



Diesel units with a combined capacity of 5,304 KW. The No. 1 coal-fired boiler is used only during the months of December, January and February for purposes of heating the power plant and meeting power demands exceeding the 5,304 KW capacity of the Diesel units. The No. 2 coal-fired boiler is used only during the peak loading months of July, August and September to meet electrical demands exceeding the 5,304 KW capacity of the Diesel units. The peak loads of the power plant for the past six years has been as follows:

1967 - 4,800 KW  
1968 - 5,340 KW  
1969 - 5,650 KW  
1970 - 6,250 KW  
1971 - 6,500 KW  
1972 - 6,900 KW

The No. 1 coal-fired boiler is a chain grate stoker having a rated heat input of approximately  $19.4 \times 10^6$  BTU/hr. and does not employ any particulate control equipment other than a baffled settling chamber. The No. 2 coal-fired boiler is a spreader stoker with 100% reinjection, having a rated heat input of approximately  $40.9 \times 10^6$  BTU/hr and is controlled by the Tu Buell multiclone collector, which was installed in 1968 without an installation permit from the Air Pollution Control Board.

The Stipulation further recites that if Otis H. Banes would testify, he would testify that he is an Environmental Protection Agency engineer, that he had calculated emission rates for Boilers Nos. 1 and 2 by use of the equation and emission factors, as follows:

Boiler No. 1 =  $1.74 \text{ lb}/10^6 \text{ BTU}$   
Boiler No. 2 =  $5.61 \text{ lb}/10^6 \text{ BTU}$

pursuant to calculations attached to the stipulation as Exhibit 3, In arriving at the calculated emission rates, a collection efficiency of 20% for the baffled settling chamber in Boiler No. 1 was assumed and a collection efficiency of 70% for the multiclone used in Boiler No. 2 was assumed. In arriving at the foregoing calculations, the 9.9% ash content and an 11,380 BTU/lb heat content of the coal were assumed. Stack tests conducted on Boiler No. 2 on August 29, 1972 showed emission rates of  $.1597 \text{ lb}/10^6 \text{ BTU}$  and  $.2974 \text{ lb}/10^6 \text{ BTU}$  per emission tests set forth in Exhibit 4.

The Stipulation further provides that if Fred Smith, a Source Emission Specialist, employed by the Agency, were called upon to testify, he would state that the foregoing test does not adequately reflect the actual emission from the stack pursuant to his calculations contained in Exhibit 5 attached to the Stipulation.

The stipulation further provides that if Bruce F. Barnes of the firm of Barnes, Henry, Meisenheimer and Gende, Consulting Engi-

neers, were to testify, he would state that Boiler No. 1 has not been tested since the filing of the complaint because it was not in operation until November 1, 1972 and that efforts to coordinate testing subsequent thereto, were unsuccessful.

Stipulation further provides that the City Council of Mascoutah, on October 25, 1972, authorized the preparation of bid specifications for an additional dual fuel diesel unit of not less than 2,000 KW capacity and fuel oil burners for Boilers No. 1 and No. 2, and subsequently, resolved that fuel oil burners installed in Boiler No. 2 be in place before July 1, 1973 at a cost of approximately \$40,000. The Stipulation further recites that the City of Mascoutah has joined with eleven other Illinois municipalities in a complaint before the Federal Power Commission to seek interconnection with the Illinois Power Company. Under the proposed interconnect contract, the City would maintain 20% generated capacity above its peak load. If an interconnect is ordered between the City and Illinois Power Company, the City would interconnect to a 138 KV line located approximately one mile south of the City's power plant. The interconnection would be beneficial to the City in enabling use of a larger amount of its total capacity. Alternatives as to the future use of the No. 1 boiler are considered dependent on the result of the FPC case, which alternatives include retirement of the unit, replacement by a diesel unit or conversion to fuel oil burning.

Lastly, the Stipulation recites that no Letter of Intent or Acerp from the City of Mascoutah appear in the records of the Agency.

Rule 3-3.112 limits emissions from each boiler to 0.6 lb/10 BTU. The Agency computation using standard calculation procedures and estimates of coal characteristics and efficiencies of gas cleaning devices above noted estimated the emissions, as follows:

Boiler No. 1 estimated emission = 1.74 lb/10<sup>6</sup> BTU  
Boiler No.s2 estimated emission = 5.61 lb/10<sup>6</sup> BTU

As stated above, the Boiler No. 1 baffled settling chamber was considered to have a 20% removal efficiency and Boiler No. 2 to have a 70% removal efficiency. The Board's independent review of the literature indicates a higher removal efficiency than that assumed by the Agency. Assuming a 50% efficiency for the baffled settling chamber on Boiler No. 1 and a 94% efficiency for the multiclone on Boiler No. 2, emissions for Boiler No. 1 would be at a rate of .091 lb/10<sup>6</sup> BTU and for Boiler No. 2, 1.1 lb/10<sup>6</sup> BTU, indicating violations of Rule 3-3.112, even using the higher estimates of collection efficiency. Analysis of the stack tests performed on Boiler No. 2 indicate that while there may be some room for error based upon incorrect performance of the Orsat analysis, absence of mention of sampling port locations and the failure of the sampling velocity to be isokinetic, the conclusion

must be reached that the stack tests results are not so erroneous as to signify measurements that would exceed the 0.6 lb/10<sup>6</sup> BTU as provided in the Regulation. Accordingly, irrespective of either the Agency's original estimate of 5.6 lb/10<sup>6</sup> BTU or the revised figures of 1.1 lb/10<sup>6</sup> BTU based on increased collection efficiency, it would appear that Respondent had successfully rebutted the Agency's case with respect to Boiler No. 2 and we find no violation with respect to this facility. Emissions from Boiler No. 1 by either the Agency's estimate or the modified estimate based on higher collection efficiency, would indicate a violation of the 0.6 lb/10<sup>6</sup> BTU standard.

The suggested order proposed by the parties would provide as follows:

"1. The City of Mascoutah shall have installed and operational fuel oil burners in its No. 2 boiler capable of complying with all applicable rules and regulations before peak loading requires its operation in the summer of 1973, but in no event later than July 1, 1973;

- (a) Said boiler shall not otherwise be operated unless an emergency requires its operation;
- (b) Said emergency would exist only if the non-operation of Boiler No. 2 would curtail electrical service to the people of the City of Mascoutah;
- (c) If such emergency should exist, the City of Mascoutah must notify the Agency within twenty-four (24) hours after beginning operation of the extent and nature of the emergency and the circumstances of operation.

2. That Boiler No. 1 shall not be operated after this winter until the City of Mascoutah can exhibit to the Environmental Protection Agency that said boiler complies with all applicable rules and regulations:

- (a) Said boiler shall not otherwise be operated unless an emergency requires its operation;
- (b) Said emergency would exist only if the non-operation of No. 1 boiler would curtail electrical service to the people of the City of Mascoutah;
- (c) If such emergency should exist, the City of Mascoutah must notify the Agency within twenty-four (24) hours after beginning operation of the extent and nature of the emergency and the circumstances of operation.

3. If so ordered by the Pollution Control Board, the City of Mascoutah shall submit a performance bond in the amount of \$40,000 in a form satisfactory to the Agency, to guarantee performance of the preceding orders, within 35 days of the date of the Board's order.

The parties leave to the Board's discretion, the determination of the amount of monetary penalty, if any, to be assessed in the above-captioned matter."

While the contemplated program to bring the operation into compliance is somewhat speculative and uncertain, particularly in view of the uncertainty of the proposed interconnect order with Illinois Power Company, we believe the program represents a reasonable effort to achieve compliance and will approve it, retaining jurisdiction for such other and further orders as might be appropriate. We do feel, however, that the failure of the City to file a Letter of Intent and pursue an Air Contaminant Emission Reduction Program, coupled with the proven violations with respect to Boiler No. 1 call for the imposition of a penalty which we assess in the amount of \$500. Were Respondent other than a municipality, the penalty would be far more severe. It is because of the failure to comply with the regulations that emissions have continued unabated over the years and have frustrated the objectives that the air pollution control legislation was designed to achieve.

This opinion constitutes the findings of fact and conclusions of law of the Board.

IT IS THE ORDER of the Pollution Control Board:

1. Penalty in the amount of \$500 is assessed against the City of Mascoutah for failure to file a Letter of Intent and Air Contaminant Emission Reduction Program for emissions from its Boiler No. 1 in excess of limitations contained in Rule 3-3.112 of the Rules and Regulations Governing the Control of Air Pollution and for violation of Rule 3-2.110 in failing to obtain a permit for installation of its Diesel Unit No. 4 and the Tu Buell collector on Boiler No. 2. Penalty payment by certified check or money order payable to the State of Illinois shall be made to: Fiscal Services Division, Environmental Protection Agency, 2200 Churchill Drive, Springfield, Illinois 62706, by Feb. 25, 1973.
2. The City of Mascoutah is directed to pursue the program of pollution control set forth in the suggested order contained in the Stipulation filed herein and specifically, shall achieve the following:
  - (a) Fuel oil burners for the No. 2 boiler shall be in compliance with all relevant regulations by July 1, 1973 and shall be used prior to said date only for emergency operations when its failure to be in use would curtail

electrical services to the City of Mascoutah. In the event such emergency does exist, the City shall notify the Agency within 24 hours after operation as to the extent and nature of the emergency and the circumstances of operation.

(b) Boiler No. 1 shall be in compliance with all relevant regulations by April 1, 1973 and shall operate prior to said date only when emergency conditions exist as set forth in sub-paragraph (a) above, and subject to the same terms and conditions of notification to the Agency.

(c) Performance bond in the amount of \$40,000 in form satisfactory to the Agency to guarantee performance of the foregoing provisions of this order shall be filed with the Fiscal Services Division, Environmental Protection Agency, 2200 Churchill Drive, Springfield, Illinois 62706.

(d) The Board retains jurisdiction of this matter for such other and further orders as may be appropriate, until July 15, 1973.

I, Christian Moffett, Clerk of the Illinois Pollution Control Board, certify that the above Opinion and Order was adopted on the 16<sup>th</sup> day of January, 1973, by a vote of 3 to 0.

Christian S. Moffett