

ILLINOIS POLLUTION CONTROL BOARD  
July 2, 1986

IN THE MATTER OF: )  
 )  
PARTICULATE EMISSION LIMITATIONS, ) R82-1 (Docket A)  
RULE 203(g)(1) AND 202(b) OF )  
CHAPTER 2 )

ADOPTED RULE. FINAL ORDER.

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

This proceeding has a long and complicated procedural history. On January 21, 1982, the Board proposed the readoption of Rules 203(g)(1) [now codified at 35 Ill. Adm. Code 212.201 - 212.204: Particulate Matter Emissions] and 202(b) [now codified at 35 Ill. Adm. Code 212.121 - 212.125: Opacity] of Chapter 2 [now 35 Ill. Adm. Code, Subtitle B: Air Pollution Rules]. These proposed rules concerned limitations upon particulate emissions for fuel combustion emission sources using solid fuel exclusively and opacity emissions. Hearings were held to consider the merits and economic impact of these proposed rules on April 13 and April 21, 1982, and August 3, August 12, and September 29, 1983. The public comment period ended on February 2, 1984.

On July 19, 1984, the Board adopted a Proposed Rule/First Notice Proposed Opinion and Order which was published in the Illinois Register on August 24, 1984, at 8 Ill. Reg. 15561. Four comments were filed during the first notice period which closed on October 10, 1984. In response to those comments, the Board amended the proposal and adopted a Proposed Rule/Second Notice Order on December 6, 1984. However, instead of filing the second notice proposal with the Joint Committee on Administrative Rules at that time, the Board allowed a comment period since the Second Notice Order differed substantially from first notice. Motions to extend the comment period were filed by various participants to the proceeding on January 10, January 14, February 26 and March 25, 1985. Comments and a proposed amendment were filed by the Illinois Environmental Protection Agency (Agency) on April 24, 1985.

Based upon the comments received, the Board did not proceed to file second notice with the Joint Committee on Administrative Rules (JCAR). Rather, on May 16, 1985, the Board adopted a Proposed Rule/Second First Notice Order. First notice was published at 9 Ill. Reg. 10590, July 12, 1985. Hearing was held August 13, 1985 and various post hearing comments were filed during October 8-16, 1985.

The Board then adopted a Proposed Rule/Second Second Notice Order on December 20, 1985. However, again prior to commencement of the second notice period, the Agency filed a motion to reconsider which was granted by order of February 6, 1986, at which time the Board again modified the proposal in a Proposed Rule/Third Second Notice Order.

Thereafter, due to additional problems which arose concerning the opacity rules, on March 14, 1986, the Board adopted an interim order which separated this proceeding into two dockets: one for the purpose of proceeding with the particulate rules (Docket A) and another to further consider the opacity rules. The Board hoped to proceed to second notice on the particulate rules which no longer appeared to be subject to controversy while it continued to consider what should be done with the opacity rules. Unfortunately, the second notice filing regarding the particulate rules was rejected by JCAR as incomplete since the second first notice had included both sets of rules and the second notice did not. Therefore, the Board was compelled to complete its consideration of the opacity rules prior to proceeding to second notice.

On May 9, 1986, the Board adopted a Proposed Rule/Fourth Second Notice Proposed Opinion and Order again modifying the opacity rules. Second notice was received by JCAR on May 16, 1986, and was considered by JCAR on June 23, 1986, at which time it objected to each of the opacity rules but none of the particulate rules. In response the Board has determined that it will withdraw the opacity rules but will proceed to adopt and file the particulate rules. The Board has today adopted a Resolution and Order to that effect. A new first notice order will be adopted concerning the opacity rules in the near future under Docket B.

#### INVALIDATION OF THE PARTICULATE RULES

Regulations controlling emissions of air pollutants were adopted by the Board on April 13, 1972, in R71-23 as Part II of Chapter 2. Commonwealth Edison subsequently filed a petition in the First District Appellate Court seeking review of several of those rules, including Rule 203(g)(1): Particulate Emission Standards and Limitations for Fuel Combustion Emission Sources Using Solid Fuel Exclusively. The Appellate Court in Commonwealth Edison Company v. Pollution Control Board, 25 Ill. App. 3d 271, 323 N.E. 2d 84 (1975), reversed the adoption of those rules and remanded them to the Board for further consideration with instructions either to validate them in accordance with Section 27 of the Environmental Protection Act (Act) or to prepare proper rules as substitutes. In its opinion the Appellate Court was "unable to state that the Board took into account the technical feasibility of these rules," and that "there is no evidence that the Board took into account the

economic reasonableness of these rules for a substantial number of the generating units in this state." The Court concluded that the regulations were not promulgated in accordance with Section 27 of the Act and were, therefore, arbitrary and unreasonable. The Court also instructed the Board to review any new evidence for the purpose of validating or modifying the rules.

The Appellate Court decision was appealed by the Board to the Illinois Supreme Court. Commonwealth Edison Company v. Pollution Control Board, 72 Ill. 2d 494, 343 N.E. 2d 459 (1976). The Supreme Court, rather than reviewing the record and Board Opinion to determine whether the Board had complied with Section 27 of the Act in promulgating the regulations, declined "to determine the validity of Rules 203(g)(1). . . on the basis of evidence adduced at hearings held in 1970, 1971 and 1972 and the Board's opinion of April 13, 1972." Instead, it affirmed the Appellate Court's reversal and remanded for further consideration, citing the Appellate Court's reference to the "wealth of new information" that had been gathered in the Board's inquiry hearings (R74-2 and R75-5, respectively).

On April 8, 1976, the Board entered an Order in R71-23, reopening the record for the purpose of validating Rule 203(g)(1) and ordering the record in the consolidated proceedings, R74-2 and R75-5, to be incorporated into the record in R71-23. Two subsequent hearings were held on R75-5 and R74-2, consolidated, in May, 1976. The Board took the position that further hearings were unnecessary in order to comply with the Supreme Court's mandate which invited the Board to validate the regulations in question in light of information gathered at the hearings held subsequent to the original proceedings. The Board reviewed the testimony and exhibits in the three proceedings and, based on the information available in these records, and taking into consideration the issues identified by the Courts, validated Rule 203(g)(1) on July 7, 1977.

The validation of the rule was, however, unsuccessful. On September 27, 1978; the Third District Appellate Court again struck down the rule finding that the Board had failed to consider intermittent control systems, had failed to have an economic impact study prepared, presented and considered and had improperly considered a report (the "Marder Report") which included references to material not of record, without affording an opportunity for opposing viewpoints to be presented. (Ashland Chemical Co. v. Pollution Control Board (1978) 64 Ill. App. 3d 69). The Board did not appeal that decision. The Board did, however, attempt to appeal a similar decision in the First District, but was precluded from doing so by the Supreme Court which held that the Board was estopped from such appeal because it had failed to appeal the Ashland decision which concerned the same issues. [The Illinois State Chamber of Commerce, et al. v. The Pollution Control Board, 67 Ill. App. 3d 839, 384 N.E. 2d V 922(1978)].

Old Rule 203(g)(1) has remained invalid ever since these decisions and it is in this context that the present proceeding arose.

ACTION TAKEN IN RESPONSE TO COURT'S CONCERNS

During the lengthy legal history of the invalidated rules at issue here, the issues which have formed the bases of the invalidations have been the lack of an economic impact study, the perceived failure to consider the economic reasonableness of simultaneous compliance with the sulfur dioxide and particulate rules, the failure to consider intermittent control systems and the reliance on the "Marder Report" without allowing opposing viewpoints to be heard. In the present proceedings, the Board has attempted to respond to each of these concerns.

First, an economic impact study has been prepared, submitted, and considered at hearings. Entitled "The Economic Impact of Repromulgating the Remanded Particulate Regulations 203(g)(1) and 202(b), R82-1," it was entered as Exhibit #10 on August 3, 1983, and was considered at hearings on that date, as well as on August 12 and September 29, 1983. An addendum was submitted in response to the hearing officer's request at the September 29, 1983 hearing as Exhibit #17.

Second, the Board incorporated by reference the entire record of proceedings in R71-23, R74-2 and R75-5, except for the Marder Report, which was prepared by Marder and Associates under contract to the Agency to facilitate validation of the rules in response to the Supreme Court's remand. That report is an abstract which reviews the record of three proceedings before the Board R71-23, R74-2 and R75-5. It organizes the information by subject, summarizes testimony and exhibits, and identifies where each item is found in the record. While it was felt to be a useful tool, there may be some information in it which was not otherwise part of the record, and its deletion should preclude any question regarding its propriety in this proceeding.

Third, the Board has considered the question of simultaneous compliance with the sulfur dioxide and particulate rules. The hearing held on April 13, 1982, in particular, focused on that issue, largely through the testimony of Berkley Moore, an engineer with the Air Quality Planning Section of the Division of Air Pollution Control of the Illinois Environmental Protection Agency. This issue will be discussed later in this Opinion.

Fourth, the Board has not considered intermittent control systems since no one has offered such a proposal in this proceeding and since "the degree of emission limitation required for control of any air pollutant under an applicable implementation plan . . . shall not be affected in any manner by . . . any intermittent or supplemental control of air pollutants"

seq.). Additionally, Section 9.1(a) of the Act requires the State to avoid the adoption of rules which contradict the Clean Air Act. Therefore, even if the Board were to consider such systems, it could not allow such consideration to affect the emissions standards which it promulgated. Finally, former Section 10(h) of the Act, which mandated the Board to consider such systems, has been deleted and in pertinent part has been replaced with a provision which states that "emission standards for existing fuel combustion stationary emission sources located in all areas of the State of Illinois, except the Chicago, St. Louis (Illinois) and Peoria major metropolitan areas . . . shall allow all available alternative air quality control methods consistent with federal law" (Section 10 of the Act).

The Board, therefore, believes that all of the flaws perceived by the courts have been remedied in this proceeding.

#### REGULATORY NEED FOR THE RULES

Particulate matter is a criteria pollutant for which ambient air quality standards have been adopted by the United States Environmental Protection Agency (USEPA) under Section 109 of the Clean Air Act. The ambient standards were set at levels intended to protect the health of the general public (primary standards) and to prevent damage to property, vegetation, or other aspects of the public welfare (secondary standards). The levels set were based on air quality criteria with "an adequate margin of safety" included for the primary standard. (See Board opinion in R72-7 Air Quality Standards, 18 PCB 89, July 10, 1975).

Under Section 110 of the Clean Air Act the states are required to prepare State Implementation Plans (SIPs) containing control strategies for attaining the ambient air quality standards. An important part of the SIP is to establish emission standards for each of the criteria pollutants. [See Section 110(a)(2)(B)]. The Board has repeatedly attempted to establish particulate standards, but all such attempts have been rebuffed by the court system. As a result, USEPA has twice issued Notices of Deficiency, once in 1974 after Commonwealth Edison had challenged the original rules, and again on July 12, 1979, after the rules had been successfully attacked by Ashland Chemical. As a result, USEPA could impose sanctions upon Illinois for its failure to establish enforceable particulate standards, including impounding federal highway funds and prohibiting industrial expansion pursuant to Sections 176 and 316 of the Clean Air Act. In order to avoid these sanctions, and in order to meet the mandate of the Section 9.1(a) of the Act to avoid conflicting State and federal regulatory systems, particulate regulations must be adopted.

### PARTICULATE EMISSIONS CONTROL TECHNOLOGY

There is substantial documentation in the R71-23 record that technology to control particulate emissions is well established. The four principal control devices are cyclones, wet scrubbers, electrostatic precipitators (ESP), and fabric filters (or baghouses). These devices can be used alone or in combination to attain the desired removal efficiencies. (R71-23, Ex. 32). When burning coal with a 10% ash content and 10,000 Btu/lb heat content, removal efficiencies of 90% to 99% are required for compliance with the 0.1 lbs/MBtu actual heat input emission standard, depending on the type of boiler being used. (R71-23, R. 295-303, Ex. 11).

The most widely used technology for particulate control on large boilers is ESP (R71-23, Ex. 32) which involves passing the flue gas through an electric corona as the flue gas flows through the precipitator, placing a charge on the ash particles, pulling the particle out of the gas to collect on plates in the precipitator, and periodically rapping the particles off the plates. Collection efficiency of an ESP depends on, among other factors, the resistivity of the ash being collected, the temperature of the flue gas, and the velocity of the flue gas through the precipitator. ESP's are able to achieve more than 99% removal in utility operations. (R71-23, Ex. 32, 33, 34, 35).

Testimony of representatives of utilities and industry verified their ability to achieve the particulate emission standards. (R71-23; pp. 2074-82, 3842-43, 2285-6, 2308-10, 2465-66). Existing sources which are not presently in compliance with the proposed rule may require modification of already operating ESP's to comply with the regulation, and continued compliance over time would require proper operation and maintenance of the equipment. However, as an example of potential ESP life and efficiency, a unit built in 1929 by Commonwealth Edison at a design removal efficiency of 82-83% was running close to 98% efficiency in 1971 as a result of several rebuildings. (R71-23, pp. 3867-68).

### SIMULTANEOUS COMPLIANCE

As stated above, the effectiveness of an ESP is dependent upon the resistivity of the ash being collected. That resistivity is, in turn, affected by the sulfur content of the coal which is burned: the higher the sulfur content of the coal, the less resistive the ash and the higher the efficiency. However, the higher the sulfur content of the coal, the greater the difficulty of meeting the SO<sub>2</sub> standards. This is one of the problems that the courts found the Board had not adequately addressed: simultaneous compliance with both the particulate and sulfur dioxide emission standards. Testimony was given that if a facility burned low sulfur coal (less than 1% sulfur content) as

a means to comply with the SO<sub>2</sub> emission standard, its ESP collection efficiency would drop substantially because of the higher resistivity of the fly ash. Mr. Andrew Bhan, testifying on behalf of the Agency in R75-5, discussed the difference in resistivities between high and low sulfur coals. The generally accepted theory for this difference is that sulfur trioxide (SO<sub>3</sub>) in the flue gas reduces fly ash resistivity, and that SO<sub>3</sub> is virtually absent from the low sulfur coal flue gas. A comparison of flue gas concentrations shows 50 ppm SO<sub>3</sub> from 3.5% sulfur coal and 5 ppm SO<sub>3</sub> from 0.5% sulfur coal. (R75-5, pp. 539-42). A test conducted by Commonwealth Edison showed that particulate emissions increased from 0.16 to 0.26 lbs/MBtu when the coal sulfur content was reduced from 2.0% to 0.8%. (R71-23, pp. 2079-80). The experiences of several other facilities attempting to control particulates while burning low sulfur coal were described in other testimony. (R71-23, pp. 1075-10).

At the April 13, 1982, hearing in R82-1, Berkley Moore introduced Exhibits 1 and 2 regarding the issue of simultaneous compliance. He testified that those exhibits "show that there are a great number of sources that are in fact right now in compliance with both" the sulfur dioxide and particulate rules. (4/13/82, p. 9). Exhibits 1 and 2 are tables listing compliance data for all sources which must simultaneously comply with the sulfur dioxide and the particulate rules. Given that the Board has now adopted relaxed sulfur dioxide rules applicable to some of these sources, all sources listed in those exhibits are in compliance with the sulfur dioxide standards.

In the Chicago MMA, 10 of the 52 sources or 19% are out of compliance. (4/13/82, R. 14 and Ex. 1). Of those 10 which are out of compliance, 8 are not ordinarily operated. Of the two remaining sources the Commonwealth Edison-Waukegan 3255 MBtu/hr. facility requires 98.20% control and is attaining 98.00% control and its Will County 1728 MBtu/hr. facility requires 86.00% control and is attaining 85.00% control. (4/13/83, Ex. 1). In the Peoria and St. Louis MMA's 10 of the 83 sources or 12% are out of compliance. (4/13/82, R. 15 and Ex. 2). Of those 10, 3 are ordinarily not operated. Celotex has 2 sources requiring 96.44% control which are attaining 94.00%; CILCO-Edwards has two facilities requiring 97-98% and 98.48%, both of which are attaining 95.00%; CILCO-Wallace has 2 facilities requiring 97.44% which are attaining 94.00%; Commonwealth Edison-Powerton has one facility requiring 96.77% control which is attaining 95.71% control, and the Mascoutah power plant requires 85.68% control and is attaining 80.00% control. (4/13/82, Ex. 2). Other sources around the State need not comply simultaneously with 203(g)(1) and 204(c)(1)(A). (4/13/82, R 16).

Mr. Moore concluded:

It is pretty clear . . . that the number of sources not complying with the particulate limit is pretty much the same whether or not simultaneous compliance with 204(c)(1)(A) is also an issue. . . . The issue of simultaneous compliance apparently doesn't really affect the ability or the willingness of sources to comply with the particulate limits.

To be fair. . . the larger sources with electrostatic precipitators, . . . [had] a bit more difficulty . . . [in complying] with the particulate limit when they were burning low-sulfur coal. The Agency has always admitted that this is the case. . . . But we do say that they can and do comply.

(4/13/82,R. 17-18).

The record demonstrates, as the Board found in R71-23 (see esp. 27 PCB 61 et seq.), that there are available techniques for facilities with existing ESP equipment which are technically feasible and economically reasonable to attain simultaneous compliance, the most reasonable being flue gas conditioning. At least four methods of conditioning are available, including the use of sulfuric acid, liquid sulfur dioxide, sulfur burning and liquid sulfur trioxide. As the Board found in R71-23:

The information presented to the Board readily allows us to conclude that particulate control technology is very well developed, and it is capable of achieving simultaneous compliance with particulate and sulfur dioxide emission standards. The "worst case" for simultaneous compliance is when an existing facility in one of the three major metropolitan areas (MMA's) is switched from high (3.5%) to low (less than 1%) sulfur coal to comply with the 1.8 lbs/ [MBtu] SO<sub>2</sub> standards. Flue gas conditioning is available for use in these cases, and can be installed within fairly short time periods and with modest costs, installation, and operating requirements. Hot precipitators may also be used, depending on site design and costs involved.

We also note that there are many sources which do not face the worst case conditions. Simultaneous compliance for smaller existing sources may not be a problem



if they are not using an ESP for particulate control, but rather are using another device not affected by changes in ash conductivity. New facilities burning low sulfur coal will be able to design their particulate control systems using the available removal devices as necessary to comply with the standard. Large sources outside of the MMA's are subject to a 6 lbs/[MBtu] sulfur dioxide standard, for which they would probably use washed coal. The change in ash resistivity would be small at the sulfur content of washed coal, with a similarly small effect on ESP efficiencies. There may also be sources using a low sulfur coal which has a low ash content, such that even at lower ESP efficiency there would be less ash to remove from the gas, with no net change in emissions.

(27 PCB 63-64).

Nothing in the record of this proceeding merits any change in those findings.

Based on this evidence, the Board finds that it is clearly technically feasible to simultaneously comply with the proposed particulate rule and the sulfur dioxide rule since the large majority of affected sources are already doing so. That same evidence also goes a long way toward demonstrating the economic reasonableness of the particulate rule. However, there is more information in that regard which is considered below.

#### ECONOMIC IMPACT OF PROPOSED RULES

The Executive Summary of the Economic Impact Study (EcIS) in this matter concludes:

Because so few sources remain out-of-compliance, repromulgation of rules 203(g)(1) and 202(b) is not expected to impact very noticeably on the Illinois economy. Hence Board approval of R82-1 should have little effect on the overall availability of goods and services to the people of the state, nor should it have much impact on agriculture, local government, commerce or industry. Of course, if the avoidance of nearly \$400 million in Clean Air Act penalties is assumed to result from revalidation, then it follows that

all of those sectors will experience a significant benefit in the form of averted funding losses and the associated secondary effects. (Ex. 10, p. vi).

The reason for such widespread compliance with invalid Rule 203(g)(1) is that the Agency, in its permitting process, has acted almost as though the rules had never been invalidated. Despite the fact that the Agency no longer had valid rules on which to base permitted levels of particulate emissions, it established a policy, which it filed with the Secretary of State's office in December of 1977, stating that compliance with 203(g)(1) still would "usually be deemed . . . sufficient to assure compliance with the air quality provisions . . . of the Act." According to these guidelines, a plant may obtain a permit by either demonstrating compliance with the remanded rules or by performing comprehensive air quality evaluations to demonstrate that alternative emission's limitations would not threaten air quality standards. Since this policy has been in effect, only the Winnetka Electric Plant has been granted an alternative standard.

The EcIS proceeded on the assumption that "repromulgation is assumed to have no impact on those sources already in compliance." (Ex. 10, p. 14). It, therefore, discusses costs imposed on those facilities which have not achieved compliance, those which are presently permitted to emit as much as 0.2 lbs/MBtu under 203(g)(1)(C) but which will ultimately be required to comply with a stricter limitation, the Winnetka plant which is operating under a relaxed limitation, and new sources. (Ex. 10, p.p. 16-18). Of the 30 sources which are not presently in compliance, 12 operate routinely, 9 are used on a standby basis and nine are shut down. (Ex. 10, p. 53). Eleven are in non-attainment areas for particulates; five are in attainment areas. (Ex. 10, pp. 53-56).

The authors of the EcIS admit that assigning an economic value to the costs and benefits involved in this proceeding is difficult. On the cost side, errors arise from choosing an emission reduction strategy. The study assumed the use of fabric filters or cyclones resulting in an annualized cost of control for the affected sources of about \$4.4 million in 1982 dollars with a range of error of about 50 percent. However, some of the 30 sources impacted by repromulgation have shut down within the past five years and many, if not most, may never operate again, regardless of the Board's ruling in this matter. Further, an equal number of sources are used as emergency standby units, which the operators may choose to retire. Thus, only 12 sources which are out-of-compliance with the remanded rules operate on a routine basis, with an annualized control cost of about \$4.42 million, most of which is attributable to CILCO'S Wallace Station.

The benefits of repromulgation are also subject to considerable uncertainty, especially in the estimation of reduced damages to health and welfare. Dispersion modeling indicates that in all but three locations, promulgation of the proposed rules will reduce ambient TSP concentrations by less than 1 ug/m<sup>3</sup>. The estimated health and welfare benefits are \$73,000 per year in 1982 dollars, although that figure must be regarded as a lower limit since only those impacts greater than 1 ug were evaluated. Significant errors may arise from uncertainties in the damage coefficients themselves which are based on the work of Dr. Allen Cohen who has conceded that they could offer no better than "order of magnitude" accuracy: i.e. they could vary by a factor of ten.

Potentially overriding any of these costs or benefits is the impact which would result from a decision by the Administrator of USEPA to impose the Clean Air Act's sweeping penalties. The deficiency in Illinois' SIP due to judicial remand is cause for the sanctions. Illinois' inability to show attainment with TSP air quality standards exposes the State to a possible annual loss of up to \$335 million in highway funds, \$35 million in sewage treatment grants, and nearly \$12 million in Agency operating funds per year. In that case the benefits of revalidation clearly outweigh the costs.

Based upon this evidence, the Board concludes that it is economically reasonable to comply with the adopted rules.

A section by section analysis of the adopted rules follows:

#### SECTION 201.102

The Agency proposed the amendment of the definition of "PSD Increment" and Specified Air Contaminant." The former amendment was modified to make the definition consistent with federal law; the latter simply corrects an error in rewording the definition to correspond with the codification format. No one commented adversely to these amendments.

#### SECTION 201.103

The Board's abbreviation of British Thermal units stated in 35 Ill. Adm. Code 201.103 is at odds with most other authorities and has been used somewhat inconsistently as has the abbreviation for million British thermal units. Therefore, the Board will amend that section to accommodate "MBtu," "mmBtu," and "mmbtu." When the Board completes its updating of the air pollution rules under docket R79-14, the abbreviations can be made consistent. No one commented adversely to these amendments.

SECTION 211.121

This section was simply amended to correct a typographical error.

SECTION 212.201

The Agency requested that the Board amend the 0.1 lbs/MBtu/hr standard of Section 212.201 to 0.10 lbs/MBtu/hr. It pointed out that this is the number of significant digits used in the air quality modeling which supports the standard and that the amendment is consistent with the Agency's historical application of these rules both in terms of permitting and the State Implementation Plan. The Board finds the Agency's argument persuasive and will so amend the section. The Board notes, however, that by so amending this standard, it does not intend to imply that the standard as originally adopted was intended to mean anything other than 0.10 lbs/MBtu/hr. The abbreviation for million British thermal units has been changed and the Board note indicating the court's invalidation of the particulate rules has been deleted since it has no continuing validity.

SECTION 212.202

The Board has made a minor language change for purposes of clarification. This change is intended to have no substantive effect.

SECTION 212.203

The amendments to 35 Ill. Adm. Code 212.203 have generated the bulk of the comments. This section is in essence a partial grandfather clause which was intended to equitably treat those sources for which substantial expenditures were made prior to adoption of the original rule which resulted in near compliance. The original rule allowed certain sources which emitted between 0.1 to 0.2 lbs/MBtu/hr to continue in operation so long as their emissions did not increase by more than 0.05 lbs/MBtu/hr. from their base emissions and so long as the emissions did not surpass the 0.2 pound limit.

In the first notice order the Board made two modifications to this section. The first allowed the grandfathered sources to emit up to a maximum of 0.25 lbs/MBtu/hr. This was done to remove any ambiguity with respect to a source with a base emission of between 0.15 and 0.20. Of course, the possible ambiguity could have also been resolved by setting the limitation at 0.20 lbs. The Board found that the former action was more in accordance with the original intent of the rule. The Agency, however, disagreed, commenting that the rule is unambiguous and that the 0.20 standard has been "applied by the Agency for purposes of issuing permits and for developing the State

Implementation Plan." (See P.C. No. 19, p. 3, and 5/26/82. R. 165). IPC does not appear to disagree. Further, the Agency points out that there are at least two sources in non-attainment areas whose allowable emissions could increase if the Board were to finally adopt this modification and that the potential impact has not been assessed in the record. Finally, the only participant who argued that the 0.25 limit was the appropriate one was the Village of Winnetka, and, as more fully discussed below, the Village will be exempted from the application of this rule pending a site-specific determination.

The Board is persuaded by the Agency's comments and a review of the record that a 0.25 standard has not been adequately supported, and the Board will, therefore, adopt the 0.20 lbs/MBtu/hr standard.

The second modification of this section was proposed to minimize, so far as the record supported it, the impact of changes in the test methods for the determination of particulate emissions between 1972 and the present. The Board attempted to make the rule more flexible by allowing the use of original design specifications at full load in lieu of performance tests at part load (to simplify the rather complex provision). The Agency has commented that "the effect is to further complicate a complicated rule." (P.C. No. 19, p. 4). IPC contends that the modification addresses "only one limited aspect of the multifaceted problem of changing test conditions and testing methodologies" and "is so ambiguous that it may be unenforceable" (P.C. No. 18, p. 6). Bud Meyer finds the proposed modification confusing. Of the commenters only Staley supported this modification.

The Board was aware at the time it proposed this modification that it was not a complete answer to the problem of the changing test methods used to determine degradation. However, in the Board's first notice opinion, the Board found the original rule to be unfair in light of the changed test methods and found IPC's proposal to rectify the problem overly vague. Therefore, the Board modified IPC's proposal in the only more defined manner for which it could find adequate support in the record. However, based upon the comments and a review of the record, the Board found its first notice modification unsatisfactory.

The Agency later offered an alternative rule which would be essentially the same as the originally proposed rule except that the emission baseline would be re-established by using the results of the most recent stack tests. The Agency also provided data demonstrating what the effect of the rule would be.

While the Agency did not wish to go on record as "proposing" this amendment, the Board found the amendment to be meritorious

and proposed it for second first notice. The Board decided to return to first notice for three reasons: this was the second amendment of the proposal since the original first notice; there were numerous comments on the various proposals; and IPC requested an additional hearing.

IPC proposed the addition of a mechanism to Section 212.203 whereby site-specific alternative standards could be established to give relief to those emission sources otherwise unreasonably impacted by that section. The proposed mechanism would allow an alternative standard to be set in an adjudicatory proceeding patterned after similar provisions contained in 35 Ill. Adm. Code 214.185 and 302.211. The IPC proposal would apply to emission sources located in attainment areas and would require the source to prove that the requested emission rate would not, under worst case circumstances, cause or contribute to a violation of the National Ambient Air Quality Standards for particulates under the Prevention of Significant Deterioration provisions of the Clean Air Act.

IPC argues that the emissions standards contained in Section 212.203 were established on a state-wide basis and have not been set so as to take into account the special conditions which may concern individual sources. (See R. 8/12/83, 405-07). Consequently, the standards may be more stringent than are necessary for certain sources to attain and maintain air quality. (R. 8/12/83 355-56). Senate Bill 1862, which was adopted during the course of this proceeding, specifically allows the Board to provide by regulation for the subsequent determination of an adjusted standard for persons who can justify such an adjustment consistent with Section 27(a) of the Act. The regulation of general applicability shall specify the level of justification required of a petitioner to qualify for an adjusted standard. Establishing such a procedure by rule is, however, discretionary, and the Board finds that the record contains insufficient support for the establishment of such a mechanism in this rulemaking.

IPC essentially argues two points: first, an adjudicatory proceeding is faster and less expensive than a regulatory proceeding, and, second, that if the proposed standards will leave some increment for growth in attainment areas, such increment could properly be used by a source which is unreasonably impacted by the particulate standards. These same two points could be raised in any proceeding regarding emission standards for criteria pollutants, and similar points could be made with respect to any rule of general applicability. Thus, unless SB 1862 is to be read to allow the nearly wholesale avoidance of the otherwise applicable regulatory protections, there must be a greater justification than that which has been presented in this record. As the Agency argues, there must be some showing of special circumstances to justify such expedited procedures, and no such showing has been made here.

The Agency had no objection to that provision as proposed for Second First Notice. However, in comments filed on October 8, 1985, Central Illinois Light Company, Central Illinois Public Service Company, Commonwealth Edison Company, Electric Energy, Inc., and Illinois Power Company (Electric Utilities) include the following statements regarding the Board's attempts in this proceeding to recognize the intent of the original degradation provision and the impact of new particulate testing procedures on the equity of that provision:

The Electric Utilities, in the earlier comments and here, contend that the equitable relief the Board intended to grant by adoption of the degradation provision may be undermined or even lost because of this change in test methods. Earlier in this proceeding the Board recognized this problem (Opinion, December 6, 1984) and attempted to address it. In its more recent Order (May 16, 1985), the Board apparently gave up on the attempt.

The Electric Utilities recognized in the earlier comments that the effects of these factors, degradation and changed test methods and requirements, cannot be separated or specifically quantified. Significantly, as Electric Utilities pointed out, developments in the intervening 13 years can, and have in many cases, offset or masked the effects of these two factors (Utilities Comments at 10-14). One of the Agency's witnesses, somewhat reluctantly, agreed that this could occur. (Transcript, August 13, 1985, at 595-598.) Furthermore, as Electric Utilities explained, it may be impossible to continue to mask or offset those effects and Electric Utilities should not be penalized simply because they have been able, to date, to offset some of those effects.

(Elec. Util. Com., p. 4).

The Board disagrees with the assertion that it has given up the attempt. As proposed for Second First Notice, Section 212.203(c) allows sources which would otherwise be required to meet a more stringent standard to emit up to 0.2 lbs/MBtu based on the most recent stack test submitted to the Agency prior to April 1, 1985. Since such a stack test would use the new test methods, this mechanism should serve to offset the effect of the change in those methods. While the allowable limit under that subsection may differ from what it would have been using with the new test methods originally, it does allow the same margin for degradation though commencing at a different time.

The degradation provision applies to any source subject to Section 212.201 and 212.202 which qualifies under certain criteria for a relaxed limitation. As of the most recent updating of affected facilities, it is undisputed that all facilities currently emit less than they would be allowed under the original rule which is essentially retained as Section 212.203(c). Thus, the Board believes that the proposed rules retain the original equitable intent of the degradation provision and respond to an acceptable degree to the changes in test methods.

The Electric Utilities also object to the possibility "that a source could lose its special emission limitation." (Elec. Util. Com., pp. 1-2), and propose modified language to avoid that possibility.\* The Agency's response is that:

In interpreting and applying the degradation provision, the Agency has been guided by the Board's original intent in adopting the rule, namely, to "grandfather" certain sources which had made good faith expenditures in control equipment just prior to the Board's adoption of the emission standards. However, once that equipment has degraded to the point that it must be replaced, then there is no longer a valid reason to "grandfather" that source. The equipment must be replaced anyway and the only question left is the level of performance which the new equipment should be designed to achieve. In these cases, the Agency believes that the new equipment should be designed to meet the general standard of 0.10 lb/million Btu.

(Agency Com., 10/11/85, p. 10).

This concern was also addressed at hearing (R. 8/13/85, pp. 777-779), where the Agency attorney explained that on the occasions when the relaxed limitation was lost, such loss resulted from a consent decree and the old equipment was replaced.

-----  
\*The proposed language, in both sub-paragraphs (a) and (b) of 212.203, states:

"and the emission control of such source is not allowed to degrade more than ...."

The Electric Utilities again urge the Board to modify the above-quoted language in 212.203(a) and (b) to read as follows:

"and the emission control of such source is or can be operated without degrading more than ...."



The Board never intended that the "loss" of a relaxed limitation should "occur 'automatically' based on some ex parte determination" as the Electric Utilities fear. Rather, the Board agrees that such "loss" should arise in such a setting "that the Agency can advance its theory, and present supporting evidence in an appropriate forum, subject to the necessary procedural safeguard[s]." (Elec. Util. Com., pp. 2-3). The Board, however, declines to adopt the recommended language change since it agrees with the Agency that such language is overly vague. The Board, therefore, will propose Section 212.203 in the same form as it did in its Second First Notice, except that Section 212.203(c)(3) will be deleted as unnecessary. That section simply required emission limitations determined pursuant to Section 212.203(c) to be submitted to USEPA if the Clean Air Act requires it.

#### SECTION 212.204

The only amendments to this section are language changes for purposes of clarity and changes in the abbreviation of million British thermal units. No substantive changes are intended.

#### SECTION 212.209

This section concerns the Village of Winnetka. Throughout this proceeding the Village has attempted to put information into the record to establish a site-specific limitation applicable to Winnetka's generating station. To some extent, such evidence has been allowed as appropriate to an affected facility under the general rule. However, the Board has stopped short of allowing Winnetka to put forth information sufficient to establish site-specific relief. Even so, Winnetka has been able to demonstrate that it is unique in the state, if for no other reason than it is the only facility which has participated in this proceeding which is not in present compliance or subject to some order or agreement requiring it to come into compliance. Furthermore, evidence in the record demonstrates that if Winnetka emits up to 0.57 lbs/MBtu, the ambient air quality standard will not be threatened. (R. 8/3/83, pp. 143-149; and R. 4/20/82, pp. 61-62). Finally, Winnetka is presently permitted to emit particulates up to 0.25 lbs/MBtu.

Certainly, the Board is under no obligation to establish a site-specific rule in a regulatory proceeding in which a general rule is under consideration. The Environmental Protection Act recognizes that rules of general applicability will sometimes be unfair as applied to a particular facility. This is demonstrated by the fact that a mechanism exists under Section 38(b) of the Act which allows a facility which believes that it would be unfairly impacted by a rule to petition for variance from that rule within 20 days of its effective date thereby staying the rule's effect during the pendency of the variance petition. That avenue of relief would clearly be available to Winnetka were it not allowed some relief in this proceeding.

However, since Winnetka has already requested relief from the rule and been denied the opportunity to put forth all of its evidence in support of that relief in this proceeding, it is appropriate for the Board to establish a new docket for site-specific relief should Winnetka decide that the filing of such a proposal is appropriate. This is particularly true where, as here, the variance mechanism may not be appropriate due to the difference in proof between a rulemaking and a variance proceeding.

In a rulemaking the Board is to consider the economic reasonableness and technical feasibility of reducing the particular pollution, whereas in granting a variance the Board must find an arbitrary or unreasonable hardship. This record establishes that compliance with the general standard is economically reasonable and technically feasible in that nearly all of the facilities in the state are presently in compliance and have been for some time. Yet, the record also discloses that compliance with the general rule would be expensive, though affordable, for Winnetka. Variances are generally not granted where the sole basis for establishing hardship is affordable cost, and it may be that Winnetka could not justify variance relief. On the other hand, a site-specific rule could be appropriate depending on the entirety of the facts. Thus, Winnetka faces a potential "Catch-22" if it is not granted any relief in this proceeding.

Under these circumstances, it is appropriate to exempt Winnetka from the general standard until a decision is reached on the site-specific rulemaking. However, in order to insure that Winnetka expeditiously pursues a site-specific if it determines that such relief would be appropriate, this exemption will not become effective unless Winnetka files a proposal for site-specific relief within 60 days of the effective date of the general rule, and that relief will be effective for a period of 2 1/2 years only. Further, the Board will establish a 0.25 lb/MBtu standard to be applicable during this exemption period since that is the presently permitted level which is the minimum Winnetka has indicated as acceptable and which should not endanger the ambient air quality standards. The exemption shall become effective upon Winnetka's filing of a petition for site-specific relief and shall end upon a final determination regarding that relief if that determination is made prior to the end of the 2 1/2 year period. Finally, Winnetka will be allowed to incorporate by reference applicable parts of the R82-1 record, if copies of the referenced materials are resubmitted under the site-specific docket.

#### EFFECTIVE DATE

The last major issue is the effective date. In the Second First Notice the Board included a compliance date of January 1,

1987, since these regulations are, at least in theory, new regulations. The Agency strongly opposed this since so few facilities are out of compliance and delaying the effective date would correspondingly delay final action by USEPA to redesignate several counties as attainment.

The record shows that only one source, the Village of Winnetka's generating station, is in present violation of Section 212.201. The Agency also provided information showing that only three facilities are presently operating in violation of Section 212.202: the Galesburg Mental Health Center, the CWLP Dallman Units 1 & 2, and the A.E. Staley Company. The Galesburg Center was scheduled to be shut down in late 1985; the CWLP Units are subject to a Consent Decree entered into with the Agency and USEPA that calls for new electrostatic precipitators to be installed by 1987; and Staley has entered into a settlement agreement with the Agency whereby it will either retrofit a baghouse onto the existing boilerhouse or build an entirely new boilerhouse, depending upon the outcome of engineering studies presently being conducted. The remainder of the sources listed in Ex. 10, p. 54 are either shut down or the noncomplying equipment is not used any longer or is used only as emergency backup equipment. Thus, except for the Village of Winnetka, there appears to be no reason to have a delayed compliance date, and the rules will be effective when filed.

ORDER

The Board adopts the following amendments:

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

PART 201

Section 201.102 Definitions

"Air Contaminant": any solid, liquid or gaseous matter, any odor or any form of energy, that is capable of being released into the atmosphere from an emission source.

"Air Pollution Control Equipment": any equipment or facility of a type intended to eliminate, prevent, reduce or control the emission of specified air contaminants to the atmosphere.

"Air Pollution": the presence in the atmosphere of one or more air contaminants in sufficient quantities and of

such characteristics and duration as to be injurious to human, plant, or animal life, to health, or to property, or to unreasonably interfere with the enjoyment of life or property.

"Ambient Air": that portion of the atmosphere external to buildings comprising emission sources.

"Ambient Air Quality Standard": those standards promulgated from time to time by the Pollution Control Board (Board) pursuant to authority contained in the Act and found at 35 Ill. Adm. Code 243, or by the United States Environmental Protection Agency (USEPA) pursuant to authority contained in 42 U.S.C. 7401 et seq., as amended from time to time.

"Clean Air Act": the Clean Air Act of 1970, as amended, including the Clean Air Act Amendments of 1977, as amended (42 U.S.C. 7401 et seq.)

"Commence": the act of entering into a binding agreement or contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modifications.

"Construction": commencement of on-site fabrication, erection or installation of an emission source or of air pollution control equipment.

"Emission Source": any equipment or facility of a type capable of emitting specified air contaminants to the atmosphere.

"Existing Air Pollution Control Equipment": any air pollution control equipment, the construction or modification which has commenced prior to April 14, 1972.

"Existing Emission Source": any emission source, the construction or modification of which has commenced prior to April 14, 1972.

"Modification": any physical change in, or change in the method of operations of, an emission source or of air pollution control equipment which increases the amount of any specified air contaminant emitted by such source or equipment or which results in the emission of any specified air contaminant not previously emitted. It shall be presumed that an increase in the use of raw materials, the time of operation or the rate of production will change the amount of any specified air contaminant emitted. Notwithstanding any other

provisions of this definition, for purposes of permits issued pursuant to Subpart D, the Illinois Environmental Protection Agency (Agency) may specify conditions under which an emission source or air pollution control equipment may be operated without causing a modification as herein defined, and normal cyclical variations, before the date operating permits are required, shall not be considered modifications.

"New Air Pollution Control Equipment": any air pollution control equipment, the construction or modification of which is commenced on or after April 14, 1972.

"New Emission Source": any emission source, the construction or modification of which is commenced on or after April 14, 1972.

"Owner or Operator": any person who owns, leases, controls or supervises an emission source or air pollution control equipment.

"Person": any individual, corporation, partnership, firm, association, trust estate, public or private institution, group, agency, political subdivision or agency thereof or any legal successor, representative, agent or agency of the foregoing.

"PSD Increment": the maximum allowable increase over baseline concentration of sulfur dioxide any air contaminant as determined by Section 163 of the Clean Air Act (42 U.S.C. 7473) and regulations adopted thereunder.

"Specified Air Contaminant": any air contaminant as to which this Chapter Subtitle contains emission standards or other specific limitations.

"Standard Industrial Classification Manual": The Standard Industrial Classification Manual (1972), Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

#### PERMITS AND GENERAL PROVISIONS

Section 201.103      Abbreviations and Units

a) The following abbreviations have been used in this Part:

<u>btu or Btu</u>	British thermal units (60°F)
gal	gallons
hp	horsepower
<u>hr</u>	<u>hour</u>
gal/mo	gallons per month
gal/yr	gallons per year
kPa	kilopascals
kPa absolute	kilopascals absolute
kW	kilowatts
l	liters
<u>mmbtu/hr or M</u>	million btu's per hour
MW	megawatts; one million watts
psi	pounds per square inch
psia	pounds per square inch absolute

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

English	Metric
1 gal	3.785 l
1000 gal	3.785 cubic meters
1 hp	0.7452 kW
1 mmbtu/hr	0.293 MW
1 psi	6.897 kPa

PART 211  
DEFINITIONS AND GENERAL PROVISIONS  
SUBPART B: DEFINITIONS

Section 211.121 Other Definitions

All terms defined in 35 Ill. Adm. Code 201 which appear in 35 Ill. Adm. Code ~~212-217~~ 211-217 have the definitions specified by 35 Ill. Adm. Code 201.102. Otherwise the definitions specified in Section 211.122 apply.

PART 212  
VISUAL AND PARTICULATE MATTER EMISSIONS  
SUBPART E: PARTICULATE MATTER EMISSIONS  
FROM FUEL COMBUSTION EMISSION SOURCES

Section 212.201 Existing Sources Using Solid Fuel Exclusively Located in the Chicago Area

No person shall cause or allow the emission of particulate matter into the atmosphere from any existing fuel combustion source

using solid fuel exclusively, located in the Chicago major metropolitan area, to exceed 0.15 kg of particulate matter per MW-hr of actual heat input in any one hour period (0.10 lbs/mmbMBtu/hr) except as provided in Section 212.203.

{Board Notes: Sections 212-201 through 212-205 have been ruled invalid by the First District Appellate Court, Commonwealth Edison v. PCB, 25 Ill. App. 3d 271, 323 NE 2d 84 and in Ashland Chemical Corp. v. PCB, 64 Ill. App. 3d 169. Section 212-205 was adopted after the Court challenges and is a valid rule.}

Section 212.202 Existing Sources Using Solid Fuel Exclusively Located Outside the Chicago Area

No person shall cause or allow the emission of particulate matter into the atmosphere from any existing fuel combustion source using solid fuel exclusively, which is located outside the Chicago major metropolitan area, to exceed the limitations specified in the table below and Illustration A in any one hour period except as provided in Section 212.203.

METRIC UNITS

<u>H (Range)</u> <u>Megawatts</u>	<u>S</u> <u>Kilograms permegawatt</u>
Less than or equal to 2.93	1.55
Greater than 2.93 but Smaller than 73.2	$3.33 H^{-0.715}$
Greater than or equal to 73.2	0.155

ENGLISH UNITS

<u>H (Range)</u> <u>Million Btu per hour</u>	<u>S</u> <u>Pounds per million bBtu</u>
Less than or equal to 10	1.0
Greater than 10 but smaller than 250	$5.18 H^{-0.715}$
Greater than or equal to 250	0.10.1

where:

S = Allowable emission standard in lbs/MBtu/hr or kg/MW of actual heat input, and

H = Actual heat input in million Btu per hour or megawatts

Section 212.203 Existing Controlled Sources Using Solid Fuel Exclusively

Notwithstanding Section 212.201 and 212.202, any existing fuel combustion source using solid fuel exclusively may, in any one hour period, emit up to, but not exceed 0.31 kg/MW-hr (0.20 lbs/mmbMBtu), if as of April 14, 1972, either any one of the following conditions was met:

- a) The emission source had an hourly emission rate based on original design or equipment performance test conditions, whichever is stricter, which ~~is~~ was less than 0.31 kg/MW-hr (0.20 lbs/mmbMBtu) of actual heat input, and the emission control of such source is not allowed to degrade more than 0.077 kg/MW-hr (0.05 lbs/mmbMBtu) from such original design or acceptance performance test conditions; or,
- b) The source ~~is~~ was in full compliance with the terms and conditions of a variance granted by the Pollution Control Board (Board) sufficient to achieve an hourly emission rate less than 0.31 kg/MW-hr (0.20 lbs/mmbMBtu), and construction had commenced on equipment or modifications prescribed under that program; and emission control of such source is not allowed to degrade more than 0.077 kg/MW-hr (0.05 lbs/mmbMBtu) from original design or equipment performance test conditions, whichever is stricter, or,
- c) The emission source had an hourly emission rate based on original design or equipment performance test conditions, whichever is stricter, which was less than 0.31 kg/MW-hr (0.20 lbs/MBtu) of actual heat input, and the emission control of such source is not allowed to degrade more than 0.077 kg/MW-hr (0.05 lbs/MBtu) from that rate demonstrated by the most recent stack test, submitted to and accepted by the Agency prior to April 1, 1985, provided that:

- 1) Owners and operators of sources subject to this subsection shall apply for a new operating permit within 180 days of the effective date of this section; and
- 2) The application for a new operating permit shall include a demonstration that the proposed emission rate, if greater than the emission rate allowed by subsections (a) or (b) of this section, will not under any foreseeable operating conditions and potential meteorological conditions cause or contribute to a violation of any applicable primary or secondary ambient air quality standard



for particulate matter, or violate any applicable prevention of significant deterioration (PSD) increment, or violate 35 Ill. Adm. Code 201.141.

Section 212.204 New Sources Using Solid Fuel Exclusively

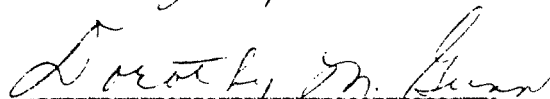
No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new fuel combustion emission source using solid fuel exclusively to exceed 0.15 kg of particulate matter per MW-hr of actual heat input (0.1 lbs/~~mm~~MBtu) in any one hour period.

Section 212.209 Village of Winnetka Generating Station

Notwithstanding any other requirements of this Part, if the Village of Winnetka files a petition to establish site-specific particulate standards for its generating station within 60 days of the effective date of the rules adopted under docket R82-1, the Village of Winnetka's generating station shall not emit particulates at a level more than 0.25 lbs/MBtu until January 1, 1989, or until a final determination is made on that site-specific rulemaking, whichever occurs sooner.

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 2<sup>nd</sup> day of July, 1986 by a vote of 7-0.



Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board