

ILLINOIS POLLUTION CONTROL BOARD  
January 4, 1979

IN THE MATTER OF: )  
 )  
PARTICULATE EMISSION ) R77-5  
STANDARDS FOR COMBUSTION )  
OF LOW CARBON WASTES )

OPINION AND ORDER OF THE BOARD (by Mr. Dumelle):

This proceeding to amend Rule 203(e) of the Board's Air Pollution Control Regulations was initiated by a Petition filed with the Board on March 3, 1977. The Petition was published in Environmental Register #145 dated April 11, 1977. Hearings were held on August 30, 1977 in Charleston, Illinois and October 18, 1978 in Chicago. A document entitled An Economic Impact Study of Low Carbon Wastes (R77-5) (IIEQ Document 78/06) (Ex. L) was submitted to the Board pursuant to §6(d) of the Environmental Protection Act. Hearings on the document were held on July 28, 1978 in Streator, Illinois and August 7, 1978 in Chicago.

At the first hearing the Petitioner, Addressograph-Multi-graph Corporation, presented an Amended Petition (Ex. A) which served as the basis for all subsequent proceedings.

This Opinion references the record with roman numerals (RI-10, RII-15, etc.). This system was used because the page numbering was not continuous. The roman numerals refer to individual hearing transcripts.

NEED FOR THE REGULATION

Petitioner's dilemma is best described on pages 12-17 of Exhibit L. Under the present Rule 203(e)(4) Petitioner must meet a particulate emission standard of 0.1 grains per standard cubic foot of effluent gases corrected to 12% carbon dioxide. Exhibit 2 (summarized in Table 1.1 on page 13 of Ex. L) shows that as the percent of carbon dioxide in the exhaust gas decreases, the corrected particulate emissions increase. Since Petitioner's exhaust gas averages 0.0146% carbon dioxide, corrected emissions are exaggerated by calculation to 74.25 grains per standard cubic foot. As an alternative Petitioner proposes a correction of 50% excess air for new incinerators burning not more than 2000 pounds of waste per hour containing dry basis volume concentrations of less than 1.2% carbon dioxide from the waste alone.

The 2000 pound limitation includes Petitioner's incinerator. The 1.2% limitation represents ORSAT measurement limits (R.II-24).

The Agency contends that Petitioner cannot comply with the

present Rule 203(e) because of the aqueous nature of its waste (R.III-63). Mr. Moore testified that the 12% carbon dioxide correction should be retained because it is appropriate for pathogen burners combusting waste high in hydrogen (R.II-64). This conclusion conflicts with Exhibit E which states that a 50% excess air correction would be sufficient for all incinerators. Since the record is limited to an analysis of Petitioner's incinerator, and the request for relief is narrow, the Board will limit its decision to the relief requested.

#### EFFECT ON AIR QUALITY

Exhibits H, I, and K indicate that although this regulation would have statewide effect, Petitioner's incinerator is the only known affected source. Particulate emissions from this source have been calculated at 1.163 pounds per hour (R.I-29). The nearest air monitoring site is 50 miles away in Champaign and it shows compliance with the particulate air quality standard and no upward trend (R.II-22). Chapter 4, Section 4.1 of Exhibit L concludes that air quality within the vicinity of Petitioner's incinerator is ". . . safely within the applicable air quality standards." Complete elimination of Petitioner's emissions would at most lower the local 24-hour air quality level by about 0.5 micrograms per cubic meter and the annual level by a maximum of 0.14 micrograms per cubic meter (p.66). These effects can best be described as negligible.

#### TECHNICAL FEASIBILITY AND ECONOMIC REASONABLENESS

Exhibit F contains a copy of the ten feasibility studies which were done by Petitioner before it decided to install its present incinerator. All of the alternatives to the present system either had problems with the nature or the volume of the waste, were unreliable, or were not adaptable to the climate of the Charleston area.

Chapter 3 of Exhibit L estimates the costs for various control options which are assumed to be sufficient to result in compliance with the present Rule 203(e). Table 3.5 shows a range of total additional annual costs from \$14,419 to \$137,280. Table 5.1 shows that all of these options greatly exceed a conservatively high estimate of benefits which would accrue from the reduced emissions. The range here was \$6,717 per year to \$129,578 per year.

Consequently, the Board concludes that adoption of this proposal will have no adverse economic impact on the people of the State of Illinois.

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

ORDER

Rule 203(e)(4) of the Board's Air Pollution Control Regulations is hereby amended by the addition of a new section which shall read as follows:

(A) Rule 203(e)(4) shall not apply to aqueous waste incinerators which, when corrected to 50 per cent excess air for combined fuel and charge incineration, produce stack gas containing carbon dioxide dry-basis volume concentrations of less than 1.2 per cent from the charge alone; if all the following conditions are met:

(i) The emissions of particulate matter into the atmosphere from any such new or existing incinerator does not exceed 0.1 grains per standard cubic foot, dry basis, when corrected to 50 per cent excess air for combined fuel and charge incineration.

(ii) The waste charge to the incinerator does not exceed 2000 pounds per hour.

IT IS SO ORDERED.

Mr. Werner concurs.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order were adopted on the 4<sup>th</sup> day of January, 1979 by a vote of 4-0.

Christan L. Moffett  
Christan L. Moffett, Clerk  
Illinois Pollution Control Board