State of California
AIR RESOURCES BOARD

Resolution 81-64

October 22, 1981

Agenda Item No.: 81-21-2

WHEREAS, the Air Resources Board (Board) and/or the federal Environmental Protection Agency have adopted ambient air quality standards for ozone (oxidant), nitrogen dioxide, particulate matter, and visibility, and these standards are consistently exceeded in several of the state's air basins, notably the South Coast Air Basin;

WHEREAS, Health and Safety Code Sections 39003, 39500, 39602, and 41500 authorize the Board to coordinate, encourage, and review efforts to attain and maintain state and national ambient air quality standards;

WHEREAS, Health and Safety Code Sections 39600 and 39605 authorize the Board to act as may be necessary to execute the powers and duties granted to and imposed upon the Board and to assist local air pollution control districts;

WHEREAS, the California Environmental Quality Act and Board regulations require that an activity not be adopted as proposed if mitigation measures or alternatives exist which would substantially reduce any significant adverse environmental effects of the proposed activity, and further require the Board to respond in writing to significant environmental issues raised;

WHEREAS, on October 22, 1981, the Board held a duly noticed public meeting to hear and consider the evidence and comments presented by the staff, affected industries, and other interested persons and agencies;

WHEREAS, the Suggested Control Measure for the Control of Emissions of Oxides of Nitrogen from Cement Kilns has been reviewed and approved by a technical review group consisting of representatives of the Environmental Protection Agency, the Air Resources Board, the Bay Area Air Quality Management District, the South Coast Air Quality Management District, and several other air pollution control agencies; and

WHEREAS, the Board finds:

That emissions of oxides of nitrogen (NOx) from cement kilns contribute to the formation of ozone and contribute significantly to concentrations of nitrogen dioxide (NO_2), total suspended particulate matter (TSP), and visibility reducing particles;

That technology for reducing NOx emissions from cement kilns by approximately 38 percent from their uncontrolled rates is technologically feasible and cost-effective;

That the technologies anticipated to be used to meet the limitations of the Suggested Control Measure will likely result in energy savings; and

That the staff report and the information presented at the October 22, 1981 public meeting adequately address the environmental issues associated with this Suggested Control Measure, and the Board concurs in the staff's finding that no significant adverse environmental effects are likely to result from the adoption and implementation of the Suggested Control Measure.

NOW THEREFORE BE IT RESOLVED, that the Board approves the Suggested Control Measure for the Control of Emissions of Oxides of Nitrogen from Cement Kilns, as set forth in Attachment A to this resolution.

BE IT FURTHER RESOLVED, that the Executive Officer is directed to forward the Suggested Control Measure to air pollution control and air quality management districts with the recommendation that they consider adoption of the measure or a similar measure to the extent that such districts need to further reduce emissions of oxides of nitrogen in order to attain or maintain ambient air quality standards.

BE IT FURTHER RESOLVED, that the Executive Officer is directed to provide assistance to any district requesting assistance in adopting, interpreting or implementing the Suggested Control Measure.

I certify that the above is
a true and correct copy of
Resolution 81-64, as adopted
by the Air Resources Board.

Sally Rump

Sally Rump, Board Secretary

Attachment A

Suggested Control Measure for the Control of Emissions of Oxides of Nitrogen from Cement Kilns

On or after July 1, 1984, no person shall operate any cement kiln that discharges nitrogen oxides (NOx) into the atmosphere unless such operation complies with the following emission limit:

3.1 lbs NOx/Ton of Clinker (averaged over 3 hours*)

For cogeneration installations, the emission limit shall be based on the following equation:

Cogeneration Based Emission Limit = Emission Limit x A

$$\text{Where: } A = 1 + \frac{\text{Electricity Cogenerated (Btu/hr)}}{\text{Kiln Heat Input (Btu/hr)}}$$

Kiln heat input shall be based on the higher heating value of the fuel fired.

* If a source installs and operates a continuous NOx monitor in accordance with conditions set forth by the Air Pollution Control Officer (APCO), the averaging time may be extended to 24 hours.

For the purpose of this rule, NOx shall be calculated as NO_2 on a dry basis.

All emission determinations shall be made at as found conditions excluding start-up, shutdown, or breakdown, and measured continuously using proposed ARB Method 100 or equivalent.

The following equation shall be used to convert uncorrected volume parts per million of NOx to pounds of NOx per ton of clinker produced at standard conditions of 68°F and 29 inches of mercury:

$$\frac{(\text{ppm}_v\ \text{NOx})(46\ \text{gram/mole})(1.56 \times 10^{-7})(\text{SDCFM})}{(\text{Ton/Hour of Clinker})} = \frac{\text{lbs NOx}}{\text{Ton of Clinker}}$$

After January 1, 1984, the APCO shall, within 60 days of receipt of a petition, conduct a public hearing to review the feasibility and cost-effectiveness of meeting the emission limit of 3.1 lbs of NOx per ton of clinker produced. If the APCO determines that the emission limit is not supported by the evidence presented at this public hearing, s(he) shall modify the compliance date or emission limit to the extent supported by the evidence. The review shall also assure that the cogeneration limits shall be consistent with the provisions of AB 1862 (Chapter 952, Statutes of 1981).

Note: This suggested control measure is to be used for interim determination of Best Available Control Technology (BACT) only.

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Response to Significant Environmental Issues

Item: Public Meeting to Consider a Suggested Control Measure for the Control of Emissions of Oxides of Nitrogen from Cement Kilns

Agenda Item No.: 81-21-2

Public Hearing Date: October 22, 1981

Response Date: October 22, 1981

Issuing Authority: Air Resources Board

Comment: No comments were received identifying any significant environmental issues pertaining to this item. The staff report identified no adverse environmental effects.

Response: N/A

CERTIFIED: Sally Rump
Board Secretary

Date: Nov. 9, 1981