



Muscatine Power & Water

3205 Cedar St. • Muscatine, Iowa 52761-2204
563-263-2631

April 27, 2009

Mr. Chris Kjellmark
Iowa Department of Natural Resources
Air Quality Bureau
7900 Hickman Road Suite #1
Urbandale, IA 50322

RE: CAIR NOx Compliance Supplement Pool Allocation Request

Dear Chris:

A request for CAIR NOx Compliance Supplement Pool Allowances is attached. This request supersedes the previous request from Muscatine Power and Water (MPW). The attached request reflects the calculation methodology that was described during the recent IDNR conference call that included this subject. We are requesting allowances for both Units 8 and 9.

If you have questions or need additional information, please contact me by telephone at 563/262-3394 or email at dpauken@mpw.org.

Sincerely,

Donald G. Pauken
Manager environmental Affairs

Attachments

cc: Ray Danz

Mike Avesing

Cliff Scherrer Sr.

A/O File

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AIR QUALITY BUREAU
7900 Hickman Rd., Suite 1
Urbandale, IA 50322

**CAIR NOx COMPLIANCE SUPPLEMENT POOL (CSP)
ALLOCATION REQUEST FORM**

**CAIR NOx COMPLIANCE SUPPLEMENT POOL (CSP)
ALLOCATION REQUEST FORM**

Pursuant to R 336.1833(3), a CAIR NOx subject source may request allocations from the Hardship portion of the CSP set-aside pool of allowances as determined by the State. A source must submit a written request to the Air Quality Division no later than July 1, 2009. This form may be used by any source requesting allocation from the pool. Calculations regarding the number of allocations requested are described under R 336.1833(3)(c)(iii).

Please type or print clearly. Refer to instructions for additional information to complete this form. Include additional copies of Page 2 as necessary.

SOURCE INFORMATION	ORIS: 01167	Facility ID: 70-01-011
Source Name MUSCATINE POWER AND WATER		
Mailing Address 3205 CEDAR ST.		
City MUSCATINE	State IA	Zip Code 52761
Source Location (if different): 1700 DICK DRAKE WAY		
City MUSCATINE	IA	Zip Code 52761
County Name MUSCATINE		

Source-Wide Total Number of Allocations Requested:	Unit 8 = 334; Unit 9 = 343; Total = 677
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Certification

I am authorized to make this submission on behalf of the owners and operators of the CAIR NOx sources or CAIR NOx units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Name: DONALD G. PAUKEN	DESIGNATED REPRESENTATIVE
E-Mail Address: dpauken@mpw.org	Phone: 563-262-3394
Signature: <i>Donald Pauken</i>	Date: 4/27/09

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**CAIR NOx COMPLIANCE SUPPLEMENT POOL (CSP)
ALLOCATION REQUEST FORM**

Source Name MUSCATINE POWER AND WATER
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Emission Unit ID: EU80	Equipment Installation Date (MM/DD/YYYY): Comb. Optimization (Neural Network) 05/16/2007 Over Fire Air 06/19/2008		Total Number of Allocations Requested* 334
Actual NOx Emission Rate 0.808 lb/mmBtu (2008)	Unit's Estimated Heat Input (in mmBtu/Hr) 890	Unit's Estimated Hours of Operation: 7,694 (2008)	Estimation of NOx Allocations Needed for the 2009: 1,930
Brief Description of basis for the Request: See the attached calculation sheet			

Emission Unit ID: EU90	Equipment Installation Date (MM/DD/YYYY): Comb. Optimization (Neural Network) 03/29/2007 Over Fire Air 03/29/2008		Total Number of Allocations Requested* 343
Actual NOx Emission Rate 0.165 lb/mmBtu (2008)	Unit's Estimated Heat Input (in mmBtu/Hr) 1,556	Unit's Estimated Hours of Operation: 8,015 (2008)	Estimation of NOx Allocations Needed for the 2009: 878
Brief Description of basis for the Request: See the attached calculation sheet			

Emission Unit ID:	Equipment Installation Date (MM/DD/YYYY):		Total Number of Allocations Requested*
Actual NOx Emission Rate	Unit's Estimated Heat Input (in mmbtu/Hr)	Unit's Estimated Hours of Operation:	Estimation of NOx Allocations Needed for the 2009:
Brief Description of basis for the Request:			

* - Attach all calculations and formulas used to determine total number of allocations requested.

MUSCATINE POWER AND WATER
 CAIR Compliance Supplement Pool
 Early Reduction Calculation
 Unit 8

	Baseline Years		Reduction Year
	2006	2007	2008
NOx annual emission rate	0.885	0.936	0.808 lb/million BTU
annual heat input	6,793,437.5	6,970,709.5	6,516,677.3 million BTU
NOx emissions			2,632.74 tons
baseline average NOx rate	0.911 lb/million BTU		
projected reduction year average NOx			2966.72 tons
actual reduction year NOx			2632.74 tons
TOTAL reduction			334 tons

MUSCATINE POWER AND WATER
 CAIR Compliance Supplement Pool
 Early Reduction Calculation
 Unit 9

	Baseline Years		Reduction Year
	2006	2007	2008
NOx annual emission rate	0.234	0.205	0.165 lb/million BTU
annual heat input	12,759,269.0	13,167,280.7	12,575,288.4 million BTU
NOx emissions			1,037.46 tons
baseline average NOx rate	0.220 lb/million BTU		
projected reduction year average NOx			1380.14 tons
actual reduction year NOx			1037.46 tons
TOTAL reduction			343 tons

**MUSCATINE POWER AND WATER
CAIR NOx COMPLIANCE SUPPLEMENT POOL
ALLOCATION REQUEST**

1. Identification of source requesting the allowances

Muscatine Power & Water
Unit 9 EP90/EU90 (Electric Generating Unit)
Tangential Fired Boiler

2. Name and address of the requestor

Muscatine Power & Water
3205 Cedar St
P.O. Box 899
Muscatine, IA 52761-2204

3. The number of allowances requested

Unit 9 EU90/EP90 = 1,912 NOx Annual Allowances

4. The reason for the request

MPW Unit 9 was subject to NOx emission limits prior to installing an Overfire Air (OFA) system to reduce NOx emissions. Air Quality Operating Permit # 98-TV-021R1 lists BACT NOx limits of 0.60 lb/MMBtu for bituminous coal, 0.50 lb/MMBtu for subbituminous coal, 0.30 lb/MMBtu for liquid fuels and 0.20 lb/MMBtu for natural gas (30-day rolling average). These limits were imposed on the unit when it was constructed. Subsequently, EPA promulgated NOx limits for various boiler types under the Acid Rain Program. That rule added 0.40 lb/MMBtu annual average to the limits on January 1, 2000. The voluntary decision to install the OFA system was in response to promulgation of the Clean Air Interstate Rule (CAIR). The Construction Permit (80-A-191-P1) that IDNR issued to MPW for installation of the system includes a NOx limit of 0.235 lb/MMBtu (12 mo. rolling average). The equipment Start Up date reported to IDNR for the system was 03/29/08. MPW is requesting early reduction credits from the compliance supplement pool for the incremental reduction between the emission limits and actual emissions for during 2007 and 2008.

567-34.205(3) of the Iowa Administrative Code details the methodology for allocating up to 6,978 CAIR NOx allowances from the State of Iowa's compliance supplement pool. The allocation criteria set forth in 40 CFR 96.143, specifying requirements for affected units to request such allowances and for the Department to allocate such allowances, were adopted by reference.

In accordance with the above referenced requirements, Muscatine Power and Water (MPW) provides supplemental information to substantiate the quantity of NOx allowances it is requesting from Iowa's CAIR NOx allowance compliance supplement pool.

**MUSCATINE POWER AND WATER
CAIR NOx COMPLIANCE SUPPLEMENTAL POOL
ALLOCATION REQUEST**

Supplemental Information
Unit 9 EP90/EU90 - Tangential Boiler

40 CFR 96.143(b)(2) contains the methodology for determining early reduction credits using the 2007 and 2008 NOx emission rate and the heat input of the unit in accordance with subpart HH of that part, for which an early reduction credit is requested. Beginning January 1, 2000, Unit 9 was subject to an annual NOx emission limit of 0.40 Lb/mmBtu. After start up of an Overfire Air system on March 29, 2008 an additional emission limit became effective. That limit is 0.235 Lb/mmBtu (12-mo. rolling ave)

The NOx Continuous Emissions Monitor (CEMS) Data Acquisition and Handling System (DAHS) did not have the ability to calculate NOx tons directly during 2007. Therefore monthly heat input and NOx emission rates were used to calculate 2007 NOx tons emitted. Upgraded software included this function in 2008 so emitted tons are directly from the CEMS DAHS.

**UNIT 9 – EP90/EU90
CAIR NOx Allowance Compliance Supplement Pool Calculations**

	NOx Tons Emitted	Emission Limit Lb/mmBtu	Emission Rate Lb/mmBtu	Limit vs. Rate Difference	Supplemental Pool Request (Tons)	Heat Input (mmBtu)
2007						
January	119.1	0.40	0.188	0.212	134.3	1,266,993.1
February	114.1	0.40	0.199	0.201	115.2	1,146,803.4
March	13.6	0.40	0.219	0.181	11.2	124,643.9
April	125.2	0.40	0.208	0.192	115.6	1,203,471.8
May	128.1	0.40	0.208	0.192	118.2	1,231,773.1
June	117.2	0.40	0.198	0.202	119.6	1,183,565.5
July	120.9	0.40	0.213	0.187	106.1	1,135,040.5
August	130.4	0.40	0.211	0.189	116.8	1,236,372.1
September	121.4	0.40	0.232	0.168	87.9	1,046,521.4
October	122.4	0.40	0.202	0.198	120.0	1,212,095.9
November	113.5	0.40	0.188	0.212	128.0	1,207,188.0
December	120.8	0.40	0.206	0.194	113.8	1,172,812.1
			2007	Subtotal	1,287	Allowances
2008						
January	146.6	0.40	0.234	0.166	104.0	1,251,656.8
February	132.4	0.40	0.227	0.173	100.9	1,172,558.4
March	8.9	0.235	0.173	0.062	3.2	96,409.6
April	72.6	0.235	0.140	0.095	49.3	1,040,873.3
May	82.0	0.235	0.152	0.083	44.8	1,141,847.1
June	82.7	0.235	0.186	0.049	21.8	996,453.9
July	77.6	0.235	0.147	0.088	46.5	1,103,185.5
August	84.5	0.235	0.143	0.092	54.4	1,207,280.6
September	68.2	0.235	0.150	0.085	38.6	927,288.9
October	86.6	0.235	0.161	0.074	39.8	1,130,357.3
November	84.0	0.235	0.141	0.094	56.0	1,203,009.7
December	86.4	0.235	0.133	0.102	66.3	1,304,367.3
			2008	Subtotal	625	Allowances
			2007-2008	TOTAL	1,912	Allowances