1	11013277	11481402	10675236	10253148	9289393	11013277	11481402	10675236	10253148	9289393	YES	11056638	1029610765	875.6398477	876
TVA	Shawnee	1379	4	175	Dry bottor	Coal	1	10209386	10783737	10646874	8898284	10631377	10209386	10783737	10646874	8898284	10631377	YES	10687329	1029610765	846.3921075	846
TVA	Shawnee	1379	5	175	Dry bottor	Coal	1	9117514	10806620	10801203	9092535	10796678	9117514	10806620	10801203	9092535	10796678	YES	10801500	1029610765	855.4339769	855
TVA	Shawnee	1379	6	175	Dry bottor	Coal	1	9804642	10333453	10034841	10680872	10994284	9804642	10333453	10034841	10680872	10994284	YES	10669536	1029610765	844.9829757	845
TVA	Shawnee	1379	7	175	Dry bottor	Coal	1	11744878	11459182	11660871	10281052	9670610	11744878	11459182	11660871	10281052	9670610	YES	11621644	1029610765	920.3859783	920
TVA	Shawnee	1379	8	175	Dry bottor	Coal	1	11111708	11997369	11149095	10364396	10587128	11111708	11997369	11149095	10364396	10587128	YES	11419391	1029610765	904.36838	904
TVA	Shawnee	1379	9	175	Dry bottor	Coal	1	10823868	11640656	10855722	8963225	10952655	10823868	11640656	10855722	8963225	10952655	YES	11149678	1029610765	883.0082296	883
Western Ky Ene	Coleman	1381	C1	160	Dry bottor	Coal	1	11971180	10773315	11178065	10865676	10408048	11971180	10773315	11178065	10865676	10408048	YES	11338307	1029610765	897.9468637	898
Western Ky Ene	Coleman	1381	C2	160	Dry bottor	Coal	1	11557927	11107134	11337516	11258617	10532631	11557927	11107134	11337516	11258617	10532631	YES	11384687	1029610765	901.6199672	902
Western Ky Ene	Coleman	1381	C3	160	Dry bottor	Coal	1	11061094	10532515	8692815	10654701	11599036	11061094	10532515	8692815	10654701	11599036	YES	11104944	1029610765	879.4654825	879
Western Ky Ene	HMP&L Station 2	1382	H1	176	Dry bottor	Coal	1	12115550	12113416	9765884	12324335	11054419	12115550	12113416	9765884	12324335	11054419	YES	12184434	1029610765	964.9566109	965
Western Ky Ene	HMP&L Station 2	1382	H2	179	Dry bottor	Coal	1	12004888	12063843	11620977	11362715	13550549	12004888	12063843	11620977	11362715	13550549	YES	12539760	1029610765	993.0969556	993
Western Ky Ene	Robert Reid	1383	R1	66	Dry bottor	Coal	1	4574065	5064137	4634310	2665802	4278592	4574065	5064137	4634310	2665802	4278592	YES	4757504	1029610765	376.7745745	377
Western Ky Ene	Robert Reid	1383	RT	72	Combusti	Diesel Oil	0.6	18868	65605	19905	77662	37984	11321	39363	11943	46597	22790	YES	36250	1029610765	2.870849573	3
East Ky Power	John S. Cooper	1384	1	100	Dry bottor	Coal	1	6938513	7267099	7033241	7654370	6433097	6938513	7267099	7033241	7654370	6433097	YES	7318237	1029610765	579.5740018	580
East Ky Power	John S. Cooper	1384	2	221	Dry bottor	Coal	1	14368103	13921429	12067456	14947399	12941963	14368103	13921429	12067456	14947399	12941963	YES	14412310	1029610765	1141.395145	1141

ANNUAL NOx ALLOCATIONS FOR 2009-2014

COMPANY	PLANT NAME	ORISPI	UNITID	GENERATOR NAMEPLATE CAPACITY (MWe)	UNIT TYPE	PRIMARY FUEL	HEAT INPUT** FUEL ADJUST. FACTOR	EPA 2001*** ANNUAL HEAT INPUT (MMBTU)	EPA 2002*** ANNUAL HEAT INPUT (MMBTU)	2003*** ANNUAL HEAT INPUT (MMBTU)	2004*** ANNUAL HEAT INPUT (MMBTU)	2005*** ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2001 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2002 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2003 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2004 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2005 ANNUAL HEAT INPUT (MMBTU)	BASLINE**** HEAT INPUT ESTAB.	AVERAGE OF THREE HIGHEST YEARS HEAT INPUT (MMBTU)	SUM TOTAL OF HIGH THREE AVERAGE HEAT INPUT (MMBTU)	KY TOTAL 2009-2014 CONTROL PERIOD CAIR EGU NOx ANNUAL ALLOWANCES (ANNUAL TONS) (BEFORE ROUNDING)	FINAL KY TOTAL 2009-2014* CONTROL PERIOD CAIR EGU NOx ANNUAL ALLOWANCES (ANNUAL TONS) (ROUNDED)
East Ky Power	William C. Dale	1385	1******		Dry bottor	Coal	1	1662153	1805320	1828411	1799833	1791108	1662153	1805320	1828411	1799833	1791108	YES	1811188	1029610765	143.4385737	143
East Ky Power	William C. Dale	1385	2******		Dry bottor	Coal	1	1662152	1805320	1828410	1799833	1791108	1662152	1805320	1828410	1799833	1791108	YES	1811188	1029610765	143.4385737	143
East Ky Power	William C. Dale	1385	3	80	Dry bottor	Coal	1	4963930	5351628	5215628	4850598	5178578	4963930	5351628	5215628	4850598	5178578	YES	5248611	1029610765	415.668211	416
East Ky Power	William C. Dale	1385	4	80	Dry bottor	Coal	1	5154778	5404493	5379867	5335489	5754198	5154778	5404493	5379867	5335489	5754198	YES	5512853	1029610765	436.5950808	437
East Ky Power	ith Generating Fac	54	SCT1	120	Combusti	peline Natural Ga	0.4	437252	618389	399587	444625	271568	174901	247356	159835	177850	108627	YES	200036	1029610765	15.84202111	16
East Ky Power	ith Generating Fac	54	SCT2	120	Combusti	peline Natural Ga	0.4	497415	476100	467327	663087	1112506	198966	190440	186931	265235	445002	YES	303068	1029610765	24.00172796	24
East Ky Power	ith Generating Fac	54	SCT3	120	Combusti	peline Natural Ga	0.4	558316	1251976	599508	560674	430487	223326	500790	239803	224270	172195	YES	321621	1029610765	25.47104857	25
East Ky Power	ith Generating Fac	54	SCT4	90	Combusti	peline Natural Ga	0.4	35539	874390	349459	371162	1441839	14216	349756	139784	148465	576736	YES	358319	1029610765	28.37737788	28
East Ky Power	ith Generating Fac	54	SCT5	90	Combusti	peline Natural Ga	0.4	22285	805927	231472	274544	745682	8914	322371	92589	109818	298273	YES	243487	1029610765	19.28316	19
East Ky Power	ith Generating Fac	54	SCT6	N	Combusti	peline Natural Ga	0.4	0	0	0	189719	1382978	0	0	0	75888	553191	NO	209693	1029610765	16.60681543	17
East Ky Power	ith Generating Fac	54	SCT7	N	Combusti	peline Natural Ga	0.4	0	0	0	86236	1058525	0	0	0	34494	423410	NO	152635	1029610765	12.08805861	12
Dynegy	s Generating Com	55164	GTG1	208	Combusti	peline Natural Ga	0.4	0	354423	15586	385	163121	0	141769	6234	154	65248	NO	71084	1029610765	5.629557822	6
Dynegy	s Generating Com	55164	GTG2	208	Combusti	peline Natural Ga	0.4	0	484752	15505	519	170274	0	193901	6202	208	68110	NO	89404	1029610765	7.080425799	7
Dynegy	s Generating Com	55164	GTG3	208	Combusti	peline Natural Ga	0.4	0	388336	10583	511	237352	0	155334	4233	204	94941	NO	84836	1029610765	6.718659155	7
Dynegy	ide Generating Co	55198	GTG101	208	Combusti	peline Natural Ga	0.4	216767	641981	43258	8912	136998	86707	256792	17303	3565	54799	YES	132766	1029610765	10.51451626	11
Dynegy	ide Generating Co	55198	GTG201	208	Combusti	peline Natural Ga	0.4	120701	815694	34569	1593	162625	48280	326278	13828	637	65050	YES	146536	1029610765	11.60504312	12
Dynegy	ide Generating Co	55198	GTG301	208	Combusti	peline Natural Ga	0.4	98119	670649	22520	1139	87639	39248	268260	9008	456	35056	YES	114188	1029610765	9.043215753	9
Dynegy	ide Generating Co	55198	GTG401	208	Combusti	peline Natural Ga	0.4	0	428785	62544	9338	185283	0	171514	25018	3735	74113	NO	90215	1029610765	7.144653634	7
Dynegy	ide Generating Co	55198	GTG501	208	Combusti	peline Natural Ga	0.4	0	364399	56079	526	159397	0	145760	22432	210	63759	NO	77317	1029610765	6.123185557	6
KGen Marshall	KGen Marshall LL(	55232	CT1	80	Combusti	peline Natural Ga	0.4	0	43228	0	0	0	0	17291	0	0	0	NO	5764	1029610765	0.456484881	0
KGen Marshall	KGen Marshall LL(	55232	CT2	80	Combusti	peline Natural Ga	0.4	0	27509	0	0	0	0	11004	0	0	0	NO	3668	1029610765	0.290490379	0
KGen Marshall	KGen Marshall LL(	55232	CT3	80	Combusti	peline Natural Ga	0.4	0	57959	0	0	0	0	23184	0	0	0	NO	7728	1029610765	0.612025531	1
KGen Marshall	KGen Marshall LL(	55232	CT4	80	Combusti	peline Natural Ga	0.4	0	213592	0	0	0	0	85437	0	0	0	NO	28479	1029610765	2.25541862	2
KGen Marshall	KGen Marshall LL(	55232	CT5	80	Combusti	peline Natural Ga	0.4	0	46913	0	0	0	0	18765	0	0	0	NO	6255	1029610765	0.495370044	0
KGen Marshall	KGen Marshall LL(	55232	CT6	80	Combusti	peline Natural Ga	0.4	0	35227	0	0	0	0	14091	0	0	0	NO	4697	1029610765	0.371982909	0
KGen Marshall	KGen Marshall LL(	55232	CT7	80	Combusti	peline Natural Ga	0.4	0	31884	0	0	0	0	12754	0	0	0	NO	4251	1029610765	0.33666156	0
KGen Marshall	KGen Marshall LL(	55232	CT8	80	Combusti	peline Natural Ga	0.4	0	32900	0	0	0	0	13160	0	0	0	NO	4387	1029610765	0.347432195	0
Cincinnati Gas &	East Bend	6018	2	669	Dry bottor	Coal	1	41652715	34859949	48254884	42149047	35725528	41652715	34859949	48254884	42149047	35725528	YES	44018882	1029610765	3486.112789	3486
East Ky Power	H L Spurlock	6041	1	305	Dry bottor	Coal	1	21961440	22549559	19600617	13256731	20888541	21961440	22549559	19600617	13256731	20888541	YES	21799847	1029610765	1726.457419	1726
East Ky Power	H L Spurlock	6041	2	508	Tangentia	Coal	1	34206534	39145381	35915897	38430056	37098929	34206534	39145381	35915897	38430056	37098929	YES	38224789	1029610765	3027.244667	3027
East Ky Power	H L Spurlock	6041	3	N	Circulatin	Coal	1	0	0	0	632933	16544679	0	0	0	632933	16544679	NO	5725871	1029610765	453.4652225	453
KU & LG&E	Trimble County	6071	1	566	Tangentia	Coal	1	35325763	39376526	33269610	39017887	34950978	35325763	39376526	33269610	39017887	34950978	YES	37906725	1029610765	3002.055318	3002
KU & LG&E	Trimble County	6071	10	N	Combusti	peline Natural Ga	0.4	0	0	0	148872	1050053	0	0	0	59549	420021	NO	159857	1029610765	12.66001104	13
KU & LG&E	Trimble County	6071	5	160	Combusti	peline Natural Ga	0.4	0	954307	413783	227511	101320	0	381723	165513	91004	40528	NO	212747	1029610765	16.84867956	17
KU & LG&E	Trimble County	6071	6	160	Combusti	peline Natural Ga	0.4	0	918233	319756	263473	262201	0	367293	127902	105389	104880	NO	200195	1029610765	15.85461325	16
KU & LG&E	Trimble County	6071	7	N	Combusti	peline Natural Ga	0.4	0	0	0	228216	519097	0	0	0	91286	207639	NO	99642	1029610765	7.891232914	8
KU & LG&E	Trimble County	6071	8	N	Combusti	peline Natural Ga	0.4	0	0	0	140407	915457	0	0	0	56163	366183	NO	140782	1029610765	11.1493502	11
KU & LG&E	Trimble County	6071	9	N	Combusti	peline Natural Ga	0.4	0	0	0	180551	548417	0	0	0	72220	219367	NO	97196	1029610765	7.697519865	8
Western Ky Ene	R D Green	6639	G1	242	Dry bottor	Coal	1	17356493	19045042	18711596	19719635	20804162	17356493	19045042	18711596	19719635	20804162	YES	19856280	1029610765	1572.534978	1573
Western Ky Ene	R D Green	6639	G2	242	Dry bottor	Coal	1	18678247	19560880	18545512	20222840	18985387	18678247	19560880	18545512	20222840	18985387	YES	19589702	1029610765	1551.423107	1551
Western Ky Ene	D B Wilson	6823	W1	440	Dry bottor	Coal	1	41371028	36598532	33425613	39448180	40766898	41371028	36598532	33425613	39448180	40766898	YES	40528702	1029610765	3209.705016	3210
																			1029610765			
																						81537
																						1668
																						83205

Attachment 4

Kentucky Early Reduction Credits (ERCs)

FINAL KENTUCKY AVAILABLE EARLY REDUCTION CREDITS (ERCs)* FOR APPLICABLE KENTUCKY CAIR ANNUAL NOX TRADING PROGRAM UNITS PURSUANT TO 401 KAR 51:210
(Calculated Using 2001-2005 Annual Heat Input Data***)

ST	PS ST ID	FIPS CTNY ID	COMPANY	PLANT_NAME	ORISPL	KENTUCKY CAIR EGU ANNUAL NOX COMPLIANCE SUPPLEMENT POOL (CSP) (ANNUAL TONS)	UNITID	GENERATOR NAMEPLATE CAPACITY (MWe)	UNIT TYPE	PRIMARY FUEL	HEAT INPUT** ADJUSTMENT FACTOR	EPA 2001*** ANNUAL HEAT INPUT (MMBTU)	EPA 2002*** ANNUAL HEAT INPUT (MMBTU)	2003*** ANNUAL HEAT INPUT (MMBTU)	2004*** ANNUAL HEAT INPUT (MMBTU)	2005*** ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2001 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2002 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2003 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2004 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2005 ANNUAL HEAT INPUT (MMBTU)	UNIT **** COMMENCING OPERATION BEFORE JANUARY 1, 2001	BASLINE**** HEAT INPUT ESTABLISHED	AVERAGE OF THREE HIGHEST YEARS HEAT INPUT (MMBTU)	SUM TOTAL OF HIGH THREE AVERAGE HEAT INPUT (MMBTU)	KY EARLY REDUCTION CREDITS (ERCs) AVAILABLE (ANNUAL TONS) (BEFORE ROUNDING)	FINAL KY EARLY REDUCTION CREDITS (ERCs) AVAILABLE (ANNUAL TONS) (ROUNDED)
KY	21	127	American Electric Power	Big Sandy	1353	14935	BSU1	281	Dry botto	Coal	1	17802942	14847674	16854709	12653074	14338702	17802942	14847674	16854709	12653074	14338702	YES	YES	16501775	1018287973	242.0278115	242
KY	21	127	American Electric Power	Big Sandy	1353	14935	BSU2	816	Dry botto	Coal	1	52203394	37719242	41246314	44962998	53422103	52203394	37719242	41246314	44962998	53422103	YES	YES	50196165	1018287973	736.2158291	736
KY	21	167	KU & LG&E	E W Brown	1355	14935	1	114	Dry botto	Coal	1	6889703	6829953	7432074	6983251	6964790	6889703	6829953	7432074	6983251	6964790	YES	YES	7126705	1018287973	104.5257746	105
KY	21	167	KU & LG&E	E W Brown	1355	14935	10	110	Combust	peline Natural G	0.4	219244	279363	63452	26074	34394	87698	111745	25381	10430	13758	YES	YES	74941	1018287973	1.099142742	1
KY	21	167	KU & LG&E	E W Brown	1355	14935	11	110	Combust	peline Natural G	0.4	137948	164866	30870	30713	35089	55179	65946	12348	12285	14036	YES	YES	45054	1018287973	0.660796855	1
KY	21	167	KU & LG&E	E W Brown	1355	14935	2	180	Tangenti	Coal	1	8143248	9298038	11171090	10301801	10973877	8143248	9298038	11171090	10301801	10973877	YES	YES	10815589	1018287973	158.6298041	159
KY	21	167	KU & LG&E	E W Brown	1355	14935	3	446	Tangenti	Coal	1	24795511	23176171	28418079	23742966	16385071	24795511	23176171	28418079	23742966	16385071	YES	YES	25652185	1018287973	376.2348109	376
KY	21	167	KU & LG&E	E W Brown	1355	14935	5	145	Combust	peline Natural G	0.4	683514	923895	37865	11859	1556537	273406	369558	15146	4744	622615	NO	YES	0	1018287973	0	0
KY	21	167	KU & LG&E	E W Brown	1355	14935	6	177	Combust	peline Natural G	0.4	78794	1260093	236013	159139	1945085	31518	504037	94405	63656	778034	YES	YES	458825	1018287973	6.729482776	7
KY	21	167	KU & LG&E	E W Brown	1355	14935	7	177	Combust	peline Natural G	0.4	559765	918464	186947	262331	1807410	223906	367386	74779	104932	722964	YES	YES	438085	1018287973	6.425293874	6
KY	21	167	KU & LG&E	E W Brown	1355	14935	8	110	Combust	Diesel Oil	0.4	572036	504728	85396	13372	56025	228814	201891	34158	5349	22410	YES	YES	154954	1018287973	2.272675364	2
KY	21	167	KU & LG&E	E W Brown	1355	14935	9	110	Combust	Diesel Oil	0.4	344687	373772	62540	22563	38199	137875	149509	25016	9025	15280	YES	YES	104133	1018287973	1.527295221	2
KY	21	041	KU & LG&E	Ghent	1356	14935	1	557	Tangenti	Coal	1	39788760	33865535	35100337	33447166	37402490	39788760	33865535	35100337	33447166	37402490	YES	YES	37430529	1018287973	548.9851255	549
KY	21	041	KU & LG&E	Ghent	1356	14935	2	556	Tangenti	Coal	1	31094915	30417850	29645864	28207308	27381043	31094915	30417850	29645864	28207308	27381043	YES	YES	30386210	1018287973	445.6676877	446
KY	21	041	KU & LG&E	Ghent	1356	14935	3	557	Dry botto	Coal	1	31224720	32033562	23600021	28475370	30655764	31224720	32033562	23600021	28475370	30655764	YES	YES	31304682	1018287973	459.1387094	459
KY	21	041	KU & LG&E	Ghent	1356	14935	4	556	Dry botto	Coal	1	32694533	22798417	28994728	30710533	31763688	32694533	22798417	28994728	30710533	31763688	YES	YES	31722918	1018287973	465.2728824	465
KY	21	177	KU & LG&E	Green River*****	1357	14935	1	37.5	Dry botto	Coal	1	491041	406118	244510	0	0	491041	406118	244510	0	0	YES	NO	0	1018287973	0	0
KY	21	177	KU & LG&E	Green River*****	1357	14935	2	37.5	Dry botto	Coal	1	461533	411266	312743	0	0	461533	411266	312743	0	0	YES	NO	0	1018287973	0	0
KY	21	177	KU & LG&E	Green River*****	1357	14935	3	37.5	Dry botto	Coal	1	406490	334050	218016	0	0	406490	334050	218016	0	0	YES	NO	0	1018287973	0	0
KY	21	177	KU & LG&E	Green River	1357	14935	4	75	Dry botto	Coal	1	4609609	2825661	3760322	3923034	4441837	4609609	2825661	3760322	3923034	4441837	YES	YES	4324827	1018287973	63.43126204	63
KY	21	177	KU & LG&E	Green River	1357	14935	5	114	Dry botto	Coal	1	5933060	5091515	3694847	4816026	3335088	5933060	5091515	3694847	4816026	3335088	YES	YES	5280200	1018287973	77.44350232	77
KY	21	013	KU & LG&E	Pineville*****	1360	14935	3	37.5	Dry botto	Coal	1	1650641	0	0	0	0	1650641	0	0	0	0	YES	NO	0	1018287973	0	0
KY	21	239	KU & LG&E	Tyrone	1361	14935	1	31.3	Dry botto	Diesel Oil	0.6	1455	0	0	0	0	873	0	0	0	0	YES	NO	0	1018287973	0	0
KY	21	239	KU & LG&E	Tyrone	1361	14935	2	31.3	Dry botto	Diesel Oil	0.6	1433	53	0	0	0	860	32	0	0	0	YES	NO	0	1018287973	0	0
KY	21	239	KU & LG&E	Tyrone	1361	14935	3	31.3	Dry botto	Diesel Oil	0.6	1502	0	0	0	0	901	0	0	0	0	YES	NO	0	1018287973	0	0
KY	21	239	KU & LG&E	Tyrone	1361	14935	4	31.3	Dry botto	Diesel Oil	0.6	1262	0	0	0	0	757	0	0	0	0	YES	NO	0	1018287973	0	0
KY	21	239	KU & LG&E	Tyrone	1361	14935	5	75	Dry botto	Coal	1	3875270	3636433	3470885	3081364	4561802	3875270	3636433	3470885	3081364	4561802	YES	YES	4024502	1018287973	59.02646301	59
KY	21	111	KU & LG&E	Cane Run	1363	14935	4	163	Dry botto	Coal	1	10794589	10438996	10539158	8744885	11616391	10794589	10438996	10539158	8744885	11616391	YES	YES	10983379	1018287973	161.0907422	161
KY	21	111	KU & LG&E	Cane Run	1363	14935	5	209	Dry botto	Coal	1	11069450	11388214	10414830	9106646	10794524	11069450	11388214	10414830	9106646	10794524	YES	YES	11084063	1018287973	162.5674517	163
KY	21	111	KU & LG&E	Cane Run	1363	14935	6	272	Tangenti	Coal	1	13748599	9632307	14563168	14325956	16263413	13748599	9632307	14563168	14325956	16263413	YES	YES	15050846	1018287973	220.7473632	221
KY	21	111	KU & LG&E	Mill Creek	1364	14935	1	356	Tangenti	Coal	1	22255762	19079190	18001102	17049959	20157853	22255762	19079190	18001102	17049959	20157853	YES	YES	20497602	1018287973	300.6337048	301
KY	21	111	KU & LG&E	Mill Creek	1364	14935	2	356	Tangenti	Coal	1	20077207	18954850	16757279	19570983	18185459	20077207	18954850	16757279	19570983	18185459	YES	YES	19534347	1018287973	286.505861	287
KY	21	111	KU & LG&E	Mill Creek	1364	14935	3	463	Dry botto	Coal	1	31118559	23838086	26342013	22942338	29907175	31118559	23838086	26342013	22942338	29907175	YES	YES	29122582	1018287973	427.1343409	427
KY	21	111	KU & LG&E	Mill Creek	1364	14935	4	544	Dry botto	Coal	1	27578637	31325831	30906021	35452977	32152848	27578637	31325831	30906021	35452977	32152848	YES	YES	32977219	1018287973	483.6694322	484
KY	21	111	KU & LG&E	Paddy's Run	1366	14935	12	29	Combust	Natural Gas	0.4	0	0	2914	0	0	0	0	1166	0	0	YES	NO	0	1018287973	0	0
KY	21	111	KU & LG&E	Paddy's Run	1366	14935	13	151	Combust	peline Natural G	0.4	463048	1022208	282443	301811	1312104	185219	408883	112977	120724	524842	NO	YES	0	1018287973	0	0
KY	21	101	Henderson Power & Light	Henderson I	1372	14935	6	32.3	Stoker	Coal	1	305426	148706	68565	0	772726	305426	148706	68565	0	772726	YES	NO	0	1018287973	0	0
KY	21	059	Owensboro Mun. Utility	Elmer Smith	1374	14935	1	151	Cyclone I	Coal	1	14000079	9425162	11422449	11650483	11288650	14000079	9425162	11422449	11650483	11288650	YES	YES	12357670	1018287973	181.2471583	181
KY	21	059	Owensboro Mun. Utility	Elmer Smith	1374	14935	2	265	Tangenti	Coal	1	21788581	17608433	17866345	19547296	15532562	21788581	17608433	17866345	19547296	15532562	YES	YES	19734074	1018287973	289.4352119	289
KY	21	177	TVA	Paradise	1378	14935	1	704	Cyclone I	Coal	1	51202415	43369993	33795213	51309080	43191734	51202415	43369993	33795213	51309080	43191734	YES	YES	48627163	1018287973	713.2036307	713
	21	177	TVA	Paradise	1378	14935	2	704	Cyclone I	Coal	1	46164253	58269001	43512272	41786049	53241516	46164253	58269001	43512272	41786049	53241516	YES	YES	52558257	1018287973	770.8600996	771
	21	177	TVA	Paradise	1378	14935	3	1150	Cyclone I	Coal	1	57906969	57718638	61701359	52061207	46316269	57906969	57718638	61701359	52061207	46316269	YES	YES	59108989	1018287973	866.9382082	867
	21	145	TVA	Shawnee	1379	14935	1	175	Dry botto	Coal	1	9639959	10894691	11192055	10121435	9598840	9639959	10894691	11192055	10121435	9598840	YES	YES	10736060	1018287973	157.4633702	157
KY	21	145	TVA	Shawnee	1379	14935	10	175	Other boi	Coal	1	8987433	7004641	9658375	10109194	9609417	8987433	7004641	9658375	10109194	9609417	YES	YES	9792329	1018287973	143.6218805	144
KY	21	145	TVA	Shawnee	1379	14935	2	175	Dry botto	Coal	1	10610282	10499937	9686162	10286199	9664872	10610282	10499937	9686162	10286199	9664872	YES	YES	10465473	1018287973	153.4947317	153
KY	21	145	TVA	Shawnee	1379	14935	3	175	Dry botto	Coal	1	11013277	11481402	10675236	10253148	9289393	11013277	11481402	10675236	10253148	9289393	YES	YES	11056638	1018287973	162.1652154	162
KY	21	145	TVA	Shawnee	1379	14935	4	175	Dry botto	Coal	1	10209386	10783737	10646874	8898284	10631377	10209386	10783737	10646874	8898284	10631377	YES	YES	10687329	1018287973	156.7486437	157
KY	21	145	TVA	Shawnee	1379	14935	5	175	Dry botto	Coal	1	9117514	10806620	10801203	9092535	10796678	9117514	10806620	10801203	9092535	10796678	YES	YES	10801500	1018287973	158.423164	158
KY	21	145	TVA	Shawnee	1379	14935	6	175	Dry botto	Coal	1	9804642	10333453	10034841	10680872	10994284	9804642	10333453	10034841	10680872	10994284	YES	YES	10669536	1018287973	156.4876777	156
KY	21	145	TVA	Shawnee	1379	14935	7	175	Dry botto	Coal	1	11744878	11459182	11660871	10281052	9670610	11744878	11459182	11660871	10281052	9670610	YES	YES	11621644	1018287973	170.452031	170
KY	21	145	TVA	Shawnee	1379	14935	8	175	Dry botto	Coal	1	11111708	11997369	11149095	10364396	10587128	11111708	11997369	11149095	10364396	10587128	YES	YES	11419391	1018287973	167.4856319	167
KY	21	145	TVA	Shawnee	1379	14935	9	175	Dry botto	Coal	1	10823868	11640656	10855722	8963225	10952655	10823868	11640656	10855722	8963225	10952655	YES	YES	11149678	1018287973	163.5298121	164
KY	21	091	Western Ky Energy	Coleman	1381	14935	C1	160	Dry botto	Coal	1	11971180	10773315	11178065	10865676	10409048	11971180	10773315	11178065	10865676	10409048	YES	YES	11338307	1018287973	166.2963911	166
KY	21	091	Western Ky Energy	Coleman	1381	14935	C2	160	Dry botto	Coal	1	11557927	11107134	11337516	11258617	10532631	11557927	11107134	11337516	11258617	10532631	YES	YES	11384687	1018287973	166.9766361	167
KY	21	091	Western Ky Energy	Coleman	1381	14935	C3	160	Dry botto	Coal	1	11061094	10532515	8692815	10654701	11599036	11061094	10532515	8692815	10654701	11599036	YES	YES	11104944	1018287973	162.8737087	163
KY	21	233	Western Ky Energy	HMP&L Station 2	1382	14935	H1	176	Dry botto	Coal	1	12115550	12113416	9765884	12324335	11054419	12115550	12113416	9765884	12324335	11054419	YES	YES	12184434	1018287973	178.706345	179
KY	21	233	Western Ky Energy	HMP&L Station 2	1382	14935	H2	179	Dry botto	Coal	1	12004888	12063843	11620977	11362715	13550549	12004888	12063843	11620977	11362715	13550549	YES	YES	12539760	1018287973	183.9178313	184
KY	21	233	Western Ky Energy	Robert Reid	1383	14935	R1	66	Dry botto	Coal	1	4574065	5064137	4634310	2665802	4278592	4574065	5064137	4634310	2665802	4278592	YES	YES	4757504	1018287973	69.777238	70
KY	21	233	Western Ky Energy	Robert Reid	1383	14935	RT	72	Combust	Diesel Oil	0.6	18868	65605	19905	77662	37984	11321	39363	11943	46597	22790	YES	YES	36250	1018287973	0.531670573	1
KY	21	199	East Ky Power	John S. Cooper	1384	14935	1	100	Dry botto	Coal	1	6938513	7267099	7033241	7654370	6433097	6938513	7267099	7033241	7654370	6433097	YES	YES	7318237	1018287973	107.3349313	107
KY	21	199	East Ky Power	John S. Cooper	1384	14935	2	221	Dry botto	Coal	1	14368103	13921429	12067456	14947399	12941963	14368103	13921429	12067456	14947399	12941963	YES	YES	14412310	1018287973	211.3820997	211
KY	21	049	East Ky Power	William C. Dale	1385	14935	1******		Dry botto	Coal	1	1662153	1805320	1828411	1799833	1791108	1662153	1805320	1828411	1799833	1791108	YES	YES	1811188	1018287973	26.56428584	27
KY	21	049	East Ky Power	William C. Dale	1385	14935	2******		Dry botto	Coal	1	1662152	1805320	1828410	1799833	1791108	1662152	1805320	1828410	1799833	1791108	YES	YES	1811188	1018287973	26.56428584	27
KY	21	049	East Ky Power	William C. Dale	1385	14935	3	80	Dry botto	Coal	1	4963930	5351628	5215628	4850598	5178578	4963930	5351628	5215628	4850598	5178578	YES	YES	5248611	1018287973	76.98019358	77
KY	21	049	East Ky Power	William C. Dale	1385	14935	4	80	Dry botto	Coal	1	5154778	5404493	5379867	5335489	5754198	5154778	5404493	5379867	5335489	5754198	YES	YES	5512853	1018287973	80.85577139	81
KY	21	049	East Ky Power	ith Generating Fa	54	14935	SCT1	120	Combust	peline Natural G	0.4	437252	618389	399587	444625	271568	174901	247356	159835	177850	108627	YES	YES	200036	1018287973	2.933882889	3
KY	21	049	East Ky Power	ith Generating Fa	54	14935	SCT2	120	Combust	peline Natural G	0.4	497415	476100	467327	663087	1112506	198966	190440	186931	265235	445002	YES	YES	303068	1018287973	4.445029992	4
KY	21	049	East Ky Power	ith Generating Fa	54	14935	SCT3	120	Combust	peline Natural G	0.4	558316	1251976	599508	560674	430487	223326	500790	239803	224270	172195	YES	YES	321621	1018287973	4.717142657	5
KY	21	049	East Ky Power	Smith Generating	54	14935	SCT4	90	Combust	peline Natural G	0.4	35539	874390	349459	371162	1441839	14216	349756	139784	148465	576736	NO	YES	0	1018287973	0	0
KY	21	049	East Ky Power	Smith Generating	54	14935	SCT5	90	Combust	peline Natural G	0.4	22285	805927	231472	274544	745682	8914	322371	92589	109818	298273	NO	YES	0	1018287973	0	0
KY	21	049	East Ky Power	ith Generating Fa	54	14935	SCT6	N	Combust	peline Natural G	0.4	0	0	0	189719	1382978	0	0	0	75888	553191	NO	NO	0	1018287973	0	0
KY	21	049	East Ky Power	ith Generating Fa	54	14935	SCT7	N	Combust	peline Natural G	0.4	0	0	0	86236	1058525	0	0	0	34494	423410	NO	NO	0	1018287973	0	0
KY	21	185	Dynegy	Bluegrass Gener	55164	14935	GTG1	208	Combust	peline Natural G	0.4	0	354423	15586	385	163121	0	141769	6234	154	65248	NO	NO	0	1018287973	0	0
KY	21	185	Dynegy	Bluegrass Gener	55164	14935	GTG2	208	Combust	peline Natural G	0.4	0	484752	15505	519	170274	0	193901	6202	208	68110	NO	NO	0	1018287973	0	0
KY	21	185	Dynegy	Bluegrass Gener	55164	14935	GTG3	208	Combust	peline Natural G	0.4	0	388336	10583	511	237352	0	155334	4233	204	94941	NO	NO	0	1018287973	0	0
KY	21	127	Dynegy	Riverside Genera	55198	14935	GTG101	208	Combust	peline Natural G	0.4	216767	641981	43258	8912	136998	86707	256792	17303	3565	54799	NO	YES	0	1018287973	0	0
KY	21	127	Dynegy	Riverside Genera	55198	14935	GTG201	208	Combust	peline Natural G	0.4	120701	815694	34569	1593	162625	48280	326278	13828	637	65050	NO	YES	0	1018287973	0	0
KY	21	127	Dynegy	Riverside Genera	55198	14935	GTG301	208	Combust	peline Natural G	0.4	98119	670649	22520	1139	87639	39248	268260	9008	456	35056	NO	YES	0	1018287973	0	0
KY	21	127	Dynegy	Riverside Genera	55198	14935	GTG401	208	Combust	peline Natural G	0.4	0	428785	62544	9338	185283	0	171514	25018	3735	74113	NO	NO	0	1018287973	0	0
KY	21	127	Dynegy	Riverside Genera	55198	14935	GTG501	208	Combust	peline Natural G	0.4	0	364399	56079	526	159397	0	145760	22432	210	63759	NO	NO	0	1018287973	0	0
KY	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT1	80	Combust	peline Natural G	0.4	0	43228	0	0	0	0	17291	0	0	0	NO	NO	0	1018287973	0	0
KY	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT2	80	Combust	peline Natural G	0.4	0	27509	0	0	0	0	11004	0	0	0	NO	NO	0	1018287973	0	0
KY	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT3	80	Combust	peline Natural G	0.4	0	57959	0	0	0	0	23184	0	0	0	NO	NO	0	1018287973	0	0
KY	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT4	80	Combust	peline Natural G	0.4	0	213592	0	0	0	0	85437	0	0	0	NO	NO	0	1018287973	0	0
KY	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT5	80	Combust	peline Natural G	0.4	0	46913	0	0	0	0	18765	0	0	0	NO	NO	0	1018287973	0	0
	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT6	80	Combust	peline Natural G	0.4	0	35227	0	0	0	0	14091	0	0	0	NO	NO	0	1018287973	0	0
	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT7	80	Combust	peline Natural G	0.4	0	31884	0	0	0	0	12754	0	0	0	NO	NO	0	1018287973	0	0
	21	157	KGen Marshall LLC	KGen Marshall LL	55232	14935	CT8	80	Combust	peline Natural G	0.4	0	32900	0	0	0	0	13160	0	0	0	NO	NO	0	1018287973	0	0
KY	21	015	Cincinnati Gas & Electric	East Bend	6018	14935	2	669	Dry botto	Coal	1	41652715	34859949	48254884	42149047	35725528	41652715	34859949	48254884	42149047	35725528	YES	YES	44018882	1018287973	645.6150127	646
KY	21	161	East Ky Power	H L Spurlock	6041	14935	1	305	Dry botto	Coal	1	21961440	22549559	19600617	13256731	20888541	21961440	22549559	19600617	13256731	20888541	YES	YES	21799847	1018287973	319.7334385	320
KY	21	161	East Ky Power	H L Spurlock	6041	14935	2	508	Tangenti	Coal	1	34206534	39145381	35915897	38430056	37098929	34206534	39145381	35915897	38430056	37098929	YES	YES	38224789	1018287973	560.6343577	561
KY	21	161	East Ky Power	H L Spurlock	6041	14935	3	N	Circulatin	Coal	1	0	0	0	632933	16544679	0	0	0	632933	16544679	NO	NO	0	1018287973	0	0
KY	21	223	KU & LG&E	Trimble County	6071	14935	1	566	Tangenti	Coal	1	35325763	39376526	33269610	39017887	34950978	35325763	39376526	33269610	39017887	34950978	YES	YES	37906725	1018287973	555.9693848	556
KY	21	223	KU & LG&E	Trimble County	6071	14935	10	N	Combust	peline Natural G	0.4	0	0	0	148872	1050053	0	0	0	59549	420021	NO	NO	0	1018287973	0	0

FINAL KENTUCKY AVAILABLE EARLY REDUCTION CREDITS (ERCs)* FOR APPLICABLE KENTUCKY CAIR ANNUAL NOX TRADING PROGRAM UNITS PURSUANT TO 401 KAR 51:210
(Calculated Using 2001-2005 Annual Heat Input Data***)

ST	IPS ST ID	FIPS CTNY ID	COMPANY	PLANT_NAME	ORISPL	KENTUCKY CAIR EGU ANNUAL NOX COMPLIANCE SUPPLEMENT POOL (CSP) (ANNUAL TONS)	UNITID	GENERATOR NAMEPLATE CAPACITY (MWe)	UNIT TYPE	PRIMARY FUEL	HEAT INPUT** FUEL ADJUSTMENT FACTOR	EPA 2001*** ANNUAL HEAT INPUT (MMBTU)	EPA 2002*** ANNUAL HEAT INPUT (MMBTU)	2003*** ANNUAL HEAT INPUT (MMBTU)	2004*** ANNUAL HEAT INPUT (MMBTU)	2005*** ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2001 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** EPA 2002 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2003 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2004 ANNUAL HEAT INPUT (MMBTU)	ADJUSTED** 2005 ANNUAL HEAT INPUT (MMBTU)	UNIT **** COMMENCING OPERATION BEFORE JANUARY 1, 2001	BASLINE**** HEAT INPUT ESTABLISHED	AVERAGE OF THREE HIGHEST YEARS HEAT INPUT (MMBTU)	SUM TOTAL OF HIGH THREE AVERAGE HEAT INPUT (MMBTU)	KY EARLY REDUCTION CREDITS (ERCs) AVAILABLE (ANNUAL TONS) (BEFORE ROUNDING)	FINAL KY EARLY REDUCTION CREDITS (ERCs) AVAILABLE (ANNUAL TONS) (ROUNDED)
KY	21	223	KU & LG&E	Trimble County	6071	14935	5	160	Combust	peline Natural G	0.4	0	954307	413783	227511	101320	0	381723	165513	91004	40528	NO	NO	0	1018287973	0	0
KY	21	223	KU & LG&E	Trimble County	6071	14935	6	160	Combust	peline Natural G	0.4	0	918233	319756	263473	262201	0	367293	127902	105389	104880	NO	NO	0	1018287973	0	0
KY	21	223	KU & LG&E	Trimble County	6071	14935	7	N	Combust	peline Natural G	0.4	0	0	0	228216	519097	0	0	0	91286	207639	NO	NO	0	1018287973	0	0
KY	21	223	KU & LG&E	Trimble County	6071	14935	8	N	Combust	peline Natural G	0.4	0	0	0	140407	915457	0	0	0	56163	366183	NO	NO	0	1018287973	0	0
KY	21	223	KU & LG&E	Trimble County	6071	14935	9	N	Combust	peline Natural G	0.4	0	0	0	180551	548417	0	0	0	72220	219367	NO	NO	0	1018287973	0	0
KY	21	233	Western Ky Energy	R D Green	6639	14935	G1	242	Dry botto	Coal	1	17356493	19045042	18711596	19719635	20804162	17356493	19045042	18711596	19719635	20804162	YES	YES	19856280	1018287973	291.2275797	291
KY	21	233	Western Ky Energy	R D Green	6639	14935	G2	242	Dry botto	Coal	1	18678247	19560880	18545512	20222840	18985387	18678247	19560880	18545512	20222840	18985387	YES	YES	19589702	1018287973	287.3177403	287
KY	21	183	Western Ky Energy	D B Wilson	6823	14935	W1	440	Dry botto	Coal	1	41371028	36598532	33425613	39448180	40766898	41371028	36598532	33425613	39448180	40766898	YES	YES	40528702	1018287973	594.42533	594
																								1018287973			

FINAL TOTAL AVAILABLE KENTUCKY CAIR EGU ANNUAL NOX EARLY REDUCTION CREDITS (ERCs) (NOX ANNUAL TONS) 14935
DUE TO ROUNDING, REMAINING FINAL TOTAL KENTUCKY CAIR EGU ANNUAL NOX EARLY REDUCTION CREDITS (ERCs) (NOX ANNUAL TONS) 0
TOTAL KENTUCKY CAIR EGU ANNUAL NOX COMPLIANCE SUPPLEMENT POOL (CSP) FOR ERCS (NOX ANNUAL TONS) 14935

NOTES:

*1. PER 401 KAR 51:210, SECTION 4, AVAILABLE ANNUAL KENTUCKY CAIR EGU EARLY REDUCTION CREDITS (ERCs) WERE CALCULATED AS FOLLOWS
FOR UNITS COMMENCING OPERATION BEFORE JANUARY 1, 2001, AND THAT HAVE ESTABLISHED BASELINE HEAT INPUT FOR 2001-2005:
AVAILABLE ERC (TPY) = ((UNIT HIGH THREE ANNUAL AVERAGE ADJUSTED (BASELINE) HEAT INPUT / SUM TOTAL OF
HIGH THREE ANNUAL AVERAGE ADJUSTED (BASELINE) HEAT INPUT) X (KY COMPLIANCE SUPPLEMENT POOL (TPY))).

**2. ANNUAL HEAT INPUT WAS ADJUSTED BY MUTIPLYING THE ANNUAL HEAT INPUT BY THE HEAT INPUT ADJUSTMENT FACTOR BASED
ON THE UNIT'S PRIMARY FUEL.
PER 401 KAR 51:210, FOR COAL, OIL AND ANY OTHER FUEL THE HEAT INPUT ADJUSTMENT FACTOR IS 1.0, 0.6, AND 0.4 RESPECTIVELY.

***3. ANNUAL 2001-2005 HEAT INPUT DATA WAS OBTAINED FROM THE FOLLOWING EPA CLEAN AIR MARKETS DIVISION WEB SITE OR OTHER AVAILABLE DATA WAS UTILIZED FOR CAIR:
HTTP://CFPUB.EPA.GOV/GDM/INDEX.CFM?FUSEACTION=EMISSIONS.WIZARD.

****4. PER 401 KAR 51:210, EARLY REDUCTION CREDITS (ERCS) ARE MADE AVAILABLE TO CAIR ANNUAL NOX UNITS COMMENCING OPERATION BEFORE
JANUARY 1, 2001, AND HAVING OPERATED FOR FIVE CONSECUTIVE YEARS (2001-2005) IN ESTABLISHING ITS BASELINE HEAT INPUT.

*****5. APPLICABLE RETIRED UNITS INCLUDED.

******6. EKPC DALE UNITS 1 AND 2 HAVE BEEN INCLUDED.