



State of Wisconsin

FILE COPY

DEPARTMENT OF NATURAL RESOURCES

Carroll D. Besadny  
Secretary

BOX 7921  
MADISON, WISCONSIN 53707

CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

September 18, 1986

4530

Mr. Merlin Horn, Director of Environmental Affairs  
Wisconsin Power & Light Company  
222 W. Washington Avenue - P.O. Box 192  
Madison, WI 53701

Dear Mr. Horn:

Your application for an air pollution control permit has been processed in accordance with Section 144.392, Wisconsin Statutes.

The enclosed permit is issued to provide authorization for your source, Columbia Unit II, to modify and operate in accordance with the requirements and conditions set forth within Parts I and II of the permit. Please read it carefully.

This permit is effective immediately unless a petition for a contested case hearing for administrative review of the permit is filed with the Department under section 144.403, Wisconsin Statutes, within 30 days after the date of the permit. Any petition for a hearing should name the Wisconsin Department of Natural Resources as respondent. The petition must set forth specifically the issue sought to be reviewed, the interest of the petitioner, the reasons why a hearing is warranted, and the relief desired.

Enclosed with the permit there is a bill for the cost of reviewing and acting upon your air pollution control permit. This bill is due and payable in 30 days of the date of the issuance of the permit. This fee should be made payable to Wisconsin Department of Natural Resources and returned to the address on the bill.

This permit may be revised as a result of rulemaking by the Department or the adoption of standardized permit forms and procedures which may differ from this document. At the time of such revision, permits reflecting these changes will automatically be issued.

A copy of this permit should be available at the source for inspection by any authorized representative of the Department. Questions about this permit should be directed to the Southern District, 3911 Fish Hatchery Road, Fitchburg, Wisconsin 53711-5397, (608) 275-3291.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES



Donald F. Theiler, Director  
Bureau of Air Management

LW:ps

Attach.

cc: Air Enforcement Branch - EPA, Region V  
SD Air Management Section  
Horicon Area Office

AIR POLLUTION CONTROL PERMIT  
ATTAINMENT AREA MAJOR SOURCE

EI FACILITY NO.: 111003090  
STACK NO. (S): S12  
SOURCE NO.(S): B22

PERMIT NO.: 86-LMW-406  
TYPE: Modify and Operate

PERMISSION TO COMMENCE MODIFICATION ENDS EIGHTEEN (18) MONTHS FROM THE DAY THIS PERMIT IS ISSUED. ONCE A RELEASE FOR PERMANENT OPERATION HAS BEEN ISSUED, THIS OPERATING PERMIT IS PERMANENT UNLESS ALTERED, REVOKED OR SUSPENDED.

In compliance with the provisions of Chapter 144, Wisconsin Statutes, and Chapters NR 154 and NR 155, Wisconsin Administrative Code,

Name of Source: Wisconsin Power and Light  
Columbia Generating Station

Street Address: Highway 51 South  
Portage, Wisconsin

Principal Officer or Authorized Representative:  
Mr. Richard M. Gregory

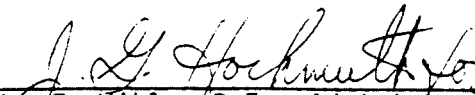
is authorized to modify and operate Unit II boiler (to delete the condition of the original Approval and Order that a five-year coal contract be maintained) in strict conformity with the plans and specifications dated May 22, 1985 and August 13, 1986, and as approved herein.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements, and other terms and conditions set forth in Parts I and II hereof.

Dated at Madison, Wisconsin this 18 day of September, 1986.

STATE OF WISCONSIN  
DEPARTMENT OF NATURAL RESOURCES  
For the Secretary

By

  
L. F. Wible, P.E., Administrator  
Division of Environmental Standards

PART I  
SPECIFIC PERMIT CONDITIONS

A. Emission Limitations

Particulate Matter	NR 440.19(3)(a)1.	0.1 lb PM/MMBTU input
Visible Emissions	NR 440.19(3)(a)2.	20% opacity <sup>1</sup>
Sulfur Dioxide	NR 440.19(4)(a)2.	1.2 lb SO <sub>2</sub> /MMBTU input
Nitrogen Oxides	NR 440.19(5)	0.7 lb NO <sub>x</sub> /MMBTU input
Hydrocarbons	NR 154.13(1), and s. 144.394(6), Stats.	24.5 lb/hr <sup>2</sup>
Carbon Monoxide	NR 154.14(1), and S. 144.394(6), Stats.	210 lb/hr <sup>2</sup>
Hazardous Emissions	NR 154.19(1)	See Note <sup>3</sup>

Note: "No person may cause, suffer, allow or permit emissions into the ambient air of hazardous substances in such quantity, concentration or duration as to be injurious to human health, plant or animal life unless the purpose of that emission is for control of plant or animal life".

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<sup>1</sup> Excepting one 6-minute period per hour of up to 27%.

<sup>2</sup> To allocate the available air resource, the allowable emission rate is set at the maximum emission rate by s. 144.394(6), Stats.

<sup>3</sup> Wisconsin Power and Light Columbia Unit II was not reviewed for toxic emissions impacts in this revision - they will be addressed in light of the pending toxics regulations during the mandatory operating permit review.

B. Other Specific Conditions

1. That Columbia Unit II be installed in accordance with submitted plans and specifications or subsequent modifications to this facility that have been reviewed and approved by the Department of Natural Resources. For the purposes of all subsequent conditions, compliance coal shall mean any coal which, when burned, would, based on said coal's average BTU and sulfur content, and further, assuming no dolomitic effect, emit sulfur dioxide at a rate less than or equal to 1.2 pounds of sulfur dioxide per million BTU input.
2. That any time the company does not have compliance coal or does not have installed the air pollution abatement equipment adequate to meet the sulfur dioxide emissions limits, Unit II will not be operated.

3. That a total of six to eight continuous ambient air monitoring stations be established to sample for sulfur dioxide at sites approved by the Department by April 27, 1976, subject to equipment deliverability. This program will continue until at least three years after full operation of Units I and II.
4. That the Department be allowed to check the calibration of any ambient air monitoring instruments that are operated by the company.
5. That the ambient air monitoring data be submitted in the format of the U.S. EPA Storage and Retrieval of Aerometric Data (SAROAD) system to the Department for review on a quarterly basis. The monitoring and the data generated should conform to U.S. EPA standards and guidelines.
6. That a continuous monitoring instrument be installed in the stack of Unit I to measure the mass rate of sulfur dioxide emissions on an hourly average and that this instrument be installed by May 28, 1976, subject to equipment deliverability.
7. That a continuous monitoring instrument be installed in the stack of Unit II per NR 440.19(6), Wisconsin Administrative Code to measure the mass of sulfur dioxide emissions on an hourly average and that this instrument be installed upon start-up of Unit II.
8. That Wisconsin Power and Light Company determine once daily the average BTU content of the coal utilized in Columbia Unit II by ASTM Method D2015-77. The determination shall be on a representative sample obtained in accordance with ASTM Method D2234-76 or equivalent method approved by the Department.

The company will use the BTU value so obtained and the emissions data obtained pursuant to Condition (1) to report the emissions from the stack of Unit II in pounds of sulfur dioxide per million BTU input on a continuing three-hour average and that excess emissions data be submitted to the Department on at least a quarterly basis.

9. That the total amount of sulfur dioxide emissions from Unit I and II be controlled to less than or equal to an average of 12,500 pounds of sulfur dioxide per hour measured over a continuous 24-hour average. That the total amount of sulfur dioxide emissions from Units I and II be controlled to less than or equal to an average of 15,200 pounds of sulfur dioxide per hour measured over a continuing 3-hour average. In addition, Unit II will meet the sulfur dioxide emission limits of 1.2 pounds of sulfur dioxide per million BTU input on a continuing 3-hour average per NR 440.19(6)(g), Wisconsin Administrative Code (arithmetic average of 3 contiguous one-hour periods).

The sulfur dioxide mass emission rate limitations of 12,500 pounds per hour on a 24-hour average and 15,200 pounds per hour on a 3-hour average are necessary to assure maintenance of the 24-hour and 3-hour ambient air quality standards under all anticipated meteorological conditions.

The Department may revise the mass emission rate limitations upon the company's submission of information found acceptable by the Department. The revised information shall be based on:

- a. Source performance test data which indicates a more accurate emission rate of sulfur dioxide from Unit I or Unit II stacks.

- b. A more accurate methodology for predicting downwind sulfur dioxide concentrations and comparing them to the ambient air quality standards.
  - c. At least three years of on-site meteorological data which indicates the magnitude and frequency of occurrence of wind speed, wind direction, temperature, atmospheric stability, and mixing heights for the affected area.
  - d. Correlation of at least three years of on-site meteorological data and air quality data to define maximum sulfur dioxide concentrations under most adverse meteorology and least favorable operational characteristics of Units I and II.
10. That if necessary to meet the mass emission rate stated above or a mass emission rate subsequently established by the Department, the company shall blend the coal supply of Unit I with the supply of compliance coal, or in lieu of said blending, comply with said purpose by a method that has been approved by the Department.
  11. That source performance tests for particulate matter, nitrogen dioxide and sulfur dioxide be performed on Unit II in accordance with NR 440.19(7), Wisconsin Administrative Code and Part 60, Subpart D, Standards of Performance of New Sources, U.S. EPA, and appendices thereto upon operation at full capacity.
  12. That source performance tests for particulate matter, nitrogen dioxide, and sulfur dioxide be performed upon Unit I in accordance with Part 60 of Title 40 of the Code of Federal Regulations and appendices thereto by May 27, 1976.
  13. That Wisconsin Power and Light install, calibrate, maintain and operate continuous emissions monitors in Unit II for opacity, sulfur oxides, nitrogen oxides, and either oxygen or carbon dioxide per NR 440.19(6), Wisconsin Administrative Code.  
  
Excess emissions data from the instruments which measure the mass rate of emissions of sulfur dioxide in Units I and II, nitrogen oxides in Unit II and opacity in Unit II be submitted to the Department on at least a quarterly basis under the guidelines in NR 440.19(6)(g), Wisconsin Administrative Code.
  14. That if the air pollution emissions from Unit I and/or II cause any provable adverse environmental effects, that the operations of Unit I and/or II shall be adjusted to alleviate these effects.
  15. Wisconsin Power and Light shall submit, within 90 days of the date of this modification, to the Department for review and approval, a compliance demonstration plan for Unit II. This plan shall spell out procedures for and frequency of determining compliance with the sulfur dioxide, nitrogen oxides and opacity limitations. The plan, once approved, shall be followed until such time that the Department adopts compliance demonstration rules.
  16. This permit shall supercede the approval and order issued August 8, 1985, (#1A-75-11-01) and modified on January 28, 1976 (#1A-75-11-01A).

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