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DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY  
DIVISION OF AIR POLLUTION CONTROL

SUMMARY REPORT RELATIVE TO PERMIT APPLICATION

SUBMITTED BY: Arkansas Power and Light Company (AP&L)  
Newark

CSN: 320042

FIRST SUBMITTAL: 11/01/77 AMENDED: \_\_\_\_\_

CASE REFERENCES: Independence Steam Electric Station

SUMMARY:

AP&L proposes the installation of a coal-fired steam electric station near Newark on the White River in Independence County, Arkansas. At the maximum rate, each of the two identical units will produce 880 megawatts (peak, 700 net at 100 percent capacity) and consume an average of 491 tons/hour of low sulfur coal (0.28 percent average) from Wyoming. The sulfur content of the coal and a common 1,000 foot stack assures that the predicted sulfur dioxide (SO<sub>2</sub>) emissions will comply with the New Source Performance Standard (NSPS) and Section 8 of the Arkansas Air Pollution Control Code. Additionally, the permit to be issued by the federal Environmental Protection Agency (EPA) concerning Prevention of Significant Deterioration (PSD) limits the SO<sub>2</sub> emission rate to 0.93 pounds per million BTU heat input, as compared to the NSPS of 1.2 pounds per million BTU of sulfur dioxide.

The particulate matter generated in the combustion process will be controlled by electrostatic precipitators (ESP's) with a guaranteed efficiency of 99.5 percent. Additionally, the ESP's will be designed to handle all of the ash produced, although only 80 percent is calculated to be entrained in the flue gases, and the collector plate area is to be 10 percent larger than that determined by the design calculations. The fugitive emissions generated by the handling of the coal and ash are to be controlled by dust suppressant sprays and fabric filters.

(See Attached Sheets)

ESTIMATED COST: \$80,000,000 TOTAL PROJECT: \$672,000,000

COMMENCEMENT OF INSTALLATION: Fall 1978

COMMENCEMENT OF OPERATION: Unit 1 - 10/82; Unit 2 - 10-84

REVIEWED BY: CDH, STC APPROVED BY: JAM

RECOMMENDATION: APPROVAL WITH SPECIAL CONDITIONS

ASSIGNED PERMIT NUMBER: 449-A

COMMISSION MINUTE ORDER NUMBER: \_\_\_\_\_

Atmospheric dispersion modelling predicts that the three hour allowable PSD increment is the most restrictive with 41 percent estimated to be used by this facility. However, this occurs at a distance of 1.5 kilometers. At 5 kilometers this is reduced to 19 percent of the increment.

Special Conditions of the permit are as follows:

- CONDITIONS:
- (1) Emissions from facility shall comply with all applicable emission regulations and boundary line standards adopted by the Arkansas Commission on Pollution Control and Ecology and the Environmental Protection Agency.
  - (2) Emissions from the facility shall not interfere with the attainment and maintenance of the National Ambient Air Quality Standards or the Significant Deterioration increments.
  - (3) Applicant shall comply with all monitoring requirements established by the EPA and other monitoring requirements established as conditions of this permit.
  - (4) The facility shall be designed and so constructed to permit the installation of flue gas scrubbers should the Commission later determine that such scrubbers are necessary to (a) comply with requirements of the EPA, (b) protect the health and welfare of the public or (c) accommodate growth in the area without causing a violation of the Prevention of Significant Deterioration increments, which increments are set forth in the 1977 amendments to the Clean Air Act.
  - (5) Prior to January 1, 1980, the permittee shall submit to the Department approvable plans for an air quality monitoring program which program will be initiated at least 18 months prior to commencement of operation of Unit No. 1 and which program shall continue in a manner approved by the Commission. The required plans shall specify, as a minimum, the contaminants and effects to be monitored; the methods to be employed; descriptions of sampling schedules, sampling equipment and locations of such equipment; and the procedures by which sampling and analytical data is to be compiled, evaluated and reported.
  - (6) Prior to January 1, 1980, the permittee shall submit to the Department an approvable plan setting forth procedures for coal sampling and, as necessary, coal blending in order that compliance with the New Source Performance Standards for sulfur dioxide will be assured.

- (7) Prior to January 1, 1980, the permittee shall submit to the Department an approvable plan describing the methods which the permittee proposes to evaluate the need for, and characteristics of, a load reduction program (or intermittent control system) which load reduction would be made to assure that ground level concentrations of sulfur dioxide, directly attributable to the permitted facility, will not exceed  $533 \mu\text{g}/\text{m}^3$  for any thirty minute duration. Said evaluation is to be initiated with commencement of operation of Unit No. 1 so that a load reduction program, if necessary, can be developed and approved by the Commission prior to commencement of operation of Unit No. 2.
- (8) The facility shall comply with the conditions attached to the EPA permit as follows:
  - (a) The source shall meet the requirements for the application of Best Available Control Technology as follows:
    - (i) The source shall comply with the requirements of the New Source Performance Standards (NSPS) for Solid Fossil Fuel-Fired Steam Generators (40 CFR, Part 60, Subpart D) except that the maximum emissions of TSP and  $\text{SO}_2$  shall be 0.04 and  $0.93 \text{ lbs}/10^6 \text{ BTU}$ , respectively.
    - (ii) The source shall comply with the NSPS for Coal Preparation Plants (40 CFR, Part 60, Subpart Y).
  - (b) The maximum emission rates of  $\text{SO}_2$  and TSP resulting from the two 880 MW coal-fired units (Unit 1 and 2) and emitted from the one common stack shall not exceed 15,510 pounds  $\text{SO}_2/\text{hr}$  and 611 pounds TSP/hr, based on the use of coal with a heat content of 8,700 BTU/lb and a maximum of sulfur and ash content at 0.45 percent and 8 percent respectively.
  - (c) Compliance with the above required emission limitations shall be determined by the test methods and procedures as outlined in 40 CFR 60.46 and 60.454.