BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
NITROGEN OXIDES EMISSIONS FROM	)	R08-19
VARIOUS SOURCE CATEGORIES:	)	(Rulemaking – Air)
AMENDMENTS TO 35 ILL. ADM. CODE	)	
PARTS 211 AND 217	)	

NOTICE

TO: John Therriault
Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph St., Suite 11-500
Chicago, IL 60601

SEE ATTACHED SERVICE LIST

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board the POST-HEARING COMMENTS OF THE ILLINOS ENVIRONMENTAL PROTECTION AGENCY, a copy of which is herewith served upon you.

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: _____

Gina Roccaforte
Assistant Counsel
Division of Legal Counsel

DATED: November 5, 2008

1021 North Grand Avenue East
P. O. Box 19276
Springfield, IL 62794-9276
217/782-5544

THIS FILING IS SUBMITTED ON RECYCLED PAPER

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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POST-HEARING COMMENTS OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

NOW COMES the Illinois Environmental Protection Agency ("Illinois EPA"), by its attorneys, and respectfully submits its post-hearing comments in the above rulemaking proceeding. Though the Illinois EPA responded to most every issue raised at the first hearing in this matter on the record during that proceeding, some outstanding issues remain to be addressed in these post-hearing comments.

Responses to Questions Raised During the October 14, 2008, Hearing

Question: *Directed to Mr. Kaleel, Question 3 from the Illinois Environmental Regulatory Group, inquiring about other states' NOx RACT emission limits that the Agency considered while formulating the rulemaking proposal.*

Answer: Please see Attachments 1 through 5 to these comments.

Question: *Directed to Mr. Kaleel, a follow-up question to Question 12 from the Illinois Environmental Regulatory Group, inquiring about heat recovery steam generators. If a heat recovery steam generator recovering heat from the exhaust of, A, process, B, turban [sic], or C, engine, is considered a boiler for proposed – for this proposed rule, then does the Agency intend to define the boiler's rated heat input capacity as a direct heat input to the heat recovery steam generator from combustion of fuel in the heat recovery steam generator – for example, from a duct burner – or does it intend to also include the heat input from the upstream process in the rated capacity? (Transcript, p. 65)*

Answer: The Illinois EPA reviewed the USEPA's regulations to control NOx emissions from combined cycle turbines where the exhaust from a turbine is captured in the heat recovery steam generator (see, 40 CFR 60, Subparts GG and KKKK). For the simplicity of the testing and monitoring of the NOx emissions, the Illinois EPA decided to treat a combustion turbine and heat recovery steam generator as a single unit. The supplemental heat input of the duct burner/heat recovery steam generator will be added to the heat input of the turbine. The combined heat input will be subject to the applicable NOx emission limit for turbines under Subpart Q of Part 217. Therefore, the NOx emissions will be tested/monitored after the

exhaust from the heat recovery steam generator and shall comply with the NOx emission limit for a turbine. However, the heat input of the duct burner/heat recovery steam generator shall not be added to the heat input of the turbine to increase the rated capacity of the turbine. Accordingly, the Illinois EPA proposes a revised definition of the term "industrial boiler" to exclude a heat recovery steam generator that captures waste heat from the upstream gas turbine as follows:

"Industrial boiler" means, for purposes of Part 217, an enclosed vessel in which water is heated and circulated either as hot water or as steam for heating or for power, or both. This term does not include a heat recovery steam generator that captures waste heat from a combustion turbine and boilers serving a generator that has a nameplate capacity greater than 25 MWe and produces electricity for sale, ~~and cogeneration units, as that term is defined in Section 225.130 of Part 225,~~ if such boilers ~~or cogeneration units are subject to~~ meet the applicability criteria under Subpart M of Part 217 ~~the CAIR NOx Trading Programs under Subpart D or E of Part 225~~.

(Please note this revised definition includes the amendatory provisions in response to Midwest Generation's Question 20 directed to Mr. Kaleel.)

Question: *Directed to Mr. Kaleel, a follow-up question to Question 12 from the Illinois Environmental Regulatory Group, inquiring about heat recovery steam generators. If the rated heat input capacity of the boiler is intended to include energy from the exhaust of an upstream unit, then how does the Agency anticipate resolving the NOx emissions and controls from the unit and from the heat recovery steam generator? (Transcript, p. 65)*

Answer: See response, above.

Question: *Directed to Mr. Kaleel, a follow-up question to Question 12 from the Illinois Environmental Regulatory Group, inquiring about heat recovery steam generators. [I]n this situation where you would have a heat recovery steam generator, would that unit be regulated under this proposal? (Transcript, p. 66) Would it perhaps be regulated under subpart Q? Would it be regulated here? Would it be regulated both places? (Transcript, p. 67)*

Answer: See response, above.

Question: *Directed to Mr. Kaleel, Question 12 from the Illinois Environmental Regulatory Group, requesting Tables C-2 and D-1 of the Technical Support Document in Microsoft Excel.*

Answer: On October 16, 2008, the Illinois EPA sent, via email, Tables C-2, D-1, E-1, F-1, G-1, H-1, and I-1 of the Technical Support Document in Microsoft Excel to the Clerk of the Illinois Pollution Control Board. Persons interested in these tables in Microsoft Excel format are directed to request them by contacting the Clerk's office, as indicated on the Board's web site.

Question: *Directed to Mr. Kaleel, from the Illinois Environmental Regulatory Group, inquiring about modeling information and what emission reductions were included in the model and if the reductions shown on the tables (Tables C-2 and D-1) were included.*

Answer: The attainment demonstration modeling accounted for NOx RACT reductions through the use of an emissions model. The emissions model approximates the emission reductions by identifying affected units through the use of Source Classification Codes (SCC), and then multiplying the base emission rate by a control factor. This modeling process yields emission reductions that are of the appropriate magnitude for the nonattainment area, but may not reflect the reductions shown in Table C-2 of the TSD for each emission unit. The details of the modeled emission reductions are available on LADCO's website: www.ladco.org.

Question: *Directed to Mr. Kaleel, from the Illinois Environmental Regulatory Group, requesting identification of other categories of units that do not exist in the nonattainment areas. Specifically, could the Agency identify any other categories or subcategories for which units do not currently exist in the non-attainment areas? (Transcript, p. 114)*

Answer: To confirm what was stated at hearing, cement kilns and aluminum furnaces are the only two categories of units that do not exist in the non-attainment areas.

Question: *Directed to Mr. Kaleel, from the Illinois Environmental Regulatory Group, inquiring about whether the reductions in Table C-2 of the Technical Support Document include units complying with the multi-pollutant standard or combined pollutant standards under Part 225.*

Answer: The estimated NOx RACT reductions in Table C-2 of the Technical Support Document are based upon a strict application of the proposed RACT emissions limitations for units in the non-attainment areas. Such reductions are not based upon application of the multi-pollutant standard or combined pollutant standards under Part 225.

Question: *Directed to Mr. Kaleel, from the Illinois Environmental Regulatory Group, requesting that all attachments to the Technical Support Document be made available for inspection at the Agency.*

Answer: All attachments to the Technical Support Document are available for inspection at the Illinois EPA's Springfield office.

Question: *Directed to Dr. Staudt, Mr. Dennis, Archer Daniels Midland, questioned the accuracy of the response to Question 34 from Midwest Generation as it relates to the boilers in terms of mmBtu heat input capacity, and the response has been amended.*

Answer: So, 100-600 hp boilers are in the range of 3,347,500 Btu/hr to about 20 million Btu/hr. The specific reference you have identified is in the section on combustion tuning (mostly of interest for small boilers) and relates to the cost of oxygen trim systems in the range of $6000-$7000 for boilers of that size. And, as noted in the TSD, for larger boilers the cost would be somewhat higher. Of course, 100-600 hp boilers are well below the size of boilers that are subject to emissions limitations. However, small boilers may be subject to the combustion tuning requirement, depending upon the emissions of the boiler.

Question: *Directed to Mr. Kaleel, from Midwest Generation, inquiring about the necessity of Section 217.141.*

Answer: Section 217.141 was originally promulgated by the Board in 1972 as Rule 207 and applied to both new and existing sources. (See, R71-23). The section has been amended and was recodified in 1983. The NOx limitations under Section 217.141 apply to any existing fuel combustion emission source with an actual heat input equal to or greater than 73.2 MW (250 mmbtu/hr), located in the Chicago or St. Louis (Illinois) major metropolitan areas. Currently, sources meeting the heat input criteria and located in these areas are subject to these NOx limitations. Accordingly, these limitations appear in sources' permits.

Question: *Directed to Mr. Kaleel, Question 13 from Midwest Generation, inquiring about the placement of the second sentence of Section 217.152(b) to another Section.*

Answer: The Illinois EPA is in agreement that it may be more appropriate to place the sentence in another section, e.g., in each respective subpart's emissions limitations section.

Respectfully submitted,
ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: _____
Gina Roccaforte
Assistant Counsel
Division of Legal Counsel

DATED: November 5, 2008

1021 North Grand Avenue East
P. O. Box 19276
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THIS FILING IS SUBMITTED ON RECYCLED PAPER

NOx RACT Limits for Industrial Boilers in Illinois and Other States

TSD/NOx RACT Regs-other states.xls/10-10-2008

The limits apply to boilers >100 mmbtu/hour (Unless otherwise specified)

State	IL	WI* (Existing units)	WI** (Const. after 2/1/2001)	WI NOx RACT	OH*** NOx RACT	TX Houston/Galv Attainment Demo	South Coast SCAQMD	San Joaquin Valley - Phase 3	MO (St.Louis O_3 NAA)	IN (Ozone Season)	PA	NH	NJ	NY
Effective Date of Regulations	Proposed	Register: Jan 2001, Effective Feb.1, 2001	Register: Jan 2001, Effective Feb.1, 2001	Register: July 2007, Effective Aug.2007	Register: 12/12/2007, Effective 12/22/2007	Adopted: 4/27/2005, Effective 5/19/2005	Amended 11/17/2000	Adopted: 9/13/2003, Amended 3/17/2005	Amended 8/26/05, Effective 5/30/06	Filed 5/13/1996, Errata: 12/12, 2002	3/23/1998, Final Rule Effective June 18, 2001	Effective: 10-31-02	Effective: Dec. 20, 1993 Operative: Jan. 23, 1994	Filed: 1/19/94. Efective: 2/18/94
Rule/Reg. Number	217 Subpart D	NR428.05	NR428.04	NR428.22(a)	3745-110-03	117.206c	1146	4306	10CSR10-5.510	326IAC10-1-04	129.91-129.95	Env-A 1211.05 (d)	Chapter 27 19 7:27-19.7	227-2-4
Fuel / Unit Type	NOx Limit for ICI Boilers, lb/mmBtu													
Gas Fired	0.08	0.10	0.05	0.08	0.10	0.02	0.036 (>40 mmbtu/hr)	0.011 (>20 mmbtu/hr)	0.20	0.20	Source Specific RACT	0.10 (Tangential) or LNB	0.20 (Gas Only)	0.20 (Gas Only)
Distillate Fuel	0.10	0.12	0.09	0.10	0.12	~0.013	0.036 (>40 mmbtu/hr)	0.052 (>20 mmbtu/hr)	0.30	0.20	Source Specific RACT	0.30 (T) 0.25(W) (Oil or O+G) or LNB	0.20 (T) 0.28(W) (Oil or O+G) or LNB	0.25-0.30 (Oil or O+G) varies w/size
Other Liquid Fuels (Residual Fuel etc.)	0.15	0.20	0.15	0.15	0.23	~0.014	0.036 (>40 mmbtu/hr)	0.052 (>20 mmbtu/hr)	0.30	0.30	Source Specific RACT	0.30 (T) 0.25(W) (Oil or O+G) or LNB	0.20 (T) 0.28(W) (Oil or O+G) or LNB	0.25-0.30 (Oil or O+G) varies w/size
Solid Fuel-Wall fired 100-250	0.25	0.30	0.20	0.15-0.17 (Depends on HRR)	0.30	0.057 (coke)	0.036 (>40 mmbtu/hr)		0.50		Source Specific RACT	0.50 (Coal or Coal+Oil)	0.45	0.50
Solid Fuel-Wall fired >250 mmbtu/hr	0.18	0.30	0.15	0.10-0.17 (Depends on HRR , Size)	0.30	0.057 (coke)	0.036 (>40 mmbtu/hr)		0.50		Source Specific RACT	0.50 (Coal or Coal+Oil)	0.45	0.45
Solid Fuel Circulating FBC	0.10	0.20	0.20	0.10	0.30	0.057 (coke)	0.036 (>40 mmbtu/hr)				Source Specific RACT			
Solid Fuel Spreader Stoker	See Limits for Solid Fuel Wall-fired	None	0.20	0.20-0.25 (Depends on Size)	0.30	0.057 (coke)	0.036 (>40 mmbtu/hr)		0.50	0.50	Source Specific RACT	0.33 (Wood or Wood+Oil)		0.30
Solid Fuel Overfeed Stoker	See Limits for Solid Fuel Wall-fired	None	0.20	0.20-0.25 (Depends on Size)	0.30	0.057 (coke)	0.036 (>40 mmbtu/hr)		0.50	0.40	Source Specific RACT	0.33 (Wood or Wood+Oil)		0.30 Overfeed Stoker
Solid Fuel Underfeed Stoker	See Limits for Solid Fuel Wall-fired	None		0.20-0.25 (Depends on Size)	0.30	0.057 (coke)	0.036 (>40 mmbtu/hr)		0.50		Source Specific RACT	0.33 (Wood or Wood+Oil)		0.30
Solid Fuel-Tangential fired	See Limits for Solid Fuel Wall-fired	0.30	0.20	0.10-0.15 (depends on Size)	0.30	0.057 (coke)	0.036 (>40 mmbtu/hr)		0.45	0.40	Source Specific RACT	0.38 (Coal or Coal+Oil)	0.38	0.50 <250; 0.42 >250 mmbtu/hr

HRR = Heat Release rate, O=Oil, G = Gas

Texas NOx limits for oil are translated into lb/mmBtu for comparison

* Applicable to Non-Attainment counties. Existing units. Ozone season only. Boilers = or >100 mmBtu/hr. 30-day rolling average

**New units constructed after Feb. 1, 2001. Non-Attainment Counties. Applies all year. For fuel oil or gaseous fuel fired boilers limit applies to = or > 25 mmbtu/hr

*** Applies to NAAs Only

Attachment 1

NOx RACT Limits for Process Heaters in Illinois and Other States

TSD/NOx RACT Regs-other states.xls/10-10-2008

State			IL (Proposal)	TX Houston/ Galv Attainment Demo	SCAQMD	San Joaquin Valley - Phase 3	NJ	NY	WI
Effective Date				1/17/2003	Amended 11/17/2000	Adopted: 9/13/2003	12/20/1993	2/18/94	July 2007
Applicable Rule			217 Subpart E	117.206	1146	4306	19 7:27-19.7	227-2.4	NR 428.04(f)
Source Category	Fuel / Unit Type	Draft Type	NOx Limit, lb/mmbtu						
Process Heaters >100 mmBtu/hr	Gas Fired	Natural Draft	0.07	0.025 (>40 mmbtu/hr)	0.036 (>40 mmbtu/hr)	0.011 (>20 mmbtu/hr)	0.20	Source Specific RACT	0.10
Process Heaters >100 mmBtu/hr	Gas Fired	Mech. Draft	0.07	0.025 (>40 mmbtu/hr)	0.036 (>40 mmbtu/hr)	0.011 (>20 mmbtu/hr)	0.20	Source Specific RACT	0.10
Process Heaters >100 mmBtu/hr	Residual Fuel	Natural Draft	0.10	0.025 (>40 mmbtu/hr)	0.036 (>40 mmbtu/hr)	0.052 (>20 mmbtu/hr)	0.20	Source Specific RACT	0.18 (>65 mmBtu/hr)
Process Heaters >100 mmBtu/hr	Residual Fuel	Mech. Draft	0.15	0.025 (>40 mmbtu/hr)	0.036 (>40 mmbtu/hr)	0.052 (>20 mmbtu/hr)	0.20	Source Specific RACT	0.18 (>65 mmBtu/hr)
Process Heaters >100 mmBtu/hr	Other Liquid Fuels	Natural Draft	0.05	0.025 (>40 mmbtu/hr)	0.036 (>40 mmbtu/hr)	0.052 (>20 mmbtu/hr)	0.20	Source Specific RACT	0.12
Process Heaters >100 mmBtu/hr	Other Liquid Fuels	Mech. Draft	0.08	0.025 (>40 mmbtu/hr)	0.036 (>40 mmbtu/hr)	0.052 (>20 mmbtu/hr)	0.20	Source Specific RACT	0.12

Attachment 2

NOx RACT Limits for Glass Melting Furnaces in Illinois and Other States

TSD/NOx RACT Regs-other states.xls/10-10-2008

State	IL	WI	SJVUAPCD	SCAQMD	BAAQMD	CT	NJ	MO
Effective Date	Proposed	July 2007	3/14/1995	12/31/2004	1/1/2001	5/31/1995	Proposed	5/1/2002
Reg. Number	217 Subpart F	428.22 (d)	4354	1117	Reg. 9, Rule 12	22a-174-22	7:27-19.10	10CSR 10-5.510
Category	NOx Limit, lb/Ton Glass Produced)							
Container Glass Melting Furnaces	5.00	2.0 (>50 mmBtu/hr)	5.5 (Const < Jan.99) 4.0 (Const > Jan.99)	4.00	5.50	5.50	4.00	5.50
Flat Glass Melting Furnaces	7.90	2.0 (>50 mmBtu/hr)	7-9.2		5.50	5.50	9.20	
Other Glass Melting Furnaces	11.00	2.0 (>50 mmBtu/hr)	5.5 (Const < Jan.99) 4.0 (Const > Jan.99)		5.50	5.50	4.00	

Attachment 3

NOx RACT Limits for Lime Kilns in Illinois and Other States

TSD/NOx RACT Regs-other states.xls/10-10-2008

State	IL	TX Houston Galv Area	ME	SC	SJVUAPCD
Effective Date	Proposed	1/17/2003	5/31/1995	5/25/2007	9/27/2003
Applicable Rule	217 Subpart G	117.206	Chapter 138	62.5 Std. 5.2	4313
Source Category	NOx Limit				
Rotary Coal Fired Kiln	2.50	0.66	120.0	175	
	lb/ton	lb/ton	ppm @10%O2	ppm @10%O2	
Rotary Gas Fired Kiln	2.20	0.66	120.0	175	0.10
	lb/ton	lb/ton	ppm @10%O2	ppm @10%O2	lb/mmbtu

Attachment 4

NOx RACT Limits for Cement Kilns in Illinois and Other States

TSD/NOx RACT Regs-other states.xls/10-10-2008

State	IL	IL* Ozone Season	IN* Ozone Season	TN Ozone Season	TX Ozone Season	MI* Ozone Season	SC Ozone Season
Effective Date	Proposed	3/15/2001	8/17/2001	5/31/2004	3/27/2003	12/4/2002	5/31/04
Applicable Rule	217 Subpart G	217 Subpart T	326 IAC 10-3	1200-3-27-.04	Chapter 117 Section 265	R336.1817	61-62.99 Subpart B
Source Category	NOx Limit, lb/ Ton Clinker Produced						
Long Dry Kiln	5.10	5.10	5.10	LNB or Mid Kiln Firing or Similar Controls	5.10	5.10	LNB or Mid Kiln Firing or Similar Controls
Short Dry Kiln	5.10						
Preheater Kiln	3.80	3.80	3.80	LNB or Mid Kiln Firing or Similar Controls	3.80	3.80	LNB or Mid Kiln Firing or Similar Controls
Preheater/Precalciner Kiln	2.80	2.80	2.80	LNB or Mid Kiln Firing or Similar Controls	2.80	2.80	LNB or Mid Kiln Firing or Similar Controls

* Limits are either LNB or Mid Kiln Firing or 30% Reduction from Baseline

Attachment 5

STATE OF ILLINOIS)
) **SS**
COUNTY OF SANGAMON)
)

CERTIFICATE OF SERVICE

I, the undersigned, an attorney, state that I have served electronically the attached POST-HEARING COMMENTS OF THE ILLINOS ENVIRONMENTAL PROTECTION AGENCY, upon the following person:

John Therriault
Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph St., Suite 11-500
Chicago, IL 60601

and mailing it by first-class mail from Springfield, Illinois, with sufficient postage affixed to the following persons:

SEE ATTACHED SERVICE LIST

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY,

Gina Roccaforte
Assistant Counsel
Division of Legal Counsel

Dated: November 5, 2008

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SERVICE LIST 08-19

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