

ILLINOIS POLLUTION CONTROL BOARD
September 26, 1991

IN THE MATTER OF:)
)
PM-10 EMISSION LIMITS FOR THE)
PORTLAND CEMENT MANUFACTURING) R91-6
PLANT AND ASSOCIATED QUARRY) (Rulemaking)
OPERATIONS LOCATED SOUTH OF)
THE ILLINOIS RIVER IN LASALLE)
COUNTY, ILLINOIS.)

ADOPTED RULE

FINAL NOTICE

OPINION AND ORDER OF THE BOARD by (B. Forcade):

This matter comes before the Board on a regulatory proposal filed on January 10, 1991 by the Illinois Environmental Protection Agency ("Agency") to establish the PM-10 emission limits for the portland cement manufacturing plant and associated quarry operations located in LaSalle County, Illinois. The proposed regulations are applicable to a single facility owned and operated by Lone Star Industries in Oglesby, Illinois. The proposed regulatory changes would amend 35 Ill. Adm. Code 212, Visible and Particulate Matter Emissions, 35 Ill. Adm. Code 212.110, 212.423, and 212.424, and Part 211, Definitions General Provisions, 35 Ill. Adm. Code 211.122.

The Agency has certified, and the United States Environmental Protection Agency ("USEPA") has confirmed and certified, that the proposed rule is a federally required rule as defined in Section 28.2(a) of the Illinois Environmental Protection Act ("Act"). Section 28.2 was amended by P.A. 86-1409, effective January 1, 1991, requiring the Board to accept or reject an Agency certification within 45 days. The Board accepted the certification on February 7, 1991. On February 28, 1991 the Board determined that an Economic Impact Study was not necessary and adopted the First Notice Opinion and Order in this proceeding.

The Board wishes to acknowledge the contributions of attorney Margaret Dolan Fliss who acted as Hearing Officer and assisted in preparation of the First Notice Opinion and Order during the course of her former employment at the Board; of staff attorney Marie Tipsord who assisted in the drafting of the Second Notice and Final Opinion and Order in this matter; and the contributions of Dr. Harish Rao who provided technical assistance.

The First Notice appeared in the Illinois Register on March 29, 1991. 15 Ill. Reg. 4668 and 4573. On April 17, 1991, a public hearing was held in Chicago, Illinois and on April 19, 1991, a second public hearing was held in Oglesby, Illinois.

On August 22, 1991, the Board voted to send the proposal to Second Notice. During the Second Notice period the Joint Committee on Administrative Rules ("JCAR") suggested and the Board agreed to make some minor non-substantive changes to the rule. The changes were of a grammatical nature and do not affect the meaning of the proposal. On September 17, 1991, JCAR issued a Certification of No Objection to this proposal.

BACKGROUND

USEPA established the National Ambient Air Quality Standards ("NAAQS") for PM-10 in 1987. The 24-hour PM-10 standard is 150 ug/m³ and the annual PM-10 standard is 50 ug/m³. See 52 FR 24634 (July 1, 1987). These standards were authorized pursuant to Sections 108 and 109 of the Clean Air Act, 42 U.S.C. 7408, 7409. Section 110 of the Clean Air Act requires that a state have an approved State Implementation Plan ("SIP") to achieve federal air quality standards. 42 U.S.C. 7410. The 1990 Clean Air Act Amendments require submission of a PM-10 SIP by Illinois by November 15, 1991.

The proposed rule before the Board is intended to satisfy the federal requirements for an approvable PM-10 SIP for the Oglesby, Illinois area, which area is designated as a "moderate" or Group II nonattainment area, based on past air quality violation. See 55 FR 45799. On May 16, 1990, the USEPA directed that the Oglesby area in LaSalle County also be subject to a Group I analysis. 55 FR 20265. A Group I area for PM-10 is so designated by USEPA if that area has a 95% or greater probability of not attaining the PM-10 NAAQS. The Board notes that on August 8, 1991, the USEPA published a list of nonattainment areas for PM-10. The list included Oglesby, with the following comments:

The Governor of Illinois submitted information to EPA requesting that an additional section be added to that portion of Oglesby designated nonattainment for PM-10 Consistent with the definition of nonattainment area in section 107[d][1][A][i], EPA has added the section and announces that the Oglesby PM-10 nonattainment area is as described in Table I.

In the January 28, 1991 correspondence to the

Governor of Illinois, the Regional Administrator of EPA Region V had initiated the process to redesignate as nonattainment this portion of LaSalle County. That process has been mooted by the action announced in today's notice. (56 FR 37662)

As previously stated, these proposed regulations are applicable to a single facility owned and operated by Lone Star Industries in Oglesby, Illinois. Lone Star operates a Portland Cement manufacturing plant. Mr. John Krolak, a field engineer testified as to the process used by Lone Star. (Tr. 1 pp. 80-81). Portland Cement is a material which is mixed with sand or gravel and water to make concrete. Portland cement is produced by burning a finely ground mixture of limestone and shale to the fusion point and then grinding the resulting clinker with a small percentage of gypsum.

Limestone and shale are obtained from a quarry known as the Lehigh quarry owned by Lone Star in Deer Park Township, LaSalle County, located adjacent to the northern boundary of Oglesby. The quarrying operation begins with the clearing of the land. Unused land is farmed. Lone Star presently has contracts with another company specializing in earth moving to carry out the clearing or stripping operations. Heavy equipment is used to remove the top soil and subsoils; these are used or set aside for later reclamation work. The shale is set aside for use in the process. Stripping continues until the usable limestone bedrock is exposed.

As limestone is needed, a group of 6-inch diameter holes are drilled into the stone to a depth of about 30 feet in an area adjacent to the working face (where rock has previously been removed), explosive charges are set in the holes and detonated to fracture and dislodge about 8,000 tons of rock.

According to Mr. Chris Romaine, Manager of the New Source Review Unit with the Agency, Lone Star has undertaken a full scale modernization program in an attempt to comply with this proposed regulation. Changes at the facility include raising stack heights and "replacement of the raw mill department, installation of new feed for the kiln, and replacement of the separator in the finish department" (Tr.2 p. 32).

DISCUSSION

In the Board's First Notice Opinion and Order (February 28, 1991), the Board made a number of non-substantive changes in preparation for review of the proposed rule by the Administrative Code Division of the Secretary of State's Office and by JCAR. The Board made particular efforts to clarify any references to applicable standards or limitations to satisfy JCAR concerns for

specificity and to use a format for incorporation by reference which JCAR recently approved in R87-31. The Board attempted to preserve the intent of the Agency's proposal while anticipating probable revisions that could otherwise pose delays in adopting the final rule well in advance of the Agency's November 1991 deadline.

In addition, the Board changed certain terminology and sections were reorganized at First Notice. The Agency proposed Section 212.108, Test Methods for PM-10 Emissions, but the Board instead proposed amendment to the current Section 212.110, Measurement Methods, as a preferred long-term organizational structure. Similarly, the Board repositioned the tests proposed by the Agency for placement in Section 212.423(f) to Section 212.110.

Also at First Notice, the Board deleted references to "fugitive dust" as this term is not defined in Part 211, and instead used the term "particulate matter", which is found in Part 211. Revisions were also made to clarify the sections on recordkeeping and reporting.

The Board also asked that the participants comment on specific language in the Agency's proposal. The Board asked that the participants discuss the following:

- 1) The reference in Section 212.110(i) to USEPA's continuing, independent authority.
- 2) The reference in Section 212.424(b) to Subpart K of this Part.
- 3) The sentence in Section 212.424(e)(5) which states, "This report shall include those times when subsection (e) of this Section is involved."
- 4) The reference in Section 212.423(a) to the applicability of Sections 212.321 and 212.322 and the impact these sections may have on the requirement of no visible emissions found in Section 212.423(c)
- 5) The reference in Section 212.423(a) to the applicability of Section 201.149.

At the hearings held during the First Notice period, the Agency presented testimony by several of the Agency's experts in support of the Agency's proposal. Mr. Dave Kolaz, Manager of the Air Systems Management Section for the Division of Air Pollution Control, described the PM-10 monitoring which was conducted in Oglesby. The actual monitoring point was located in Oglesby north of the Lone Star facility. The monitoring indicated that

the Oglesby area had exceeded the 24-hour standard numerous times and the annual standard had been exceeded four times. (Tr. 1 p. 29 and 39). Mr. Kolaz testified that:

One technique that is useful in the analysis of particulate matter is the generation of a wind direction frequency table or wind rose. This establishes the frequency of time that the wind blows from a particular set of directions on days when particulate levels are high. (Tr. 1 p. 35).

Mr. Kolaz further testified that the data used in developing the wind rose was obtained from an Agency monitoring site in Peoria and the data indicated that the most frequent directions associated with the high PM-10 values were from the sector to the southwest. (Tr. 1 p. 37-38).

Mr. Kolaz also stated:

This type of analysis provides a good indication of the general geographical area from which the high values are generated.

* * *

The sources of the high PM-10 are most likely within the cross-hatched areas which includes the Lone Star Industries' facility, located approximately .5 kilometers south-southwest of the monitoring site.

The fact that light winds were associated with the high PM-10 levels is an indication that wind-blown fugitive dust is not a major contributor; however, mechanically-induced fugitive emissions are a possible contributor. (Tr. 1 p. 38).

In studying the air quality in the Oglesby area, the Agency used dispersion modeling in an effort to develop a control strategy for achieving and maintaining PM-10 air quality standards. (P.C. 3 p. 4). The Agency presented testimony from Robert Kaleel and Jeffrey Sprague regarding the dispersion modeling used in this proceeding. According to Mr. Sprague, the Agency's modeling indicated that with the modernization program and control technologies being added to the Lone Star facility, the area would meet the ambient air quality standards for PM-10. (Tr.2 p. 155).

The Agency believed that the initial proposal submitted to the Board was agreed to by Lone Star. However, at hearing, Lone Star enunciated several concerns with the proposal.

Specifically, Lone Star questioned both the monitoring at the Oglesby site and the modeling which took place to determine what control strategies would be necessary to achieve compliance. In addition, Lone Star expressed concern and continues to be concerned with Method 202, which the Agency is proposing for the measurement of condensible PM-10, would make it unlikely that Lone Star could meet the PM-10 standards set forth in the proposal.

Lone Star at hearing questioned the Agency's witness regarding wind direction and the location of the monitoring equipment. Lone Star was concerned that other sources might also contribute to the high PM-10 values recorded in Oglesby. Lone Star raised questions which were an attempt to elicit from the Agency that another cement manufacturer in LaSalle County, as well as the nearby LaSalle County landfill, were also major sources for PM-10 in Oglesby.

Lone Star also raised specific questions with regard to the modeling done by the Agency. The first question raised was whether the meteorological data from Peoria used in the modeling was representative of the meteorological conditions in Oglesby. (P.C. 3 p. 4). The Agency states that:

The purpose of the modeling study performed by the Agency is not to replicate the conditions on a specific day or year. Rather, the objective is to evaluate the ability of the emission limits proposed in the regulations to protect the ambient standards in future years under meteorological conditions that are typical of the area. (P.C. 3 p. 5).

The Agency indicates that the weather conditions in Peoria are similar to those occurring in Oglesby in that the mean annual precipitation varies by less than two inches, temperatures vary by less than 1 degree F, and wind directions show little variation. (P.C. 3 p. 5). Thus, the use of the meteorological data from Peoria is appropriate.

Lone Star also raised the issue of the size of the modeling domain and the emissions sources included in the analysis. The Agency points out that the air quality problem in Oglesby is of a long standing nature and is not a problem evidenced in other portions of LaSalle County. (P.C. 3 p. 5-6). The Agency specifically referred to the absence of complaints by residents who did not live in the Oglesby area as an indicator that the remainder of the County does not have a significant PM-10 problem.

Mr. Kolaz presented testimony which indicated that the Lone

Star facility is located such that the monitoring equipment reflects Lone Star as the major contributor to the air quality problem. Further, Mr. Kaleel and Mr. Sprague testified that other possible contributors to the air quality for PM-10 were considered when the modeling took place and included as "background concentrations". (P.C. 3 p. 6).

The Agency stated:

Emissions from the Lone Star Cement Plant are the primary reason that the particulate matter air quality standards have been violated every year since 1976, the year the Agency first installed air quality samplers in Oglesby. Reasonable emission controls at the Lone Star facility are necessary to achieve attainment of the air quality standards. (P.C. 3 p. 6-7)

Therefore, the Board feels that the monitoring and modeling performed by the Agency appropriately considered other sources of possible emissions. Further, the Board believes that the record clearly supports the Agency's position that Lone Star is the major contributor of PM-10 emissions in Oglesby.

Lone Star near the close of the second hearing and in its post-hearing comments raised two issues in the proceeding. With regards to the first issue, Lone Star informed the Board and the Agency at the April 19, 1991 hearing that there was a significant issue remaining with regards to the proposal. Lone Star has serious concerns regarding measurement of condensible PM-10 using the USEPA proposed test Method 202 for the measurement of PM-10. Mr. Daniel Goodwin testified on behalf of Lone Star and stated the following:

We do not know if the Lone Star process sources can comply with the proposed emission limits if condensibles are included, and the proposed test method [202] for condensibles is not suitable. (Tr.2 p. 199).

Mr. Goodwin further testified that he had been in contact with USEPA and that "significant changes in the test method are being incorporated in response to the identified problems with ammonium chloride and ammonium sulfate." (Tr. 2 p. 197).

The Agency, upon cross-examination, elicited the fact that Lone Star was aware that condensibles would be included in the measurement for PM-10 (Tr. 2 p. 205). Lone Star asked for additional time to perform stack tests and measure the condensible PM-10 levels at the facility.

After the hearings were concluded in this matter, the Agency and Lone Star filed comments to further elaborate on points raised at hearing. The Agency stated in its post-hearing comments that it "recognizes the necessity of further addressing the measurement of condensible PM-10". (P.C. 3 p. 9). The Agency offered a resolution of the issue to the Board. The Agency recommends "excluding the clinker cooler and the finish mill high efficiency air separator from the requirement of testing with Method 202 while lowering the allowable limits in the Proposed Rule to account for any possible condensible emissions." (P.C. 3 p. 10). The Agency further stated that the "newly developed proposed language" allows Lone Star to exclude ammonium chloride from the Method 202 measurement. (P.C. 3 p. 10).

The Agency's comments were received by the Board on July 25, 1991. Lone Star submitted comments on July 26, 1991, which requests that the Board "defer final action with respect to proposed Method 202 until the technical issues raised" are resolved. (P.C. 4 p. 2). Lone Star included several supporting documents detailing the technical issues with its comment. In addition, USEPA filed comments which state that "[t]here should be some indication that Method 202 is the test method for 'Condensible particulate matter'." (P.C. 5 p.2).

The second major issue raised by Lone Star in its post-hearing comments is that Lone Star is requesting "a compliance date of April 30, 1992 be included in the rule." (P.C. 4 p. 1-3). As this issue had not been discussed on the record and further elaboration on Method 202 seemed appropriate, on July 30, 1991 the Hearing Officer asked for additional comments from the participants elaborating on the issue of Method 202 and on the issue of a later compliance date. In addition, the Hearing Officer asked for specific comments on certain suggested language.

On August 19, 1991, the Board received comments from the Agency, USEPA, and Lone Star addressing the issues raised by the Hearing Officer Order of July 30, 1991. With regards to the issue of a later compliance date, the Agency and USEPA agreed that the date suggested by Lone Star was acceptable. (P.C. 6 P. 2; P.C. 7 P. 2). The USEPA indicated that compliance must be achieved under the 1990 Clean Air Act Amendments by December 10, 1993; therefore, the later compliance date of April 30, 1992 is acceptable. (P.C. 7 P. 2). Therefore, the Board will add to the rulemaking language indicating that the rule as it applies to Lone Star will not be effective until April 30, 1992.

As to the issue of whether Method 202 is appropriate for condensible PM-10 as opposed to condensible particles, USEPA states:

The Board questioned if Method 202 is an appropriate method for measuring PM less than 10 microns alone (without also measuring other sizes). The answer is yes. All condensible PM is considered to be PM less than 10 microns. (P.C. 7 P. 2).

The Agency states, in part, that: "Method 202 . . . is the appropriate method for measuring condensible PM-10. . . . Furthermore, there is no acceptable alternative test method for measuring condensible PM-10 at this time." (P.C. 6 P. 2). Further the Agency and the USEPA both attached a letter from Candice Sorrell to Mr. Goodwin dated July 18, 1991, which states:

To summarize, [US]EPA believes that none of the issues raised in your letter indicate that Method 202 may not be appropriate for Portland cement kilns or that the test data collected at Lone Star are invalid. (P.C. 6 Attachment 1; P.C. 7 Attachment).

Lone Star continues to state that it "does not believe USEPA's proposed Method 202 is technically sound as a test method for measuring condensible PM-10 from some categories of sources, including those at Portland cement manufacturing plants." (P.C. 8 P. 7). Lone Star asks that the Board either defer action on Method 202 or incorporate by reference any future changes to Method 202. (P.C. 8 P. 8).

Lone Star's concerns may or may not be valid; however, both the Agency and USEPA have indicated that Method 202 is the test method for measuring condensible PM-10. Additionally, USEPA has stated in a letter to Lone Star that USEPA does not believe the concerns enunciated by Lone Star are valid. The Agency has offered a compromise regarding Method 202 which is acceptable to USEPA. Lone Star also agrees that the compromise would be acceptable and would alleviate some of Lone Star's concerns. Therefore, the Board will adopt Method 202 by reference and will add the additional language recommended by the Agency regarding Method 202. The Board notes that the Board cannot incorporate future amendments to Method 202 under the Illinois Administrative Procedure Act. (Ill. Rev. Stat. 1990 supp., ch. 127, par. 1006.02). However, after the USEPA has taken final action on Method 202 Lone Star or the Agency could propose an amendment to this rule to incorporate the new Method 202.

The Agency's comments included several suggested language changes to the proposal. Except for issues outlined in the foregoing discussion, Lone Star agreed with the comments made by the Agency. Lone Star also requests that Section 212.424(c)(1) be modified so that it shall not apply after the roadway is

paved. (P.C. 4 p. 1-3).

In addition to the aforementioned comments, the comments filed by USEPA included the following:

1. The definition for "Condensible particulate matter" in Section 211.122 does not refer to a test method in Section 212.110. The phrase "Condensible particulate matter" is not spelled out in Section 212.110. There should be some indication that Method 202 is the test method for "Condensible particulate matter."

* * *

3. It is USEPA's understanding that the unpaved road, where calcium chloride was going to be used as a dust suppressant, is going to be paved. Paving the road is a more effective control measure and could more easily demonstrate a specific level of control efficiency. USEPA is concerned about the control efficiency of calcium chloride as a dust suppressant. If the road remains unpaved, then there needs to be some justification for the control efficiency of the calcium chloride.

* * *

5. To reduce potential ambiguity, we recommend that Section 212.423(c) state than "No person shall cause or allow any visible emissions...".
6. Section 212.110(d) must indicate that 40 CFR, Appendix A, Method 22 will be used for both stack emissions and fugitive emissions even though Method 22 states that it is not to be used for stack emissions.
7. As to Section 212.423(e)(2), the quarterly reporting requirements for malfunctions are vague. Reporting should be required promptly following the start of the malfunction.

* * *

(P.C. 5 p.2)

The Hearing Officer's July 30, 1991 Order also asked that the participants comment on the use of Method 22 for stack emissions. All of the comments received on August 19, 1991 indicate that Method 22 is appropriate for the visual determination of stack emissions when the standard for such emissions is "no visible emissions". (P.C. 6 P.4; P.C. 7 P. 2; P.C. 8, P. 2).

The last issue which the participants have not agreed on relates to reporting of malfunctions of the pollution control equipment. The Board proposal, as sent to First Notice by the Board, requires that the owner or operator deliver quarterly reports on malfunctions. Lone Star objected to quarterly reports and the Agency suggested annual reports as an alternative. The Hearing Officer Order of July 30, 1991, asked that the participants provide justification for not requiring prompt reporting. The Agency responded that permit conditions of the Agency require prompt reporting of malfunctions and therefore, annual reporting would be sufficient. (P.C. 6 P. 6). Lone Star submitted information on the costs of quarterly reports and again requested that the provision be deleted. (P.C. 8 P. 5). The USEPA stated that its position is that there must be prompt reporting following the start of a malfunction. (P.C. 7 P.3).

The Agency has indicated that permit conditions will require prompt reporting of malfunctions. Further, under language submitted in the initial proposal, Lone Star would be required to prepare records documenting such malfunctions. Lone Star has not objected to any of these requirements. Thus, Lone Star's information regarding the costs of reporting would be necessary expenses.

Submission of annual and even quarterly reports are not unusual in Board regulations. Therefore the Board will require Lone Star to photocopy and mail these already prepared documents to the Agency on a quarterly basis. However, the Board does not see a need for reports on malfunctions if none occur. Therefore, the Board will amend the language in Section 212.423(e)(2) to mirror the original proposal filed with the Board. In addition, the Board will require the filing of one copy of the documents during any quarter in which a malfunction occurs.

At Second Notice, after consideration of the comments received and based on the prior discussion, the Board amended the proposal to incorporate certain of the language changes suggested by the participants. A break down of the specific language changes made in the proposal for Second Notice are as follows.

Section 212.110(a) by deleting the American Society of Mechanical Engineers (ASME) Power Test Code and replacing it with a reference to 40 C.F.R. 60 Appendix A Method 5.

Section 212.110(d) will be amended to make clear that Test

Method 22 is to be used for both stack and fugitive emissions testing.

Section 212.110(e) delete all references to Method 202 and create a new subsection (f) incorporating Method 202.

Section 212.110(f) will be relettered (g) and last line will be changed to allow for an agreed alternative time for submittal of test results.

Section 212.110(g) and (h) will be relettered (h) and (i) and minor changes added.

Section 212.110(i) will be relettered (j) and the words "recordkeeping, inspections, monitoring, and entry" will be deleted.

Section 212.113 by deleting the reference to the ASME test and adding Method 202.

Section 212.423(a) and 212.424(a) the last sentence will be deleted and minor corrections made.

Section 212.423(b) will be amended so that the Clinker Cooler and Finish Mill High Efficiency Air Separator are separate from the Raw Mill Roller Mill and the Kiln.

Section 212.423(e)(2) the last sentence will be deleted and a requirement for prompt reporting will be inserted.

Section 212.423(f) will be amended to reflect the exclusion of ammonium chloride from the measurement of condensible PM-10.

Section 212.424(c)(1) a sentence reflecting that the section will not apply if the road is paved will be added.

Section 212.424(e)(2)(D), (e)(2)(E) and (e)(5) will be amended to read as in the Agency's proposal.

Today, the Board acts to adopt this proposal as the PM-10 standard for Oglesby, Illinois and the Lone Star plant. The Board will direct the Clerk to file this regulation with the Administrative Code Division of the Secretary of State's Office.

ORDER

The Board hereby adopts the following amendments to 35 Ill. Adm. Code, Subtitle B: Air Pollution, Chapter I, Pollution Control Board, Subchapter c: Emissions Standards and Limitations for Stationary Sources Part 211, Section 211.122 and Part 212, Sections 212.110, 212.423, and 212.424. The Clerk of the Board is directed to file these adopted amendments with the Administrative Code Division of the Secretary of State's Office.

TITLE 35: ENVIRONMENTAL PROTECTION
 SUBTITLE B: AIR POLLUTION
 CHAPTER I: POLLUTION CONTROL BOARD
 SUBCHAPTER c: EMISSION STANDARDS AND
 LIMITATIONS FOR STATIONARY SOURCES

PART 211
 DEFINITIONS AND GENERAL PROVISIONS
 SUBPART B: DEFINITIONS

Section 211.122 Definitions

"Condensible PM-10": PM-10 formed immediately or shortly after discharge to the atmosphere, as measured by the applicable test method specified in 35 Ill. Adm. Code 212.110. Condensible particulate matter exists in gaseous and/or vapor form prior to release to the atmosphere, e.g., in the stack, and forms particulate matter upon condensation when subject to conditions of cooling and dilution in the atmosphere.

"PM-10": particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers, as measured by the applicable test methods specified in 35 Ill. Adm. Code 212.110.

"Portland Cement Manufacturing Process Emission Source": any items of process equipment or manufacturing processes used in or associated with the production of portland cement, including, but not limited to, a kiln, clinker cooler, raw mill system, finish mill system, raw material dryer, material storage bin or system, material conveyor belt or other transfer system, material conveyor belt transfer point, bagging operation, bulk unloading station, or bulk loading station.

"Portland Cement Process" or "Portland Cement Manufacturing Plant": Any facility or plant manufacturing portland cement by either the wet or dry process.

TITLE 35: ENVIRONMENTAL PROTECTION
 SUBTITLE B: AIR POLLUTION
 CHAPTER I: POLLUTION CONTROL BOARD
 SUBCHAPTER c: EMISSION STANDARDS AND
 LIMITATIONS FOR STATIONARY SOURCES

PART 212
 VISIBLE AND PARTICULATE MATTER EMISSIONS

SUBPART Q: STONE, CLAY, GLASS AND CONCRETE MANUFACTURING

212.423 Emission Limits for the Portland Cement Manufacturing Plant Located in LaSalle County, South of the Illinois River

212.424 Fugitive Particulate Matter Control for the Portland Cement Manufacturing Plant and Associated Quarry Operations Located in LaSalle County, South of the Illinois River

SUBPART A: GENERAL

Section 212.110 Measurement Methods

- a) Particulate Matter Measurement. Particulate matter emissions from stationary emission sources subject to this Part shall be conducted in accordance with 40 CFR 60 Appendix A Method 5 as incorporated by reference in Section 212.113 determined by the procedures described in the American Society of Mechanical Engineers Power Test Code 27-1957 (Determining Dust Concentration in a Gas Stream) as revised from time to time, or by any other equivalent procedures approved by the Illinois Environmental Protection Agency (Agency).
- b) Flow Rate and Gas Velocity Measurement. The volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3 and 4, incorporated by reference in Section 212.113.
- c) Opacity Measurement. Measurement of opacity shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9 and 40 CFR 60.675(c) and (d), incorporated by reference in Section 212.113.
- d) Visible Emissions Measure. Detection of visible emissions from all process emission sources and fugitive particulate matter emission sources required to meet a "no visible emissions" standard shall be conducted in accordance with 40 CFR 60, Appendix A, Method 22, incorporated by reference in Section 212.113.
- e) Test Methods for PM-10 Emissions. Emissions of PM-10

shall be measured by any of the following methods at the option of the owner or operator of an emissions source.

- 1) 40 CFR 51, Appendix M, Method 201, incorporated by reference in Section 212.113.
 - 2) 40 CFR 51, Appendix M, Method 201A, incorporated by reference in Section 212.113.
 - 3) 40 CFR 60, Appendix A, Method 5, incorporated by reference in Section 212.113, provided that all Particulate Matter measured by Method 5 shall be considered to be PM-10.
- (f) Test Methods for Condensible PM-10 Emissions. Emissions of condensible PM-10 shall be measured by 55 FR 41546 Method 202 incorporated by reference in Section 212.113.
- g) Upon a written notification by the Agency, the owner or operator of a PM-10 emission source subject to this Part shall conduct the applicable testing for PM-10 emissions, condensible PM-10 emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Agency within 30 days of conducting the test unless an alternative time for submittal is agreed to by the Agency.
- h) A person planning to conduct testing for PM-10 or condensible PM-10 emissions to demonstrate compliance shall give written notice to the Agency of that intent. Such notification shall be given at least 30 days prior to the initiation of the test unless a shorter pre-notification period is agreed to by the Agency. Such notification shall state the specific test methods from this Section that will be used.
- i) The owner or operator of an emission source subject to this Part shall retain records of all tests which are performed. These records shall be retained for at least three years after the date a test is performed.
- j) This Section shall not affect the authority of the United States Environmental Protection Agency under Section 114 of the Clean Air Act (42 U.S.C.A. par. 7401 et seq. (1990)).

Section 212.111 Abbreviations and Units

a) The following abbreviations are used in this Part:

btu	British thermal units (60 $\frac{1}{4}$ F)
dscf	dry standard cubic foot
ft	foot
fpm	feet per minute
gr	grains
gr/scf	grains per standard cubic foot
gr/dscf	grains per dry standard cubic foot
J	Joule
kg	kilogram
kg/MW-hr	kilograms per megawatt-hour
km	kilometer
l	liter
lbs	pounds
<u>lbs/hr</u>	<u>pounds per hour</u>
lbs/mmbtu	pounds per million btu
m	meter
mph	miles per hour
mg	milligram
mg/scm	milligrams per standard cubic meter
mg/dscm	milligrams per dry standard cubic meter
mg/l	milligrams per liter
Mg	megagram, metric tone or tonne
mi	mile
mmbtu	million British thermal units
mmbtu/hr	million British thermal units per hour
MW	megawatt; one million watts
MW-hr	megawatt-hour
ng	nanogram; one billionth of a gram
ng/J	nonograms per Joule
scf	standard cubic foot
scfm	standard cubic feet per minute
scm	standard cubic meter
T	English ton

b) The following conversion factors have been used in this Part:

English	Metric
2.205 lb	1 kg
1 T	0.907 Mg
1 lb/T	0.500 kg/Mg
mmbtu/hr	0.293 MW
1 lb/mmbtu	1.548 kg/MW-hr or 430 ng/J
1 mi	1.61 km
1 gr	64.81 mg
1 gr/scf	2289 mg/scm
1 square foot	0.0929 square meter
1 foot	0.3048 m

Section 212.113 Incorporations by Reference

The following materials are incorporated by reference. These incorporations do not include any later amendments or editions.

- ~~a)~~ ~~ASME Power Test Code 27-1957, Determining Dust Concentration in a Gas Stream, American Society of Mechanical Engineers, United Engineering Center, 345 E. 47th Street, New York, NY 10017.~~
- ~~ba)~~ Ringelmann Chart, Information Circular 833 (Revision of IC7718), Bureau of Mines, U.S. Department of Interior, May 1, 1967.
- eb) 40 CFR 60, Appendix A (1987) (1990)-:
 - 1) Method 1: Sample and Velocity Traverses for Stationary Sources;
 - 2) Method 1A: Sample and Velocity Traverses for Stationary Sources with Small Stacks or Ducts;
 - 3) Method 2: Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S pitot tube);
 - 4) Method 2A: Direct Measurement of Gas Volume Through Pipes and Small Ducts;
 - 5) Method 2C: Determination of Stack Gas Velocity and Volumetric Flow Rate in Small Stacks or Ducts (Standard Pitot Tube);
 - 6) Method 2D: Measurement of Gas Volumetric Flow Rates in Small Pipes and Ducts;
 - 7) Method 3: Gas Analysis for Carbon Dioxide, Oxygen, Excess Air, and Dry Molecular Weight;
 - 8) Method 4: Determination of Moisture Content in Stack Gases;
 - 9) Method 5: Determination of Particulate Emissions From Stationary Sources;
 - 10) Method 9: Visual Determination of the Opacity of Emissions from Stationary Sources;
 - 11) Method 22: Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares.

- c) 40 CFR 51 Appendix M (1990):
 - 1) Method 201: Determination of PM-10 Emissions;
 - 2) Method 201A: Determination of PM-10 Emissions (Constant Sampling Rate Procedure).
- d) 40 CFR 60.672 (b), (c), (d) and (e) (1990).
- e) 40 CFR 60.675(c) and (d) (1990).
- df) ASAE Standard 248.2, Section 9, Basis for Stating Drying Capacity of Batch and Continuous-Flow Grain Dryers, American Society of Agricultural Engineers, 2950 Niles Road, St. Joseph, MI 49085.
- eg) U.S. Sieve Series, ASTM-E11, American Society of Testing Materials, 1916 Race Street, Philadelphia, PA 19103.
- f) ~~This Part incorporates no further editions or amendments.~~
- h) 55 FR 41546, (October 12, 1990), Method 202: Determination of Condensible Particulate Emissions from Stationary Sources.

(Source: Amended at ____ Ill. Reg. ____, effective _____)

SUBPART Q: STONE, CLAY, GLASS AND CONCRETE MANUFACTURING

Section 212.423 Emission Limits for Portland Cement the Manufacturing Plant Located in LaSalle County, South of the Illinois River.

- a) Applicability. This Section shall apply to the portland cement manufacturing plant in operation before September 1, 1990 located in LaSalle County, south of the Illinois River. This Section shall not alter the applicability of Sections 212.321 and 212.322 to portland cement manufacturing processes other than those for which alternate emission limits are specified in subsection (b). This Section shall not become effective until April 30, 1992.
- b) Prohibitions.

- 1) No person shall cause or allow emissions of PM-10 to exceed the emission limits set forth below for each process.

		<u>PM-10 Emission Limits</u>			
		<u>Rate</u>		<u>Concentration</u>	
		<u>kg/hr</u>	<u>(lb/hr)</u>	<u>mg/scm</u>	<u>(gr/scf)</u>
A.	<u>Clinker Cooler</u>	<u>4.67</u>	<u>(10.3)</u>	<u>28.147</u>	<u>(0.012)</u>
B.	<u>Finish Mill</u>				
	<u>High Efficiency</u>				
	<u>Air Separator</u>	<u>2.68</u>	<u>(5.9)</u>	<u>26.087</u>	<u>(0.011)</u>

- 2) No person shall cause or allow emissions of PM-10 including condensible PM-10 to exceed the emission limits set forth below for each process.

		<u>PM-10 Emission Limits</u>			
		<u>Including Condensible PM-10</u>		<u>Rate</u>	
		<u>Rate</u>		<u>Concentration</u>	
		<u>kg/hr</u>	<u>(lbs/hr)</u>	<u>mg/scm</u>	<u>(gr/scf)</u>
A.	<u>Raw Mill</u>				
	<u>Roller Mill</u>				
	<u>(RMRM)</u>	<u>6.08</u>	<u>(13.4)</u>	<u>27.5</u>	<u>(0.012)</u>
B.	<u>Kiln</u>				
	<u>without RMRM</u>				
	<u>Operating</u>	<u>19.19</u>	<u>(42.3)</u>	<u>91.5</u>	<u>(0.040)</u>
C.	<u>Kiln with</u>				
	<u>RMRM</u>	<u>11.43</u>	<u>(25.2)</u>	<u>89.2</u>	<u>(0.039)</u>

- c) No person shall cause or allow any visible emissions from any portland cement manufacturing process emission source not listed in subsection (b).

- d) Maintenance and Repair. The owner or operator of any process emission source subject to subsections (b) or (c) shall maintain and repair all air pollution control equipment in a manner that assures that the applicable emission limits and standards in subsections (b) or (c) shall be met at all times. Proper maintenance shall include at least the following requirements:

- 1) Visual inspections of air pollution control

equipment shall be conducted:

- 2) An adequate inventory of spare parts shall be maintained:
- 3) Prompt and immediate repairs shall be made upon identification of the need:
- 4) Written records of inventory and documentation of inspections, maintenance, and repairs of all air pollution control equipment shall be kept in accordance with subsection (e).

e) Recordkeeping of Maintenance and Repair.

- 1) Written records shall be kept documenting inspections, maintenance, and repairs of all air pollution control equipment. All such records required under this Section shall be kept and maintained for at least three (3) years, shall be available for inspection by the Agency, and, upon request, shall be copied and furnished to Agency representatives during working hours.
- 2) The owner or operator shall document any period during which any process emission source was in operation when the air pollution control equipment was not in operation or was not operating properly. These records shall include documentation of causes for pollution control equipment not operating or not operating properly, and shall state what corrective actions were taken and what repairs were made. In any quarter during which such a malfunction should occur, the owner or operator shall mail one copy of the documentation to the Agency.
- 3) A written record of the inventory of all spare parts not readily available from local suppliers shall be kept and updated.
- 4) Upon written request by the Agency, the owner or operator shall submit any information required pursuant to Subpart Q, for any period of time specified in the request. Such information shall be submitted within ten (10) working days from the date on which the request is received.

- f) Testing to determine compliance with the emission limits specified for PM-10, condensible PM-10, and detection of visible emissions shall be in accordance with the measurement methods specified in Section 212.110(d), (e), and (f). Ammonium chloride shall be excluded from the

measurement of condensible PM-10.

(Source: Added at ___ Ill. Reg. ___ , effective _____)

Section 212.424 Fugitive Particulate Matter Control for the Portland Cement Manufacturing Plant and Associated Quarry Operations Located in LaSalle County, South of the Illinois River.

- a) Applicability. This section shall apply to the portland cement manufacturing plant in operation before September 1, 1990 and associated quarry operations located in LaSalle County, south of the Illinois River. Associated quarry operations are those operations involving the removal and disposal of overburden, and the extraction, crushing, sizing, and transport of limestone and shale for usage at the Portland cement manufacturing plant. This Section shall not become effective until April 30, 1992.
- b) Applicability of Subpart K of this Part. This Section shall not alter the applicability of Subpart K: Fugitive Particulate Matter.
- c) Fugitive Particulate Matter Control Measures For Roadways at the Plant.
 - 1) For the unpaved access roadway to the Illinois Central Silos Loadout, the owner or operator shall spray a 30 percent solution of calcium chloride once every 16 weeks at an application rate of at least 1.58 liters per square meter (0.35 gallons per square yard) followed by weekly application of water at a rate of at least 1.58 liters per square meter (0.35 gallons per square yard). This subsection shall not apply after the roadway is paved.
 - 2) The owner or operator of the Portland cement manufacturing plant shall keep written records in accordance with subsection (e).
- d) Fugitive Particulate Matter Control Measures for Associated Quarry Operations.
 - 1) For the primary crusher, the primary screen, the #3 conveyor from the primary screen to the surge pile, and the surge pile feeders to the #4 conveyor, the owner or operator shall spray a chemical foam spray of at least 1 percent solution of chemical foaming agent in water continuously during operations at a

rate of at least 1.25 liters per megagram (0.30 gallons per ton) of rock processed.

- 2) The owner or operator shall water all roadways traveled by trucks to and from the primary crusher in the process of transporting raw limestone and shale to the crusher at an application rate of at least 0.50 liters per square meter (0.10 gallons per square yard) applied once every eight hours of operation except under conditions specified in subsection (d)(3). Watering shall begin within one hour of commencement of truck traffic each day.
- 3) Subsection (d)(2) shall be followed at all times except under the following circumstances:
 - A) Precipitation is occurring such that there are no visible emissions or if precipitation occurred during the previous 2 hours such that there are no visible emissions;
 - B) If the ambient temperature is less than or equal to 0°C (32°F);or
 - C) If ice or snow build-up has occurred on roadways such that there are no visible emissions.
- 4) The owner or operator of the associated quarry operations shall keep written records in accordance with subsection (e).

e) Recordkeeping and Reporting

- 1) The owner or operator of any portland cement manufacturing plant and/or associated quarry operations subject to this Section shall keep written daily records relating to the application of each of the fugitive particulate matter control measures required by this Section.
- 2) The records required under this Section shall include at least the following:
 - A) the name and address of the plant;
 - B) the name and address of the owner or operator of the plant and associated quarry operations;
 - C) a map or diagram showing the location of all fugitive particulate matter sources controlled including the location, identification, length,

and width of roadways;

- D) for each application of water or calcium chloride solution, the name and location of the roadway controlled, the water capacity of each truck, application rate of each truck, frequency of each application, width of each application, start and stop time of each application, identification of each water truck used, total quantity of water or calcium chloride used for each application, including the concentration of calcium chloride used for each application;
 - E) for application of chemical foam spray solution, the application rate and frequency of application, name of foaming agent, and total quantity of solution used each day;
 - F) name and designation of the person applying control measures; and
 - G) a log recording all failures to use control measures required by this Section with a statement explaining the reasons for each failure and, in the case of a failure to comply with the roadway watering requirements of subsection (d)(2), a record showing that one of the circumstances for exceptions listed in subsection (d)(3) existed during the period of the failure. Such record shall include, for example, the periods of time when the measured temperature was less than or equal to 0°C (32°F).
- 3) Copies of all records required by this Section shall be submitted to the Agency within ten (10) working days of a written request by the Agency.
 - 4) The records required under this Section shall be kept and maintained for at least three (3) years and shall be available for inspection and copying by Agency representatives during working hours.
 - 5) A quarterly report shall be submitted to the Agency stating the following: the dates required control measures were not implemented, the required control measures, the reasons that the control measures were not implemented, and the corrective actions taken. This report shall include those times when subsection (e) is involved. This report shall be submitted to the Agency 30 calendar days from the

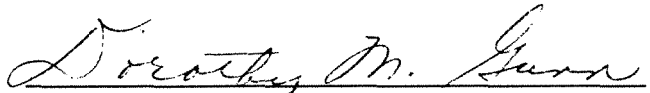
end of a quarter. Quarters end March 31, June 30,
September 30, and December 31.

(Source: Added at ___ Ill. Reg. ___, effective _____)

IT IS SO ORDERED.

Sections 29 and 41 of the Environmental Protection Act (Ill. Rev. Stat. 1990 supp., ch. 111 1/2, pars. 1029 and 1041) provide for appeal of Final Orders of the Board "within 35 days after entry of the order or other final action complained of". The Rules of the Supreme Court of Illinois establish filing requirements.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 26th day of September, 1991, by a vote of 7-0.


Dorothy M. Gunn, Clerk
Illinois Pollution Control Board