ILLINOIS POLLUTION CONTROL BOARD
December 20, 1985

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

PROPOSED RULE. SECOND SECOND NOTICE.

ORDER OF THE BOARD (by Jacob D. Dumelle):

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 Village of Winnetka's comments were accompanied by a motion to file instanter since they were filed after the close of the extended comment period. That motion is hereby granted. Winnetka also filed an appeal from a hearing officer order denying Winnetka's renewed motion for hearing to present site-specific testimony. The hearing officer order is hereby affirmed.

In general the comments address four areas of concern with the proposed rules: the opacity limitation, the degradation provision, the effective date, and the Winnetka power plant.

OPACITY

The Illinois Environmental Protection Agency (Agency) argues that the opacity standard (35 Ill. Adm. Code 212.123) should be adopted as proposed. (Agency Comments, Oct. 11, 1985, p. 4). In a joint comment, however, Electric Energy, Inc. (EEI) and Illinois Power Company (IPC) argue that "there is no basis to support adoption of the opacity standard." (EEI and IPC comments, p.1). The disagreement centers on the propriety of an opacity standard as a "surrogate" for the particulate standard: i.e. whether opacity violations are closely enough correlated to particulate violations to justify an independent standard. The Agency argues that "the opacity rule is an appropriate substitute for frequent stack-testing of emissions from coal-fired boilers" and that there is a "high correlation with the exceedance of the applicable particulate limit." (Agency Comments, Oct. 11, 1985, p.4). EEI and IPC, however, argue that "if the opacity standard has the possibility of being violated by a source which is not, at that opacity, violating the particulate standard, then the opacity standard is unsupportable." (EEI and IPC comments, p.2).

The facts are unrebutted that there is not a perfect correlation between violations of opacity and particulate emissions standards, that in the large majority of cases opacity

violations indicate particulate violations, but that there are cases in which a violation of the opacity limitation is not associated with a particulate violation. (R. 8/13/85, pp. 634-637, 664, 687, 689, 707 and 716-719). EEI and IPC note that they "do not object to the use of opacity as a surveillance or guidance technique, possibly as a trigger to a more detailed investigation of a source", but they believe "the Board cannot justify ... imposing civil and criminal sanctions for violating the surrogate, opacity standard knowing that sources will nonetheless be meeting the underlying standard." (EEI and IPC comments, p.4).

The positions of the Agency and EEI and IPC are not actually far apart. As the Agency states, "the opacity limitation, historically, has not been enforced by the Agency as any precise measure of particulate emissions but as a qualitative indicator of operating situations which should be investigated. For example, the Agency may condition permits to require that reporting, in accordance with 35 Ill. Adm. Code 201.263, be done whenever the opacity exceeds the allowable limit." (Agency comments, Oct. 11, 1985, p.5). Furthermore, as the Agency points out, it cannot successfully prosecute a case against a source in violation of the opacity standard where the source can demonstrate that it was in compliance with the particulate standard pursuant to the exception of 35 Ill. Adm. Code 212.124(c) which establishes a showing of compliance with the particulate standard as a defense to an opacity violation. If it were possible to readily establish that a source qualifies for the exception, there would seem to be little disagreement over the proposed rule. However, that is not the case.

John Yokom, an environmental consultant who appeared on behalf of EEI and IPC, testified at length regarding the difficulties involved in establishing a relationship between opacity and particulate matter emissions, concluding, essentially, that such a relationship can only be definitively established on a site-specific basis. (R. 8/13/85, p. 674-699). Opacity is a function of numerous variables including the concentration of particles in the plume, the plume's diameter, the particle size distribution, the particle's index of refraction, color and light absorbing properties, the wave length of the incident light, and the presence of uncombined water. (R. 8/13/85, p. 674-675).

Since the Agency has indicated that it does not enforce on the basis of opacity violations alone, and since there appears to be substantial difficulty in establishing qualification for the exception, the Board has proposed the modification of the opacity rule. This has been done in an attempt to ensure that the Agency can continue to use opacity violations as a qualitative indicator of operating situations which should be investigated and as a basis for imposing monitoring or reporting requirements in permits, but not as a means to impose civil or criminal penalties.

SECTION 212.203

The second major issue is the question of the degradation provision of Section 212.203. The Agency apparently has no objection to that provision as proposed for Second First Notice. 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.
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> 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.
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> (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/mmBtu 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.
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> (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 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

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*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 ...."

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. Instead, the Board will restate its intent regarding this issue in its final opinion. 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.

EFFECTIVE DATE

The next 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 has 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. That source will be further discussed below. 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 is 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 Board will, therefore, propose that the rules be generally effective when filed.

VILLAGE OF WINNETKA

The last major issue 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/mmBtu, the ambient air quality standard will not be threatened. (R. 8/3/83, pp. 143-149; and R. 4/20/82, pp. 61-62). Furthermore, Winnetka is presently permitted to emit particulates up to 0.25 lbs/mmBtu.

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 two years only. Further, the Board will establish a 0.25 lb/mmBtu 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 Winnetks'a 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 two 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.

The Board hereby proposes the following amendments for Second Notice:

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

PART 201
PERMITS AND GENERAL PROVISIONS

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 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 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.

Section 201.103 Abbreviations and Units

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

btu or Btu	British thermal units (60 F)
gal	gallons
hp	horsepower
hr	hour
gal/mo	gallons per month
gal/yr	gallons per year
kPa	kilopascals
kPa absolute	kilopascals absolute
kW	kilowatts
l	liters
mm or M	million
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 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 B: VISUAL EMISSIONS

Section 212.123 Limitations for All Other Sources

a) No person shall cause or allow the emission of smoke or other particulate matter with an opacity of greater than 30 percent into the atmosphere from any emission source other than those sources subject to Section 212.122; provided, however, that the exceedance of this standard shall only be a violation for purposes of the establishment of permit conditions concerning monitoring and reporting requirements.

b) Exception: The emission of smoke or other particulate matter from any such emission source may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such more opaque emissions permitted during any 60 minute period shall occur from only one such emission source located within a 305 m (1000 ft) radius from the center point of any other such emission source owned or operated by such person, and provided further that such more opaque emissions permitted from each such emission source shall be limited to 3 times in any 24 hour period.

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./MBtu/hr) except as provided in Section 212.203.

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

H (Range) Megawatts	S Kilograms per megawatt hour
Less than or equal to 2.93	1.55
Greater than 2.93 but Smaller than 73.2	$3.33H^{-0.715}$
Greater than or equal to 73.2	0.155

ENGLISH UNITS

H (Range) Million Btu per hour	S Pounds per million btu
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	0.1

where:

S = Allowable emission standard in lbs/MBtu/hr or kg/MW-hr 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/mmBtu), if as of April 14, 1972, 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 was less than 0.31 kg/MW-hr (0.20 lbs/mmBtu) 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/mmBtu) from such original design or acceptance performance test conditions; or,

b) The source 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/mmBtu), 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/mmbtu) 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/mmBtu) of actual heat input, and the emission control of such source has not been allowed to degrade more than 0.77 kg/MW-hr (0.05 lbs/mmBtu) from that rate demonstrated by the most recent stack test submitted to and accepted by the Agency prior to June 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; and

Section 212.204 New Sources Using Solid Fuel Exclusively

No person shall cause or allow the emission of particulate matter into the atmosphere 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 (0.10 lbs/mmBtu) in any one hour period.

Section 212.205 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/mmBtu until January 1, 1988, or until a final determination is made on that site-specific rulemaking, whichever occurs sooner.

IT IS SO ORDERED.

Board Member B. Forcade dissented.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Order was adopted on the 20th day of December, 1985 by a vote of 6-1.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board