

Pollution Regulations. The Board ordered CIPS to comply with the terms of the Settlement Proposal submitted by the parties. Item 17 through Item 21 of that Proposal set forth the conditions from which CIPS now seeks a variance. Generally, the order required CIPS to have a SO₂ removal system installed and fully operational by the time Unit 1 at Newton begins service. It was the intention of CIPS at the time to install either a lime scrubbing system or a double alkali scrubbing system. CIPS agreed that the system chosen would treat the flue gas to meet the 1.2 lbs./10⁶ BTU sulfur dioxide emission standard.

CIPS chose and began construction on a double alkali flue gas desulfurization system on Newton Unit 1. CIPS states and the Agency agrees that the double alkali system is a "second generation" type of SO₂ removal system and shows marked advances in performance and reliability over "first generation" lime/limestone FGD systems. The FGD system to be applied to Newton Unit 1 is the first application of the double alkali system on a large utility boiler. CIPS alleges and the Agency agrees that, because this application is the first of its kind on a large utility boiler, cost and construction schedules forecasted in August, 1975 were not accurate. The original cost projection was \$47 million, and the anticipated completion date was December 1, 1977. CIPS now contemplates completion of the FGD system by November, 1979.

In its petition, CIPS outlines the major design changes and significant increases in cost which preclude it from adhering to the original target date. The project is now anticipated to cost \$108 million - more than double the original cost estimate. Studies undertaken at the beginning of the project resulted in a major process change in the regenerated liquor loop affecting seven major components and their associated piping and instrumentation. CIPS indicates that, because this system is the first of its kind, redundant and conservative design have been built into the system. CIPS also indicates that this past severe winter weather and manpower shortages have served to further delay completion of the project. Load projections and economics dictate that the generating unit be commercially available on the December 1 schedule. However, CIPS alleges that early completion of the FGD system is not a viable option.

During the period of the requested variance, CIPS calculates that its uncontrolled SO₂ emissions, assuming Newton Unit 1 will burn 230 tons per hour of 2.8% sulfur content coal, will be 4.6 lb/MM BTU. Modeling and monitoring studies conducted by CIPS as well as a dispersion modeling study conducted by the Agency conclude that emissions from Newton Unit 1 will not cause or contribute to a

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violation of the National Primary and Secondary Ambient Air Quality Standards for SO₂. The Board notes, however, that the information on these studies submitted by CIPS and by the Agency was rather incomplete.

Should the Board deny the requested variance, CIPS would be forced to burn low sulfur coal until start-up of its FGD system. CIPS indicates in its petition that the total increased expense to the Company for burning out-of-state low sulfur coal as opposed to high sulfur Illinois coal until November, 1979, would be \$20,978,000.00. An additional cost would likely be incurred in order to restore the efficiency of the electrostatic precipitator, which could be degraded because of the high ash resistivity normally associated with low sulfur coal. One possible solution to this problem would be injection of sulfur trioxide into the gas stream of the precipitator, which could cost from \$2 to \$10 per kilowatt. CIPS indicates that in addition to degraded precipitator performance, other technical difficulties could result from the use of low sulfur coal in a unit designed to burn high sulfur coal. The Company is concerned about the pulverizer mill capacity affected by the coal's grindability and changes in heat transfer affected by ash slagging characteristics.

CIPS furthermore alleges that completion and start-up of the FGD system earlier than November, 1979, is not feasible because of cash flow difficulties, difficulties in retaining sufficient construction craft labor in the Newton area, and the risk of problems created by the accelerated completion of this first-of-its-kind installation. Because of the lack of experience in this type of installation, CIPS has already encountered several unanticipated problems resulting in delay. CIPS indicates that completion of the FGD system is scheduled for June 1, 1979, but that during the period from June to November, 1979, the system will be operated in a start-up and shake-down mode. Therefore, CIPS indicates, the 1.2 lb/MM BTU will be met during part of this period, and partial emission reduction will occur during a significant portion of this period.

The Board finds that a denial of CIPS variance request would impose an arbitrary and unreasonable hardship upon the company. The Board agrees that CIPS has proceeded diligently in its construction program and that, considering that this is the first application of this type of FGD system to a large utility boiler, the delay has been reasonable. Because of the apparent lack of a threat to ambient air quality and the costs and technical difficulties associated with

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burning low sulfur coal, a variance is warranted. The Board also finds that, due to the manpower shortage in the Newton area and the need for more time to install this first-of-its kind system than would ordinarily be needed, the full variance requested is warranted. In addition, we find that the two years' experience CIPS will have in operation of Unit 1 prior to start-up of the FGD system will be beneficial to the smooth operation of the system. The Board, therefore, grants CIPS a variance from PCB 75-382 until November 3, 1979, subject to the conditions below.

This Opinion constitutes the Board's findings of facts and conclusions of law in this matter.

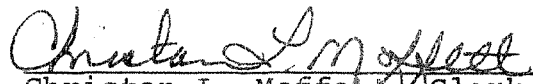
ORDER

It is the Order of the Pollution Control Board that CIPS be granted a variance from the Board Order in PCB 75-382 in order to operate Newton Unit 1 in violation of the 1.2 lb/MM BTU SO₂ emission standard until November 3, 1979, subject to the following conditions:

1. CIPS will submit quarterly reports until June 1, 1979 describing the progress being made toward the completion of the DAFGD System.
2. CIPS will submit monthly reports from June 1, 1979 until November 3, 1979, describing the progress being made in making the DAFGD System commercially operational.
3. CIPS will submit to the Agency, on or before November 3, 1977, an operating permit application for Newton Unit 1, said application to include the requisite stack testing data and information.

Mr. Dumelle dissents.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 15th day of September, 1977, by a vote of 4-1.



Christan L. Moffett, Clerk
Illinois Pollution Control Board