ILLINOIS POLLUTION CONTROL BOARD
March 15, 1973

ENVIRONMENTAL PROTECTION AGENCY	)	
	)	
	)	#70-9
v.	)	#71-373
	)	
CITY OF SPRINGFIELD	)	

THOMAS J. IMMEL, ASSISTANT ATTORNEY GENERAL, ON BEHALF OF ENVIRONMENTAL PROTECTION AGENCY
CHARLES A. BANE and ROBERT H. WHEELER OF ISHAM, LINCOLN & BEALE, ON BEHALF OF RESPONDENT

OPINION AND ORDER OF THE BOARD (BY SAMUEL T. LAWTON, JR.):

Complaint was filed by the Environmental Protection Agency against the City of Springfield and its department, the Springfield Light and Power Company, on September 16, 1970, alleging violation of the Environmental Protection Act in respect to air and water pollution and certain Rules and Regulations Governing the Control of Air Pollution, all with regard to the Lakeside and Dallman plants.

Our order of May 12, 1971, issued after hearing on the complaint, contained inter alia the following provision:

> "3. By December 1, 1971, the City, working in conjunction with the Agency, shall submit to the Agency and the Board a program to reduce the emissions of sulfur dioxide from the Lakeside and Dallman plants so as not to cause a violation of Section 9(a) of the Act as described in the opinion of this Board. That program shall include a detailed explanation of the plans for, timetables for completion of and costs of specific devices which will be used to solve the problem and shall be implemented and said devices shall be in operation by June 1, 1974."

On November 30, 1971, the City filed a Petition for Reconsideration and Amendment of the May 12, 1971 Order with specific reference to the foregoing provisions contained in paragraph 3 thereof. The substance of the City's Petition for Reconsideration is that while the City has not specifically complied with the precise terms of the order, it has made improvements in both plants, including retirement of certain boilers, conversion of coal to oil and installlation of electrostatic precipitators so that any SO_2 nuisance which may have existed resulting in the imposition of the foregoing

order, has been abated so that at the present time, no SO_2 nuisance exists and the need for compliance with paragraph 3 of the order has accordingly terminated. The City asks that paragraph 3 of the May 12, 1971 order be stricken.

The Clerk of the Board docketed the petition for reconsideration as a variance and procedures characteristic of a variance application ensued. On February 4, 1972, an application for corrective order was filed which, in substance, requested that the earlier petition not be construed as a variance petition inasmuch as the validity of the order had not been acquiesced in by the City and an appeal to the Appellate Court, Fourth District was pending.

On February 22, 1972, we entered a preliminary order granting the application for corrective order to the extent of stating that the petition for reconsideration and amendment was not a petition for variance. At the same time, we urged that the Agency make its views known so that the matter could be resolved expeditiously. On February 25, 1972, a recommendation was filed by the Agency recommending that the petition for reconsideration be denied. A response to the Agency's recommendation was filed. The matter was finally heard in Springfield on November 14, 15 and 16, 1972. Brief was filed by the City of Springfield and none by the Agency. The narrow issue presented by the state of the record is whether the present circumstances are such that compliance with paragraph 3 in its precise terms, continues necessary or whether the objective that paragraph 3 was designed to achieve have been fulfilled so that compliance with its precise terms no longer would be warranted. We do not, by this proceeding, intend to reopen the original proceeding.

Paragraph 3 of the order was based upon a finding that the sulphur dioxide emissions from the two plants were of a magnitude so as to constitute air pollution, as defined in Section 9(a) of the Act. Environmental Protection Agency Exhibit No. 5 indicated that, based upon performance of various boilers, a concentration of .5 ppm was found at and near the plants. There was, in addition, considerable testimony as to sulphur odors in the area. The opinion continues (Page 8):

"The effects of this kind of high concentration of SO_2 are well demonstrated in the "Air Quality Criteria for Sulfur Oxides" (EPA Exhibit 68):

'In addition to health considerations, the economic and aesthetic benefits to be obtained from low ambient concentrations of sulfur oxides as related to visibility, soiling, corrosion, and other effects should be considered by organizations responsible for promulgating ambient air quality standards. Under the conditions prevailing in areas where the studies were conducted, adverse health effects were noted when 24-hour average levels of sulfur dioxide exceeded 300 ug/m^3

(0.11 ppm) for 3 to 4 days. Adverse health effects were also noted when the annual mean level of sulfur dioxide exceeded 115 ug/m^3 (0.04 ppm). Visibility reduction to about 5 miles was observed at 285 ug/m^3 (0.10 ppm); adverse effects on materials were observed at an annual mean of 345 ug/^{3} (0.12 ppm); and adverse effects on vegetation were observed at an annual mean of 85 ug/m^3 (0.03 ppm). It is reasonable and prudent to conclude that, when promulgating ambient air quality standards, consideration should be given to requirements for margins of safety which take into account long-term effects on health, vegetation, and materials occurring below the above levels.'

"The level of air quality attributable to the City's plant, if it persists for even a short time, is well beyond the level at which health effects, damage to property and effects on vegetation have been seen. The sulfur concentrations then are not only injurious to plant and animal life, but unreasonably interfere with the life of the neighbors of the plant. The neighbors can smell it, they can taste it. Even though a standard for sulfur dioxide does not presently exist, there is no question in the mind of this Board that sulfur dioxide emissions from the Lakeside and Dallman plants are significant enough to be deemed air pollution within the meaning of the Environmental Protection Act."

We noted that while specific regulations limiting the emissions of sulphur dioxide had not been promulgated this, in no way, foreclosed a finding that emissions could cause air pollution as defined in the Act. The provision of the order presently in issue was designed to compel the City to take affirmative steps to abate the SO_2 nuisance. The substance of the City's position is that while it has not submitted a program for SO_2 removal consistent with the provisions of the order, principally because of what it alleges to be an absence of time and an absence of technology, together with uncertainty as to availability of low sulphur fuel, it has, in fact, taken affirmative steps in the modification of its equipment and operation so as to substantially abate the SO_2 nuisance. Paragraph 4 of the original petition for reconsideration provides as follows:

> "4. As a result of improvements completed since the initial Environmental Protection Agency complaint in this case, the City has upgraded 23.6% of its total nameplate generating capacity to compliance with proposed federal standards for SO_2 emissions. The units which have been so upgraded are peak loading units, and, of all the City's equipment, had been in the most need of upgrading.
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> 'Boiler number 1 of Lakeside Plant One has been retired wholly eliminating a significant annual amount of SO_2 emissions. Boilers 2, 3 and 4 of Lakeside Plant One have been converted to low-sulfur fuel oil. The resultant decrease in SO_2 emission rates has been from 7.4 lbs/MMB, to .78 lbs/MMB and an 82% reduction in SO_2 ground level concentration.

"The four boilers of Lakeside Plant Two were connected through a common breeching, to a 97.5% efficient electrostatic precipitator which discharges into a new 300 foot stack with a consequent 91% reduction in SO_2 ground level concentrations.

"The City is about to connect an electrostatic precipitator on Dallman Unit 31 to aid the existent mechanical precipitator and provide 97.5% effective removal of particulate emissions. V. Y. Dallman Unit 32, scheduled for operation in 1972, will be equipped with control devices similar to those of the Dallman Unit 31, except that a 97.5% electrostatic precipitator will be employed without a mechanical precipitator.

"Because of environmental and economic considerations, the City delayed the commercial operation of Dallman Unit 33 from 1975 until 1976, and possibly until 1977. This decision postpones the addition of another emission source at the Dallman location, and affords the City additional time to plan a unit best able to comply with state and federal regulations.

"Collectively, these improvements have had the immediate effect of substantially reducing total SO_2 emissions from the City's equipment and lowering ground level concentrations of SO_2 in areas surrounding the City's plants. Inasmuch as the Board's finding that the City was violating Section 9(a) was based only upon an aggregate amount of SO_2 being emitted by the City's entire system and not any rate of emission from any one source, it may well be that since these improvements have been made, the City's SO_2 emissions no longer constitute air pollution within the meaning of Section 9(a).

"The record of the City's improvements is equal, if not superior, to most utilities in the state. Beyond these material improvements already achieved, the City has planned additional measures to further control the emission of SO_2 into the environment. On September 25, 1971, 1,000 tons of low sulfur Illinois coal (1% or less) were obtained for test purposes in boilers designed to burn relatively higher sulfur content central Illinois coal with different characteristics. When the current coal strike is terminated and normal sources of coal restored, this coal will be tested for "episode use", since it is not available in sufficient quantities for normal operations. Future tests are also planned utilizing low sulfur western coal.

"The City is committed to an extensive monitoring program, which to date has seen the acquisition of six sulfur dioxide and dust fall monitoring stations; it is anticipated that additional monitoring equipment will be acquired. This equipment is expected to provide the City with the data necessary to devise a more effective system-wide program of emission control.

"Finally, the City has undertaken extensive and detailed study of SO_2 removal equipment currently available and proposed. This study has included a report by expert engineers Burns & McDonnell which discusses the alternate means of SO_2 control. Additionally, the City advertised for bids on a Dallman Unit 33 which would be equipped with gas cleaning capable of SO_2. Only two bids were received. A meeting with representatives of the lowest bidder, the City and the Environmental Protection Agency was held to discuss the proposed system in detail.

"The future plans of the City with respect to SO_2 control provide for continuing surveillance and evaluation of the development of existing prototype systems which might be applicable to the City's equipment. Detailed presentations by all vendors of gas cleaning scrubber systems which appear feasible for the City's system will be scheduled once specific SO_2 emission standards have been promulgated. Finally, the City is instituting a program by which engineering personnel and the environmental coordinator will be able to attend seminars and workshops relating to the general subject of environmental control activities and the control of contaminant emissions, including scrubber systems."

Presentation at the hearing by the City in support of its petition was divided into three general categories; first, testimony of citizens with respect to sulphur odors and nuisance observed in the area of the plants, secondly, testimony of expert witnesses who testified to actual ground level measurements of SO_2 and computed emissions premised on various hypothetical considerations, and lastly, testimony of certain municipal officials with respect to modifications made and to be made in the operation of the facilities involved. The testimony of citizens was persuasive in establishing that the community impact from the SO_2 emissions had substantially lessened since the rendition of our original order. Residents called upon as witnesses appeared to reside in various directions from the City's facilities and none testified that sulphur emissions constituted an interference with their daily lives or well-being. (R. 375-77, 390-91, 402-03, 414-15, 423-25, 434-36 446-47, 456-57). No citizen witnesses appeared in opposition to the position of the City. We must conclude from this

aspect of the record that the SO_2 emissions from the City's plants are not of a magnitude to constitute interference with the enjoyment of life so as to constitute air pollution. Nor does the evidence indicate that the City's SO_2 emissions have continued to a numerical level where its presence would constitute an interference with health or the enjoyment of life on an objective basis. Ground measurements made by expert witnesses employed by the City sustain the City's position that the SO_2 ground level concentrations were from one-fifth to one-eighth of those which maintained in 1970, which was the period in which the original violations were asserted.

The evidence supported the City's contention that substantial reduction in ground level concentrations of SO_2 had occured as a consequence of the retirement of Lakeside Boiler No. 1, the conversion of Lakeside boilers ##2, 3 and 4 from coal fuel to low sulphur oil, the change to a single 300 foot stack for emissions from Lakeside boilers ##5, 6, 7 and 8 and the use of 300 foot stacks for Dallman Units #31 and 32. Projections were also made as to what level of SO_2 concentrations might be expected if the plants operated at projected seasonal peak loads (R. 174-175, 188-190). The projection indicated that if the City was operating at a constant peak load, SO_2 emissions would be within the 0.50 ppm Federal secondary hourly SO_2 maximum concentration for any given hour at least 99% of the time. Predicted daily SO_2 concentration levels for the Federal 24-hour primary standard of .14 ppm would never be exceeded and the secondary 24-hour standard of 0.01 ppm might be equalled once a year. (City Exhibit 6, pp. 29 through 37, R. 207-208). Peak load operation throughout the entire year would not exceed Federal annual primary standards while the secondary standard might be exceeded by 0.01 ppm. (R. 212-215).

The foregoing evidential conclusions are not countered by Agency witnesses. We must conclude on the basis of the evidence adduced at the hearing that the conditions which maintained in 1970 resulting in our May 12, 1971 Order directing that steps be taken to abate the SO_2 nuisance, no longer exist. The City has demonstrated by the testimony of the residents and expert witnesses that the SO_2 emissions no longer are of a level to constitute air pollution as defined in the Act, either on the basis of subjective annoyance or the exceeding of tolerable health and public welfare limits. The issue is not whether the City of Springfield will meet our 1975 standards or whether problems might result in the event of episode conditions during periods of thermal inversion. Remedial measures are available should these requirements not be satisfied when relevant. The City has demonstrated that the 9(a) sulphur dioxide air pollution violations which resulted in paragraph 3 of our May 12, 1971 Order have ceased to exist.

The next problem is what to do about the order. The order, when entered, was a proper one and based on a factual record that existed at the time of its rendition. It is manifest that the City has not complied with its express provisions because no plans, timetable or statement of costs have been submitted nor have specific devices been delineated which would assure an abatement of the nuisance. However, at this point in time, we are more concerned with the results achieved than adherence to the precise means in which the results are to be achieved. While we do not necessarily condone the City's failure to comply with the provisions of the order, we must, at the same time, recognize that it has achieved that which we sought to accomplish, albeit in a different form than contemplated. Accordingly, it will be our order that the conditions with respect to paragraph 3 of our May 12, 1971 order have been complied with and that nothing further remains to be done with respect to its implementation. This, of course, in no way forecloses the Agency from taking such action as appropriate should, in fact, an SO_2 air pollution condition recur at any time in the future. Nor does our order herein constitute recognition that the City does, or will, meet all relevant regulations with respect to SO_2 emissions. We hold by this order that so far as the record in the supplemental proceedings is concerned, the City has established that it has corrected its SO_2 violations and has satisfied the requirements of our May 12, 1971 order in this respect.

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

IT IS THE ORDER of the Pollution Control Board that the City of Springfield has satisfactorily demonstrated compliance with paragraph 3 of our May 12, 1971 order in Case #70-9, and no further submissions or actions are necessary on its part, pursuant to the provisions of said paragraph 3.

I, Christan Moffett, Clerk of the Illinois Pollution Control Board, certify that the above Opinion and Order was adopted on the _____ day of March, 1973, by a vote of _____ to _____.

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