



**Corn Belt
Power Cooperative**

April 27, 2009

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

Subject: CAIR Compliance Supplemental Pool Request
Wisdom Generating Station ORIS 1217

Dear Mr. Kjellmark:

The Earl F Wisdom Station Unit 1 (Wisdom Unit 1) is subject to the Clean Air Interstate Rule (CAIR) and from my understanding of our telephone conversation today is potentially eligible for NOx allowances from the CAIR Compliance Supplemental Pool (CSP)

Following the guidelines from the DNR document dated March 26, 2009 "CAIR Compliance Supplemental Pool" Corn Belt Power Cooperative (Corn Belt) concludes that Wisdom Unit 1 meets the CSP early reductions requirements

- Wisdom Unit 1 is subject to CAIR NOx regulations
- Wisdom Unit 1 has undergone a burner replacement project to reduce NOx emissions.
- There are two years of emission data prior to the burner project to develop a baseline emissions rate.
- Wisdom Unit 1 operated in the qualifying years of 2007 and 2008.
- Wisdom Unit 1 achieved a reduction in the baseline emission rate for both of the qualifying years

NOx Emission Reduction Project

The burner replacement project for Wisdom Unit 1 began in the early fall of 1998. The burner manufacturer was not able to meet the guarantee and an Alternate Emission Limit (AEL) was applied for to the EPA and an Interim AEL was granted in the 2000-2001 time frame. A petition for a final AEL was applied for in 2002 along with supplemental information in subsequent years. The approval for the final AEL is still pending with the EPA.

The two years before the burner replacement are 1996 and 1997.

1996 NOx annual emission rate = 0.81 lb/MMBtu

1997 NOx annual emission rate = 0.84 lb/MMBtu

Two year baseline average = (0.81 lb/MMBtu + 0.84 lb/MMBtu)/2 = 0.825 lb/MMBtu

2007 annual heat input = 1,019,986 MMBtu

2007 NOx annual emission rate = 0.57 lb/MMBtu

2008 annual heat input = 1,024,994 MMBtu

2008 NOx annual emission rate = 0.548 lb/MMBtu

Projected baseline emissions for 2007 and 2008

2007 projected NOx emissions = (1,019,986 MMBtu/yr * 0.825 lb/MMBtu)/2000 lb/ton = 420.7 tons

2008 projected NOx emissions = (1,024,994 MMBtu/yr * 0.825 lb/MMBtu)/2000 lb/ton = 422.8

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Actual annual emissions for 2007 and 2008

2007 NOx emissions = $(1,019,986 \text{ MMBtu/yr} * 0.572 \text{ lb/MMBtu})/2000 \text{ lb/ton} = 291.7 \text{ tons}$

2008 NOx emissions = $(1,024,994 \text{ MMBtu/yr} * 0.548 \text{ lb/MMBtu})/2000 \text{ lb/ton} = 280.8 \text{ tons}$

Note that 2008 annual NOx tons using hour by hour instead of the average NOx rate calculates to a value of 373.2 tons. The 373.2 NOx tons is what was reported to the EPA for NOx tons emitted in 2008. I verified with Robert Vollaro of EPA that the amount calculated using average rate will not be equal to the amount using the hour by hour data.

Emission reductions resulting from the NOx control project (burner replacement)

2007 reductions = $420.7 \text{ tons} - 291.7 \text{ tons} = 129 \text{ tons}$

2008 reductions = $422.8 \text{ tons} - 280.8 \text{ tons} = 142 \text{ tons}$

Total reduction = $129 \text{ tons} + 142 \text{ tons} = 271 \text{ tons}$

Corn Belt is requesting a CSP allocation of 271 tons of NOx allowances

If you have any questions or need further information please call or e-mail Mike Thatcher
(515)332-7775 mike.thatcher@cbpower.coop

Sincerely,

CORN BELT POWER COOPERATIVE



Michael S. Thatcher
Vice President, Generation
Enclosure