ILLINOIS POLLUTION CONTROL BOARD
July 11, 1986

IN THE MATTER OF:	)	
	)	
PROPOSED AMENDMENTS TO TITLE 35, SUBTITLE D: MINE RELATED WATER POLLUTION, CHAPTER I, SECTION 406.106	)	R84-29

PROPOSED RULE. FIRST NOTICE.

OPINION AND ORDER OF THE BOARD (by R.C. Flemal):

This matter comes before the Board upon a May 31, 1984, proposal filed by the Illinois Coal Association ("ICA"), as revised on February 25, 1985. The ICA proposal requests the Board to amend 35 Ill. Adm. Code 406.106 by deleting the current provision relating to mine discharges during rainfall events, and substituting it with standards patterned after the federal regulations governing such discharges. Under the provisions of the ICA proposal, mine discharges would be exempted from the requirements of 406.106(b) (except pH) during rainfall events, but a 0.5 ml/l settleable solids limitation would be imposed on any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume). The 0.5 ml/l SS standard is the current federal standard*. The impetus for the ICA proposal, inter alia, is that it would provide uniformity of state and federal regulations and would allow mine operators in Illinois to utilize more economic sediment ponds.

Merit hearings on the proposal were held in Urbana, Illinois, on November 30, 1984, and in Springfield, Illinois, on December 21, 1984.

*The current effluent limitations guidelines for the coal mining point source category were promulgated on October 9, 1985 and are found at 50 Fed. Reg. 41,296 (1985) (to be codified at 40 C.F.R. Part 434).

**The Board wishes to express its gratitude to Mr. Richard DiMambro of the Board's Scientific and Technical Section for his assistance in reviewing the technical matters associated with this proposed rule.

The Illinois Environmental Protection Agency ("Agency") submitted an alternative regulatory proposal in this docket on March 15, 1985. The Agency subsequently amended its proposal on March 20, and 21 1986. The Agency proposal would eliminate the total suspended solids monitoring requirement for mine discharges and instead provide two design criteria alternatives for treatment of alkaline surface drainage. The alternatives are: design and construction of 24-hour detention ponds for runoff from the 10-year, 24-hour storm event (known as Alternative "A"); or design and construction of sediment ponds capable of removing 80% of the sediment from the 10-year, 24-hour storm event (known as Alternative "B").

On May 28, 1985, the ICA filed a motion for emergency rulemaking, requesting that its proposal be adopted by the Board as an emergency rule due to what it perceived as a threat to the public interest resulting from the passage of time occuring during the pendency of the proceeding. The Board denied the ICA motion by Order of June 13, 1985, finding that no threat to the public interest existed and furthermore that, even if such relief were to be granted, it would be effective for only 150 days and thus would lapse prior to the expected completion date of R84-29.

The economic impact analysis ("EcIS") prepared for this proceeding, "Economic Impact Analysis of R84-29: Mine-Related Water Pollution Regulations", was received by the Board on February 3, 1986. Hearings on the EcIS were conducted in DeKalb, Illinois, on March 10, 1986, and in Springfield, Illinois, on March 18, 1986. The EcIS fully considered and discussed the economic impact of the ICA proposal. However, the document did not thoroughly address the economic impact of the Agency proposal, as it omitted analysis of Alternative "B", one of the two alternative regulatory approaches put forth by the Agency in its proposal. As a consequence of this oversight, on April 4, 1986, the Agency filed a motion to the Board to request the Department of Energy and Natural Resources ("Department") to revise the portion of the EcIS analyzing the Agency proposal. The Board denied this motion by Order of April 24, 1986, holding that this shortcoming of the EcIS was remedied at hearing by extensive questioning on what the economic ramifications of Alternative "B" would be. Additionally, the Board noted that it is unaware of any statutory authority empowering it to order the Department to revise or supplement an EcIS.

Notwithstanding the Board's April 24, 1986, Order the Department submitted additional comments for the record on May 29, 1986. The Department indicated that these comments were intended to clarify the position of the Department's contractor in regard to several issues raised during the economic impact hearings held in this proceeding.

The ICA and Agency submitted comments for the record on June 5, 1986, and the Agency did likewise on June 10, 1986, and June 13, 1986.

For the reasons discussed below, the Board today adopts for First Notice language largely paralleling the proposal put forth by the ICA.

CURRENT ILLINOIS LAW

The effluent limitations applicable to mine discharge effluents are found at 35 Ill. Adm. Code 406.106, and state in full:

SECTION 406.106 EFFLUENT STANDARDS

a) The effluent limitations contained in 35 Ill. Adm. Code 304 shall not apply to mine discharges or non-point source mine discharges.

b) No person shall cause or allow a mine discharge effluent to exceed the following levels of contaminants:

Constituent	Storet Number	Concentration
Acidity	00435	(total acidity shall not exceed total alkalinity)
Iron (total)	01045	3.5 mg/l
Lead (total)	01051	1 mg/l
Ammonia Nitrogen (as N)	00610	5 mg/l
pH	00400	(range 6 to 9)
Zinc (total)	01092	5 mg/l
Fluoride (total)	00951	15 mg/l
Total suspended solids	00530	35 mg/l
Manganese	01055	2.0 mg/l

1) pH is not subject to averaging

2) The ammonia nitrogen standard is applicable only to an operator utilizing ammonia in wastewater treatment.

3) Any overflow, increase in volume of a discharge or discharge from a by-pass system caused by precipitation or snowmelt shall not be subject to the limitations of this Section. This exemption shall be available only if the sedimentation basin or treatment works is designed, constructed and maintained to contain or treat the volume of water which would fall on the areas tributary to the discharge, overflow or bypass during a 10-year, 24-hour or larger precipitation event (or snowmelt

of equivalent volume). The operator shall have the burden of demonstrating that the prerequisites to an exemption set forth in this subsection have been met.

4) The manganese effluent limitation is applicable only to discharges from facilities where chemical addition is required to meet the iron or pH effluent limitations. The upper limit of pH shall be 10 for any such facility that is unable to comply with the manganese limit at pH 9. The manganese standard is not applicable to mine discharges which are associated with areas where no active mining, processing or refuse disposal has taken place since May 13, 1976.

(Source: Amended at 8 Ill. Reg. 13239, effective July 16, 1984)

Section 406.106(b)(3) provides an exemption from effluent limitations for mine discharges occuring during wet weather events if the sedimentation pond utilized at the site is designed to contain or treat runoff from all storms of lesser magnitude than one of a 10-year, 24-hour event. This optional design standard was enacted in 1980* so as to mirror as closely as possible the federal regulation then in effect at 40 CFR 434.

CHANGES IN FEDERAL LAW

The Board's existing regulations pertaining to mine related discharges were adopted from United States Environmental Protection Agency ("USEPA") standards which that agency promulgated in response to the requirements of the Clean Water Act of 1972. USEPA promulgated new regulations on October 13, 1982, incorporating changes based upon new data and the results of studies commissioned by USEPA. The most significant change was the adoption of a settleable solids ("SS") criteria in place of total suspended solids ("TSS") for discharges due to runoff from precipitation events less than the 10-year, 24-hour precipitation event. On October 9, 1985 USEPA promulated changes to the 1982 regulations pursuant to a settlement agreement in the matter of National Coal Association, et. al. v. Environmental Protection Agency, Nos. 82-1939 et. al., 4th Cir., August 23, 1983.

*In the Matter of Proposed Amendments to Chapter 4 of the Regulations of the Illinois Pollution Control Board, R76-20 and R77-10 (consolidated), 39 PCB 260, July 24, 1980. At the time of its promulgation in 1980, section 406.106 was known as Rule 606 of Chapter 4: Mine Related Pollution.

The Board's regulations governing mine related discharges during precipitation events have not been consistent with the USEPA regulations for those discharges since the changes to the latter in 1982. Section 434.63(a) of Part 40 of the Code of Federal Regulations describes the federal standard for discharges of alkaline mine drainage (the predominant type in Illinois) during precipitation events less than the 10-year, 24-hour event. That standard is performance-based and requires such discharges to meet an SS limitation of 0.5 ml/l and maintain pH between 6.0 and 9.0. These guidelines replaced the optional design standard that Illinois has retained to the present time. For precipitation events of greater magnitude than a 10-year, 24-hour event, the federal regulations require compliance with only the pH limitation (40 C.F.R. 434.63(d)). The federal regulations have retained the same dry weather limitations; thus Illinois and federal regulations governing mine discharges during dry weather (35 Ill. Adm. Code 406.106 and 40 C.F.R. 434.42, respectively) are consistent.

THE ICA PROPOSAL

By its submission of February 25, 1985, the ICA proposes that 406.106 be revised to appear as follows:

Section 406.106 Effluent Standards

a) The effluent limitations contained in Part 35 Ill. Adm. Code 304 shall not apply to mine discharges or non-point source mine discharges.

b) No person shall cause or allow a mine discharge effluent to exceed the following levels of contaminants:

Constituent	Storet Number	Concentration
Acidity	00435	(total acidity shall not exceed total alkalinity)
Iron (total)	01045	3.5 mg/l
Lead (total)	01051	1 mg/l
Ammonia Nitrogen (as N)	00610	5 mg/l
pH 00400		(range 6 to 9)
Zinc (total)	01092	5 mg/l
Fluoride (total)	00951	15 mg/l
Total suspended solids	00530	35 mg/l
Manganese	01055	2.0 mg/l

1) pH is not subject to averaging.

2) The ammonia nitrogen standard is applicable only to an operator utilizing ammonia in wastewater treatment.

~~3)~~ ~~Any overflow, increase in volume of a discharge or discharge from a by-pass system caused by precipitation or snowmelt shall not be subject to the limitations of this Section. This exemption shall be available only if the sedimentation basin or treatment works is designed, constructed and maintained to contain or treat the volume of water which would fall on the areas tributary to the discharge, overflow or by-pass during a 10-year, 24-year or larger precipitation event (or snowmelt of equivalent volume). The operator shall have the burden of demonstrating that the prerequisites to an exemption set forth in this subsection have been met.~~

3)4) The manganese effluent limitation is applicable only to discharges from facilities where chemical addition is required to meet the iron or pH effluent limitations. The upper limit of pH shall be 10 for any such facility that is unable to comply with the manganese limit at pH 9. The manganese standard is not applicable to mine discharges which are associated with areas where no active mining, processing or refuse disposal has taken place since May 13, 1976.

4) For any New Source which discharges water, the effluent limitation for iron shall be 3.0 mg/l.

5) Any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume), or from a reclamation area, shall be exempt from this subsection (b) except as it applies to pH. Such discharge shall also meet a settleable solid concentration of 0.5 ml/l.

Any discharge or increase in volume of a discharge caused by precipitation within any 24-hour period greater than the 10-year, 24-hour precipitation event (or series of storms or snowmelt of equivalent volume) shall be exempt from this subsection (b) except as it applies to pH.

For purposes of this subsection the term "reclamation area" means the surface area of a coal mine which has been returned to required contour and on which revegetation (specifically, seeding or planting) work has commenced.

The ICA has stated that its proposal is intended to be a "mirror image" of the comparable federal regulations (Tr. 4 at 135)*, translated into language compatible with Illinois' regulatory format. ICA Responsive Comments, June 5, 1986, p. 1. Though the ICA so intended, the Board believes the regulation proposed by ICA is in fact less stringent than the federal regulations. Consequently, the Board has modified the ICA proposal in some respects (see p. 17) in order that the regulation proposed today for First Notice publication is in fact as stringent as present federal regulations.

THE AGENCY PROPOSAL

The Agency submitted a revised proposal on March 21, 1985, which it offered for Board adoption in lieu of the ICA proposal. The Agency proposal states as follows:

Section 402.101 Definitions

For purposes of this Chapter the following terms are defined:

"Alkaline Surface Drainage": any drainage which results in a mine discharge other than from processing or mineral preparation plants which prior to treatment has a pH equal to or greater than 6.0 and does not contact any acid producing material.

Section 405.105 Surface Drainage Control

a) A state or NPDES permit shall include a plan for surface drainage control as a condition.

b) The applicant's plan for surface drainage control shall be incorporated into a permit by reference if it meets the standard of Section 405.102; otherwise, the Agency shall either deny the permit or issue it with a plan modified by conditions subject to the provisions of Section 405.101.

*Four transcripts have been produced during the conduct of this proceeding: one from each of the two merit hearings, and one from each of the two EcIS hearings. The merit hearing transcripts contain both consecutive and non-consecutive page numbering. The EcIS hearing transcripts do not contain consecutive page numbering. To minimize confusion, references to the record will be made by citing to the transcript containing such reference. The transcripts will be numbered in the chronological order in which the hearings they transcribe occurred. Thus, the transcript of the November 30, 1984, merit hearing will be referred to as Transcript 1 ("Tr. 1"), the transcript of the December 21, 1984, merit hearing as Transcript 2 ("Tr.2"), etc.

c) Mining activities and the deposition of mine refuse shall be planned and conducted so as to avoid contact or interference with waters of the State where such contact can reasonably be expected to cause or allow pollution of such waters.

d) Diversion, redirection or impoundment of streams shall not be undertaken where the Agency demonstrates that there is an economically reasonable alternative.

e) Alkaline surface drainage from the affected land of a coal mine shall be passed through a sedimentation pond before leaving the mine area. Sedimentation ponds of Section 405.105(e) shall not be subject to the effluent limitations or monitoring requirements of Part 406 for iron, manganese, or total suspended solids; and shall be designed, constructed and maintained in accordance with the following:

1) Detention Time

A) Sedimentation ponds shall be designed, constructed and maintained to provide 24 hours of detention time for all inflow including the runoff from tributary areas which results from a 10 year -- 24 hour precipitation event, or

B) An alternate sedimentation pond detention time is allowable provided that the applicant demonstrates that 80% removal of sediment in all inflow including the runoff resulting from a 10 year -- 24 hour precipitation event will be achieved. The applicant must demonstrate the 80% removal efficiency through one or more of the following methods:

1) Influent and effluent sample analyses of existing sediment ponds which treat alkaline surface drainage from tributary areas with the same soil and runoff characteristics;

2) Sediment delivery, sediment removal and pond performance models;

3) Soils analyses and sedimentation pond hydraulic analyses.

2) Sedimentation ponds of Section 405.105(e) shall include separate storage volume for sediment to accumulate.

3) Sedimentation ponds of Section 405.105(e) shall be inspected annually by the permittee and certification made in writing to the Agency that the pond meets the criteria of Section 405.105(e).

4) If the permittee determines by the annual or other inspections that the actual design, construction or operation of a sediment pond approved under Section 405.105(e) does not meet the criteria of this Subsection, the permittee shall notify the Agency in writing by certified mail within five days and identify the corrective action to be taken to achieve compliance with this Subsection.

The Agency is proposing that monitoring (sampling) of settling pond discharges be abolished because of its belief that numerous samples must be taken during precipitation events in order to reliably ascertain pond performance. Tr. 2 at 112. Such sampling is not presently required, and the Agency itself believes that frequent sampling during periods of runoff is impractical. Id. at 113. The Agency proposal therefore utilizes alternative design standards (10-year, 24-hour pond size, or pond removing 80% of the sediment in the runoff) rather than an effluent standard requiring monitoring for verification of performance.

DISCUSSION OF TSS AND SS STANDARDS

All of the midwestern states, with the exception of Illinois, have adopted the SS standard. EcIS at vi. The essential difference between the TSS and SS standards is in the manner in which solids are measured. As described in the EcIS:

> The analytical difference between suspended solids and settleable solids translates into differing levels of treatment technology. The suspended solids test is based upon filtering solids from the effluent through an 0.3 micron filter, drying, and measuring the residue. Thus, the suspended solids test truly measures all suspended particles greater than 0.3 microns in size in the wastewater. The settleable solids test, however, measures the volume of suspended particles which settle in an Imhoff Cone within a one hour period. (Theoretically, this would include all particles greater than 12 microns, plus varying fractions of particles with smaller diameters). Thus, small or colloidal particles will remain suspended during the settleable solids test and these particles are not measured in this test.
>
> EcIS at 2-3.

William Telliard, Chief of the Energy and Mining Branch, Industrial Technology Division, USEPA, testified that that Agency's 1982 adoption of the SS standard resulted from "extensive engineering and statistical analysis.." Tr. 1 at 31. More specifically, Mr. Telliard related that two studies were relied upon by USEPA, both of which dealt with the application of pond design. One of the studies concluded that USEPA could not feasibly propose a national suspended solids standard applicable to all operators at all times during precipitation events. Tr. 1 at 32. The second study, which evaluated the performance of certain 10-year, 24-hour ponds in nine states (including Illinois), found that these ponds achieved 99% compliance with the SS standard. Tr. 1 at 33.

Mr. Telliard also indicated several additional reasons behind USEPA's promulgation of the SS "effluent" standard, in place of the 10-year, 24-hour "design" standard. First, USEPA found that ponds smaller than those sized to meet the 10-year, 24-hour criteria can still meet the SS standard through the application of additional technology used to aid settling. Mr. Telliard indicated it was USEPA's belief that operators should have the flexibility to choose the manner in which they comply with the applicable standard. Tr. 1 at 34. Additionally, USEPA feels that the SS measurement better reflects the true performance of a pond employing simple settling technology. Tr. 1 at 35.

The latter point was echoed in testimony presented by Victor Ordija, Supervisor for the Environmental Quality Control Department, Mid-Continent Region, Consolidation Coal Company. Mr. Ordija related that settling ponds operate on the principle that suspended particles can be entrapped in the pond by settling to the bottom. He further stated that settling ponds are not "filters", which he believes is the type of technology necessary to meet the 35 mg/l TSS limitation of 406.106. Tr. 1 at 65. Mr. Ordija said that the 35 mg/l standard can generally be met after several days of dry weather, but that as soon as a substantial rain occurs large runoff volumes entering the pond throw the discharge out of compliance. Id. at 64.

The Agency is opposed to adoption of the SS standard primarily for two reasons. First, it believes the standard is subject to the same impracticality regarding sampling that caused the Agency to drop sampling as a requirement within its own proposal (see p. 9, above for discussion). Second, the SS standard is based on a test which the Agency contends is not capable of measuring most of the sediment carried in runoff waters. Tr. 1 at 88.

The SS test requires that a 1000 ml water sample be placed in an Imhoff cone and allowed to settle for a one-hour period. At the end of that time the amount of settleable solids accumulated in the bottom of the cone is measured. The water column length from the water surface in a filled cone to the cone

bottom is 15½ inches. Based on Stokes' Law*, under standard conditions of 10 C water temperature and 2.65 g/cm^3 particle density, all particles larger than .012 mm should settle to the bottom of the cone during the test. Agency Exhibit 1, at 7.

In support of its argument that the SS test is inadequate, the Agency offered testimony on its opinion regarding the types of soil particles that are/are not measured by the Imhoff cone test. Ronald Barganz, Manager, Division of Mining Pollution Control, Illinois Environmental Protection Agency, testified that "about half of the silt-size particles and all clay-size particles can't be measured as part of the settleable solids in an Imhoff cone test because they will not settle to the bottom during the time of the test" (i.e. are smaller than .012 mm). Tr. 1 at 90. He further stated that "(s)ilt and clay-size particles frequently make up 75 to 90 percent of surface soil samples and deeper unconsolidated overburden samples in the (Illinois) mining areas". Id. He concludes that "most of the solids entering a sedimentation pond...(and)...almost all the solids leaving the sedimentation pond are not measurable using this (SS) test". Id. at 91.

Later questioning of Mr. Barganz, however, indicated that these particles are sometimes detected during an Imhoff test in one of several ways. A portion of the particles less than .012 mm in size that begin the 1 hour settling period in the lower portion of the cone will settle during the test. Tr. 2 at 120. Sometimes particles larger than .012 mm, as they settle through the cone will hit smaller particles, agglomerate with them, and pull the smaller particles down to the bottom. Id. at 121. Also, a standard procedure of the Imhoff test is to scrape the side of the cone 45 minutes into the settling period. Some of the smaller particles that had been at rest on the side of the cone may settle to the bottom after being scraped. Id. at 122.

Mr. Barganz also testified that, in his estimation, ponds designed to meet the SS standard will trap 20-30% of the sediment instead of the 70-90% of sediment that would have been captured by 24-hour ponds. Agency Exhibit 1, at 10. Mr. Barganz acknowledged, though, that this prediction is theoretical and is not based on actual sampling of ponds in operation. Tr. 2 at 127-8.

---

*Stokes' Law is described as follows:

$$V_s = \frac{g}{18u}(S-1)D^2$$

where V_s = settling velocity, cm/sec
g = acceleration of gravity, 981 cm/sec^2
u = kinematic viscosity of a fluid, cm^2/sec^2
S = specific gravity of a particle
D = diameter of a particle, cm

ECONOMIC IMPACT

The EcIS reports that of the 492 coal mining discharges in Illinois, approximately 430 would be affected by the ICA and Agency proposals. EcIS at vi. The expected economic impact of each proposal will be discussed separately.

Economic Impact of the ICA Proposal

The EcIS calculates that if the ICA proposal were adopted, the size of settling ponds built in Illinois would be expected to decrease 57% as compared to the size required by the existing regulation. EcIS at vii. This reduction would be expected to result in a savings to the coal industry of between $3.66 and $5.07 million annually (due to reduced construction and removal costs). Id. at 44, 96. As this proposal is projected to increase suspended solids in settling pond effluents during precipitation events by 96 mg/l (Id. at 54), costs to downstream public water supplies would be expected to increase a maximum of $3,100 to $19,000 per year. Id. at 84. These costs are associated with the treatment necessary to remove the additional solids.

The EcIS anticipates that adoption of the ICA proposal would result in between 28,600 and 589,000 tons per year of additional coal being mined in Illinois. EcIS at 101. Regarding the impact of adoption of the ICA proposal on economic sectors associated with the coal industry, over 240 jobs would be expected to be created (Id. at 104), and a cumulative increase in wages and salaries of $9 million* would occur between 1986 and 1995. Id. at 106. Adoption of the ICA proposal would increase the demand for goods and services between $17 million and $20 million over that 10 year period, and output or supply across all direct and indirect sectors is calculated to rise by $23 million to $25 million over the same timeframe. Id. at 106.

Economic Impact of the Agency Proposal

The Agency proposal embodies two design alternatives, wholly distinct from one another. If required to operate under the provisions of this proposal, an operator would be required to choose one of the two pond designs. The theorized economic impacts of the two designs vary considerably, and so will be discussed separately. As already defined, Alternative "A" refers to the design and construction of a 10-year, 24-hour pond, while Alternative "B" refers to a sediment pond capable of removing 80% of the sediment from a 10-year, 24-hour event.

*In constant 1983 dollars.

Economic impact of Alternative "A". The EcIS reports that adoption of the Agency's Alternative "A" would result in a cost savings to the coal industry of $315,000 annually. EcIS at ix. This potential* cost savings is attributable to the Agency's elimination of monitoring as a requirement under both its Alternative "A" and Alternative "B". No savings in capital costs would occur pursuant to Alternative "A", as the size of sedimentation ponds constructed would be expected to remain the same. Id. at 46. The EcIS indicates that Alternative "A" would cause an increased number of proposed site-specific rule changes, thereby increasing the administrative and engineering costs of compliance. Id. at 94. The EcIS theorizes this would occur since the 10-year, 24-hour design, an option under the present regulation, would become mandatory and that some mines cannot utilize the design because it is "economically and/or technically infeasible" Id. The EcIS does not quantify this cost but suggests that it be considered. Id. at 95. The EcIS also notes that adoption of Alternative "A" would continue the "dual" levels of regulation of coal mine discharges that currently exists due to the Agency's enforcement of Illinois standards and IDMM's

*The Board refers to the economic benefit under Alternative "A" as "potential" because there is some disagreement as to whether or not the benefit would exist. Douglas Downing, Supervisor, Land Reclamation Division, Illinois Department of Mines and Minerals ("IDMM") believes that this cost savings would not occur. On May 29, 1986 he submitted a letter to the Board (which has been docketed as Public Comment Number 3 in this proceeding) indicating that even if the Agency ceased requiring monitoring, 62 Ill. Adm. Code 1780.21(b)(3) and 1784.14(b)(3) would still require coal operators to sample and report the data to IDMM. Mr. Downing is therefore of the opinion that IDMM's requirements would negate any potential economic benefit accruing from the Agency's idea of eliminating monitoring. It should be mentioned that Ronald Barganz, Manager, Division of Mining Pollution Control, Illinois Environmental Protection Agency testified that in his experience when the Agency relaxes a standard pertaining to coal companies, "Mines and Minerals...very quickly follow(s) suit" (Tr. 4 at 158). IDMM requires monitoring, however, because the federal Office of Surface Mining requires compliance with USEPA regulations (which require monitoring). As Mr. Barganz also indicated in his testimony, for IDMM to be in a position to be able to forego monitoring, USEPA would have to issue a written determination indicating that the Agency's (proposed) regulation is stricter than USEPA's. Id. at 159. Ignoring, for the moment, the question of whether Illinois can adopt regulations dealing with the mining industry which are more strict than the applicable federal regulations, the Board notes that consideration given to the question of what another Agency will or will not do involves such a great deal of speculation that not very much weight can be given to the prospect of any Agency taking one particular action or another.

enforcement of Illinois and federal standards. The EcIS does not quantify this cost, but states that ambiguity could be the result of reporting under and enforcing criteria with two sets of standards (Id.).

Economic impact of Alternative "B". The EcIS did not include detailed consideration of the Agency's Alternative "B". Tr. 3 at 64. Linda Huff, President of Huff & Huff, Inc., the contractor which performed the EcIS, testified that Alternative "B" was not considered because she was not sure of "how the alternative would apply. In other words, what is it that (operators) have to do in order to prove this 80% (removal of sediment)?" Id. Questioning of Mrs. Huff at hearing did elicit information for the record, however, on what the probable economic impact of Alternative "B" would be. Mrs. Huff stated that if the Board adopted the Agency proposal, and if all operators chose Alternative "B" as their manner of compliance, the economic benefits (cost savings) accruing to the operators would be approximately the same as that which would occur as a result of adoption of the ICA proposal. Id. at 67-9.

ENVIRONMENTAL IMPACT

Some supporters of the ICA proposal testified that because the existing regulation requires coal mine discharges to often be lower in suspended solids than the streams they discharge into, the regulation is stricter than necessary and thus should be abandoned in favor of the SS standard. Tr. 1 at 44-5, 73. The Board notes at the outset of this discussion that that line of reasoning, in and of itself, is not sufficient when determining the environmental impact of a proposed regulation. If the Board had adopted such an approach in the past, little progress would have been made in reducing the amount of pollutants in any medium. The observation made in the testimony mentioned above is but one factor for the Board to consider in evaluating the merits of the ICA and Agency proposals.

Both settleable and suspended solids can have an adverse impact on aquatic organisms. For example, the European Inland Fisheries Advisory Commission (1965) stated that water normally containing from 80 to 400 ppm (mg/l) suspended solids are unlikely to support good freshwater fisheries, although fisheries may sometimes be found at the lower concentrations within this range. EcIS at 78. Many Illinois streams fall within this category already. Id. Nevertheless, a proposal which would allow additional sediment to be discharged to the State's waterways must be carefully evaluated for the degree of adverse environmental impact stemming from it. This concern is justified because, inter alia, as discussed in the EcIS:

> The addition of suspended solids will cause an increase in the silt deposition. As the sediment accumulates the benthic community will go through a transition in which those organisms typically found

> in this environment will be replaced by sediment dwelling organisms, such as, Chironomidae (midges) and Oligochaeta (worms) which are classified as tolerant of pollution by the Illinois Environmental Protection Agency. As the benthic community undergoes a transformation, there will also be change in the fish community with fish species, such as, Carp (Cyprinus carpio) and goldfish (Carassius auratus), which tolerate silty conditions, being the dominant fishes. EcIS at 79.

Silt also decreases the occurrence of aquatic vegetation, due to the loss of water clarity. EcIS at 72.

The ICA proposal, if adopted, is expected to increase the suspended solids in mine discharges during precipitation events by 96 mg/l. EcIS at 54. This will equate to an annual incremental loading of 3,400 tons statewide. EcIS at 58. The current statewide sediment loading is over 8,000,000 tons per year. Id.

Mining discharges occur within 28 major watersheds in western, central, and southern Illinois. EcIS at 60. However, over two-thirds of the mining discharges are to the Big Muddy River and Saline River Basins. EcIS at 65. Given the prominence of the Big Muddy River in this regard, the EcIS compared the annual sediment yield (tons/sq.mi.) of the Big Muddy to other watersheds where there are no mining activities. The comparison appeared as follows:

	Drainage Area	Annual Sediment yield, tons/sq.mi.
Big Muddy River	2,162	118
Iroquois River	2,092	117
Vermilion River	1,251	187
Kankakee River	2,294	45
LaMoine River	1,293	726

Id. This comparison seems to indicate that the Big Muddy River Basin does not differ substantially from other watersheds in terms of sediment yield per square mile, and reflects the fact that the major sources of sediment to streams are agricultural land uses. Tr. 2 at 63. All indications in the record are that coal mine discharges do not contribute significantly to the sediment loadings of Illinois streams during precipitation events. The EcIS concludes that:

> As agricultural lands are the predominant land use in the coal mining regions in Illinois, sedimentation ponds for the disturbed coal mining lands reduce the suspended solids discharged compared to the pre-mining activity. The effluent from the sedimentation ponds in

most cases will dilute the suspended solids reaching the watersheds from the adjoining agricultural lands. Thus, as long as the sedimentation ponds are designed for capturing sediment, the coal mines are not contributing to the peak suspended solids concentrations in the watersheds. This is valid under the existing regulation, as well as under the ICA and IEPA proposed regulations.

CONCLUSION

The Board is persuaded by the record in this proceeding that the basic tenets of the ICA proposal merit adoption. As has been noted, Illinois stands alone among Midwestern states in not having adopted the SS standard promulgated by the USEPA. The increased costs to Illinois mine operators incurred as a result of having to continue to build 10-year, 24-hour ponds places them at a competitive disadvantage with operators from surrounding states. EcIS at 99. Adoption of the SS standard will allow Illinois operators to construct ponds sized commensurately with the ones competing operators are required to build.

Whether the purported economic benefits of the Agency proposals would be realized by operators is an open question. Testimony of the IDMM indicates that Illinois mine operators would continue to be required to sample mine discharges, even if the Agency proposal were adopted. This would occur because the IDMM has the responsibility of enforcing Illinois and USEPA mine effluent regulations, and the latter requires monitoring to show compliance with the performance-type standard. Tr. 2 at 63. The economic benefits of the Agency's Alternative "A" are related entirely to the expected savings from the elimination of monitoring (see pg. 13, above). The estimated economic benefits of the Agency's Alternative "B" (if "B" was utilized by all operators) is approximately the same as that of the ICA proposal (see p. 13, above). However, the record indicates that if the Agency proposal were adopted, substantial confusion would exist among mine operators as to how to meet the 80% removal demonstration required by Alternative "B" (Tr. 4 at 79-82). Therefore, it seems unlikely that all mine operators would choose Alternative "B" over "A".

The record also illustrates that little adverse environmental impact will occur as a result of adopting the ICA proposal. The additional stream sediment loading brought about by the regulatory change is minimal when contrasted with the statewide loading (see p. 15, above). The Board is convinced that, given the slight environmental impact and substantial economic benefit of the ICA proposal (as well as the Agency proposal), the proposal (with slight modifications to insure consistency with USEPA regulations) should be adopted for First Notice publication.

Finally, both the ICA and the Agency presented arguments as to whether or not the Illinois Surface Coal Mining Land Conservation and Reclamation Act, Ill. Rev. Stat. ch. 96½ 7901.01 et seq. (1985), and specifically 7902.(c) of that Act, prohibits the establishment of regulations more stringent than those required to meet the Federal Surface Mining Control and Reclamation Act of 1977 (PL 95-87). The Board need not reach this issue, as the regulation the Board proposes today is intended to be no more stringent than the federal regulations currently in place.

PROPOSED FIRST NOTICE LANGUAGE

The ICA intended their proposed regulations to be less complex but just as stringent as the federal requirements. Under the ICA proposal, however, some discharges will be subject to effluent standards less stringent. The Board has modified the proposal by adding several definitions and new sections to the regulations.

Definitions for acid or ferruginous mine drainage and alkaline mine drainage have been added because federal requirements are different for each. The term "controlled surface mine drainage" has been added because discharges pumped or siphoned from surface mining areas can be controlled by the operator at all times. They will not be subject to the alternative precipitation limitations. The ICA indicated that the "definition of new source performance standard that was finally adopted in the Federal Register is acceptable to us." (Tr. 3 at 126). The Board can find no definition for "new source performance standard". There is a definition for "new source coal mine" at 40 CFR 434.11(j) which the Board will adopt with minor language modifications. The definition of reclamation area proposed by the ICA will be adopted.

Section 406.101 is modified to explicitly describe the two numerical standards not subject to averaging, pH and SS. The ICA did not specify whether SS was to be a maximum standard never to be exceeded or a standard subject to averaging "because of the uncertainty on the federal level..." (Tr. 4 at 137). In fact, the federal regulations are explicit in describing the SS limitation as a maximum value not to be exceeded at any time. Adoption of new subsection 406.101(c) removes any ambiguity.

Subsection 406.102(i) is intended to insure that monitoring occurs during periods when the alternate precipitation limitations are in effect. The alternate precipitation limitations are applicable only during precipitation events which are unpredictable. A monitoring frequency based upon time intervals (3 samples per month, for example) is not appropriate. Mr. Allen O. Oertel, of the Illinois Department of Mines and Minerals, stated that "the Department does believe that monitoring is the only way to effectively judge a pond's performance in actual operation. Because the present monitoring

program does not provide this information, it should not be a basis for its elimination. Rather, it should be revised so that a pond's performance can be effectively evaluated." Tr. 2 at 62. He went on to state that "the monitoring of a storm event would be the only way to tell whether or not that pond is performing as designed, or whether or not its efficiency is decreasing." Tr. 2 at 69. The Illinois State Water Survey evaluated data from active coal mines and recommended that "data collected as part of the NPDES permit program should emphasize sampling after rainfall events." (Board Exhibit 1). Therefore, the Board will require sampling during precipitation events. The burden of proof is placed upon the operators to show which discharge limitations are in effect at any particular time.

The ICA proposal and the existing and proposed IEPA regulations are vague about the effluent limitations of waste streams that are commingled prior to treatment. Section 406.105 clarifies that the effluent limitations of commingled waste streams are the most stringent applicable to any component waste stream of the discharge. This section, with minor language modifications, is taken directly from the federal regulations, 40 CFR 434.61.

Section 406.106 has been reorganized for clarity and a new subsection, 406.106(c), has been added to require a more stringent total iron limitation for new source coal mines, as proposed by the ICA.

A new section, 406.109, has been added to list the effluent standards for discharges from reclamation areas. These standards are taken directly from the federal requirements. Section 406.110 describes the alternate effluent standards applicable during precipitation events. The language is, again, from the federal requirements. Subsection 406.110(a) is taken from the ICA proposal, while subsections 406.110(b) and (c) apply to acid or ferruginous mine drainage.

ORDER

The March 21, 1986 proposal of the Illinois Environmental Protection Agency is denied.

The Clerk shall cause first notice publication of the following proposed amendments in the Illinois Register:

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE D: MINE RELATED WATER POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

PART 402
DEFINITIONS

AUTHORITY: Authorized by Section 27 and implementing Sections 12 and 13 of the Illinois Environmental Protection Act (Ill. Rev. Stat., ch. 111 1/2, pars. 1012, 1013 and 1027) unless otherwise noted.

SOURCE: 4 Ill. Reg. no. 34, p. 164, effective August 7, 1980; Codified 5 Ill. Reg. no. 34, p. 8527, effective August 21, 1981 unless otherwise noted; Amended at _____ Ill. Reg. _____, effective _____.

Section 402.100 Terms Defined Elsewhere

Unless otherwise stated or unless the context clearly indicates a different meaning, the definition of terms used in this Chapter are the same as those found in the Illinois Environmental Protection Act (Act), (Ill. Rev. Stat. 1979, ch. 111 1/2, Section 1001 et seq.), the Water Pollution Regulations of the Illinois Pollution Control Board (Subtitle C, Chapter I) and the Federal Water Pollution Control Act of 1972 (FWPCA) (33 U.S.C. 1251 et seq., 1972 as amended). The following definitions which apply to this Chapter can be found in the Act, Subtitle C, Chapter I or the FWPCA: **Administrator, Agency, Board, Contaminant, Effluent, Federal Water Pollution Control Act (FWPCA), National Pollutant Discharge Elimination System (NPDES), Point Source Discharge, Pollutant, Refuse, Storet, Treatment Works, Underground Waters, Wastewater, Wastewater Source, Water Pollution** and **Waters.**

Section 402.101 Definitions

For purposes of this Chapter the following terms are defined:

"Abandon": to transfer ownership of or to close down mining activities, a mine or mine refuse area with no intention by that operator to reopen the affected land. A mine or mine refuse area which has been inoperative for one year shall be rebuttably presumed to be abandoned.

"Acid or Ferruginous Mine Drainage": mine drainage which, before any treatment, has a pH of less than 6.0 or a total iron concentration greater than 10 mg/L.

"Acid-producing Material": material which when exposed to air and water is capable of causing drainage containing sulfuric acid. In determining whether material is acid-producing, consideration shall be given to the sulfur content of the material, the size and spatial distribution of pyritic compounds and other compounds of sulfur, the neutralizing effect of surrounding intermixed materials and the quality of drainage produced by mining on sites with similar soils.

"Affected Land": any land owned or controlled or otherwise used by the operator in connection with mining activities except the surface area above underground mine workings that is not otherwise used for mining activities. The term does not include offsite office buildings and farming operations or recreational activities on undisturbed land. Land described in a certificate of abandonment issued by the Agency under Section 405.110(e) is no longer part of the affected land.

"Alkaline Mine Drainage": mine drainage which, prior to treatment, has a pH equal to or greater than 6.0 and a total iron concentration of less than 10 mg/L/.

"Aquifer": a zone, stratum or group of strata which can store and transmit water in sufficient quantities for a specific use.

"Coal Transfer Facility or Coal Storage Yard": any area were coal is transferred from one mode of transportation to another or where coal is dumped, piled, stored or blended. The term includes but is not limited to coal docks, blending yards, conveyor belts and pipelines. As used in this Chapter, the terms mining activity and mine related facility shall include coal transfer facilities and coal storage yards.

"Construction Authorization": authorization under Section 403.104 to prepare land for mining activities or to construct mine related facilities. Construction authorization is issued to a person who holds or is required to have an NPDES permit.

"Construction Permit": a state permit issued under Section 404.101 which allows the operator to prepare land for mining activities or to construct mine related facilities.

"Controlled Surface Mine Drainage": any surface mine drainage that is pumped or siphoned from a mine area or mined area.

"Domestic Retail Sales Yard": a business which stockpiles coal or other materials solely for the purpose of supplying homeowners, small businesses, small industries or other institutions with the mineral for their individual consumption. The term does not include any sales yard located at a mine.

"Drainage Course": any natural or man-made channel or ditch which serves the purpose of directing the flow of water into a natural waterway.

"Facility": a contiguous area of land, including all structures above or below the ground, which is owned or controlled by one person.

"Mine Area or Mined Area": the surface and subsurface land where mining has occurred or is occurring. The term does not include the unmined surface land directly above underground mine workings which is not otherwise disturbed by mining activities.

"Mine Discharge": any point source discharge, whether natural or man-made, from a mine related facility. Such discharges include but are not limited to mechanical pumpages, pit overflows, spillways, drainage ditches, seepage from mine or mine refuse areas, effluent from processing and milling or mineral preparation plants. Other discharges including but not limited to sanitary sewers and sewage treatment works are not mine discharges. The term mine discharge includes surface runoff discharged from a sedimentation pond but does not include non-point source mine discharges.

"Mine Refuse": gob, coal, rock, slate, shale, mill tailings, boney, clay, pyrites and other unmerchantable solid or slurry material intended to be discarded which is connected with the cleaning and preparation of mined materials at a preparation plant or washery. It includes sludge or other precipitated matter produced by the treatment of acid mine drainage but does not otherwise generally include sediment from alkaline mine drainage. The term also includes acid-producing spoil.

"Mine Refuse Area": any land used for dumping, storage or disposal of mine refuse.

"Mine Refuse Pile": any deposit of solid mine refuse which is intended to serve as permanent disposal of such material.

"Mine Related Facility": a portion of a facility which is related to mining activities. The term includes, but is not limited to, the following:

a) Affected land;

b) Coal storage yard or transfer facility;

c) Mine;

d) Mine drainage treatment facility;

e) Mine refuse area; and

f) Processing or mineral preparation plant.

"Mining": the surface or underground extraction or processing of natural deposits of coal, clay, fluorspar, gravel, lead bearing ores, peat, sand, stone, zinc bearing ores or other minerals by the use of any mechanical operation or process. The term also includes the recovery or processing of the minerals from a mine refuse area. It does not include drilling for oil or natural gas.

"Mining Activities": all activities on a facility which are directly in furtherance of mining, including activities before, during and after mining. The term does not include land acquisition, exploratory drilling, surveying and similar activities. The term includes, but is not limited to, the following:

a) Preparation of land for mining activities;

b) Construction of mine related facilities which could generate refuse, result in a discharge or have the potential to cause water pollution;

c) Ownership or control of a mine related facility;

d) Ownership or control of a coal storage yard or transfer facility;

e) Generation or disposal of mine refuse;

f) Mining;

g) Opening a mine;

h) Production of a mine discharge or non-point source mine discharge;

i) Surface drainage control; and

j) Use of acid-producing mine refuse.

"New Source Coal Mine": a coal mine, including an abandoned mine which is being remined, at which:

a) Construction commenced after May 4, 1984; or

b) A major alteration has resulted in a new, altered or increased discharge of pollutants. Major alterations are:

1) Extraction from a coal seam not previously extracted by that mine;

2) Discharge into a drainage area not previously affected by wastewater discharge from that mine;

3) Extensive new surface disruption at the mining operation; and

4) Construction of a new shaft, slope or drift.

"Non-point Source Mine Discharge": surface runoff from the affected land. The term does not include surface runoff which is discharged from a sedimentation pond or seepage from a mine or mine refuse area.

"Opening a Mine": any construction activity related to preparation for mining on a facility.

"Operating Permit": a state permit required of a person carrying out mining activities.

"Operator": a person who carries out mining activities.

"Permittee": a person who holds a state or NPDES permit issued under this Subtitle D, Chapter I. In some contexts the term permittee also includes a permit applicant.

"Person": any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, state agency, or any other legal entity, or their legal representative, agent or assigns.

"Processing or Mineral Preparation Plant": a facility used for the sizing or separation from the ore or raw mineral of coal, clay, fluorspar, gravel, lead bearing ores, peat, sand, stone, zinc bearing ores or other materials.

"Reclamation Area": the surface area of a coal mine which has been returned to the contour required by permit and on which revegetation work has commenced.

"Slurry": mine refuse separated from the mineral in the cleaning process consisting of readily pumpable fines and clays and other materials in the preparation plant effluent. This term includes mill tailings.

"Spoil": the accumulation of excavated overburden or other earth, dirt or rock overlying the mineral seam or other deposit excavated from its original location by surface or underground mining.

"State Permit" a construction permit or operating permit issued by the Agency. NPDES permits are not state permits.

"Surface Drainage Control": control of surface water on the affected land by a person who is engaging in mining activities. Control of surface water includes diversion of surface waters around or away from the active mining area or mine refuse area and diversion, redirection or impoundment of a stream or

impoundment of water for flow augmentation or controlled release of effluents.

"Surface Mining": mining conducted in an open pit including area and contour strip mining.

"Underground Mining": mining conducted below the surface by means of constructing an access facility to the mineral deposit. The term includes slope, drift, shaft mines and auger or punch mining.

"Use of Acid-producing Mine Refuse": use of acid-producing mine refuse includes any use, offer for sale, sale or offer for use in roadway projects, mine roads, mine yards or elsewhere.

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

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE D: MINE RELATED WATER POLLUTION
CHAPTER I: POLLUTION CONTROL BOARD

PART 406
MINE WASTE
EFFLUENT AND WATER
QUALITY STANDARDS

SUBPART A: EFFLUENT STANDARDS

Section
406.100 Preamble
406.101 Averaging
406.102 Sampling, Reporting and Monitoring
406.103 Background Concentrations
406.104 Dilution
406.105 ~~Violation of Water Quality Standards (Renumbered)~~ Commingling of Waste Streams
406.106 Effluent Standards for Mine Discharges
406.107 Offensive Discharges
406.108 Non-point Source Mine Discharges
406.109 Effluent Standards for Discharge from Reclamation Areas
406.110 Alternate Effluent Standards for Precipitation Events

SUBPART B: WATER QUALITY STANDARDS

Section
406.201 Temporary Exemption from Section 406.105 (Repealed)
406.202 Violation of Water Quality Standards
406.203 TDS Related Permit Conditions
406.204 Good Mining Practices
406.205 Contact with Disturbed Areas

406.206 Retention and Control of Exposed Waters
406.207 Control of Discharge Waters
406.208 Unconventional Practices
406.209 Expiration of Former Exemptions

AUTHORITY: Implementing Sections 12 and 13 and authorized by Section 27 of the Illinois Environmental Protection Act (Ill. Rev. Stat. 1983, ch. 111 1/2, pars. 1012, 1013 and 1027).

SOURCE: Adopted in R76-20, R77-10, 39 PCB 196, at 4 Ill. Reg. 34, p. 164, effective August 7, 1980; codified at 5 Ill. Reg. 8527; emergency amendment in R83-6B at 7 Ill. Reg. 8386, effective July 5, 1983, for a maximum of 150 days; amended in R83-6B at 7 Ill. Reg. 14510, effective October 19, 1983; amended in R83-6A at 8 Ill. Reg. 13239, effective July 16, 1984; amended in R84-29 at _____ Ill. Reg. _____, effective _____.

Section 406.101 Averaging

a) Compliance with the numerical standards of this part shall be determined on the basis of 24-hour composite samples averaged over any calendar month. In addition, no single 24-hour composite sample shall exceed two times the numerical standards prescribed in this part nor shall any grab sample taken individually or as an aliquot of any composite sample exceed five times the numerical standards prescribed in this part.

b) Subsection (a) of this section notwithstanding, if a permittee elects monitoring and reporting by grab samples as provided in Section 406.102(f), then compliance with the numerical standards of this part shall be determined on the basis of three or more grab samples averaged over a calendar month. In addition, no single grab sample shall exceed two times the numerical standards prescribed in this part.

c) The numerical standards for settleable solids are maximum values not to be exceeded at any time and are not subject to averaging.

d) The numerical standards for pH shall be within the specified range at all times and are not subject to averaging.

Section 406.102 Sampling, Reporting and Monitoring

a) Where treatment is provided for a discharge, effluent samples shall be taken at a point after the final treatment process and before entry into or mixture with any waters of the state.

b) Where treatment is provided the permittee shall design or modify structures so as to permit the taking of effluent samples by the Agency at the required point.

c) Where treatment is not provided for a discharge, effluent samples shall be taken at the nearest point of access to the discharge source at a point where the discharge leaves the mine or mine area or other portions of the affected land, but in all cases effluent samples shall be taken before entry into or mixture with waters of the state.

d) At a reasonable frequency to be determined by the Agency, the permittee shall report the actual concentration or level of any parameter identified in the state or NPDES permit.

e) The Agency may by permit condition require monitoring and reporting on the basis of 24-hour composite samples averaged over calendar months. However, grab samples or composite samples of shorter duration may be permitted by the Agency after demonstration that such samples reflect discharge levels over standard operating conditions.

f) Subsection (e) of this Section notwithstanding, if apermittee so requests, the Agency shall by permit condition require monitoring and reporting on the basis of grab samples, in which case Section 406.101(b) will apply.

g) Monitoring as required in this rule shall continue after abandonment until the permittee has reasonably established that drainage complies with and will continue to comply with the requirements of the Act and this Chapter.

h) All methods of sample collection, preservation and analysis used in applying any of the requirements of this Chapter shall be in accord with the United States Environmental Protection Agency's current manual of practice or with other procedures acceptable to the United States Environmental Protection Agency and the Agency.

i) At least one sample shall be collected during the time period the alternate limitations for precipitation events in 406.109 and 406.110 are in effect. The operator shall have the burden of proof that the discharge or increase in discharge was caused by the applicable precipitation event.

Section 406.105 ~~Violation of Water Quality Standards~~ ~~(Renumbered)~~Commingling of Waste Streams

Where waste streams from any facility described in this Part are combined for treatment or discharge with other waste streams from another facility, the concentration of each pollutant in the combined discharge may not exceed the most stringent limitations for that pollutant applicable to any component waste stream of the discharge.

(Source: Amended in R84-29 at _____ Ill. Reg. _____, effective _____.)

Section 406.106 Effluent Standards for Mine Discharges

a) The effluent limitations contained in 35 Ill. Adm. Code 304 shall not apply to mine discharges or non-point source mine discharges.

b) ~~No person shall cause or allow~~Except as provided in 35 Ill. Adm. Code 406.109 and 406.110, a mine discharge effluent ~~to~~ shall not exceed the following levels of contaminants:

Constituent	Storet Number	Concentration
Acidity	00435	(total acidity shall not exceed total alkalinity)
Iron (total)	01045	3.5 mg/l
Lead (total)	01051	1 mg/l
Ammonia Nitrogen (as N)	00610	5 mg/l
pH	00400	(range 6 to 9)
Zinc (total)	01092	5 mg/l
Fluoride (total)	00951	15 mg/l
Total suspended solids	00530	35 mg/l
Manganese	01055	2.0 mg/l

~~1)~~ ~~pH is not subject to averaging.~~

~~2~~1) The ammonia nitrogen standard is applicable only to an operator utilizing ammonia in wastewater treatment.

~~3)~~ ~~Any overflow, increase in volume of a discharge or discharge from a by-pass system caused by precipitation or snowmelt shall not be subject to the limitations of this Section. This exemption shall be available only if the sedimentation basin or treatment works is designed, constructed and~~

~~maintained to contain or treat the volume of water which would fall on the areas tributary to the discharge, overflow or bypass during a 10-year, 24-hour or larger precipitation event (or snowmelt of equivalent volume). The operator shall have the burden of demonstrating that the prerequisites to an exemption set forth in this subsection have been met.~~

42) The manganese effluent limitation is applicable only to discharges from facilities where chemical addition is required to meet the iron or pH effluent limitations. The upper limit of pH shall be 10 for any such facility that is unable to comply with the manganese limit at pH 9. The manganese standard is not applicable to mine discharges which are associated with areas where no active mining, processing or refuse disposal has taken place since May 13, 1976.

c) New source coal mines shall be subject to a total iron limitation of 3.0 mg/l in addition to the requirements of subsection b) above.

(Source: Amended in R84-29 at _____ Ill. Reg. _____, effective _____.)

Section 406.109 Effluent Standards for Discharges from Reclamation Areas

a) The effluent limitations contained in 35 Ill. Adm. Code 304 and 406.106 shall not apply to mine discharges from reclamation areas.

b) A mine discharge effluent from a reclamation area shall not exceed the following levels of contaminants:

Constituent	Storet Number	Concentration
Settleable solids		0.5 ml/l
pH	00400	(range 6-9)

c) Notwithstanding b), above, any discharge, or increase in the volume of discharge caused by precipitation within any 24 hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall be subject only to a pH limitation (range 6-9).

Section 406.110 Alternate Effluent Standards for Precipitation Events

a) Discharges of alkaline mine drainage, except discharges from underground mines that are not commingled with other discharges eligible for these alternate limits, discharges from mountaintop removal operations, discharges from steep slope areas, and discharges from coal preparation plants and plant associated areas, except for drainage from coal refuse disposal piles are eligible for alternate effluent limitations during precipitation events. Any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of those in 406.106(b):

Constituent	Storet Number	Concentration
Settleable solids		0.5 ml/l
pH	00400	(range 6-9)

b) Discharges of acid or ferruginous mine discharge from coal refuse disposal piles are eligible for alternate effluent limitations during precipitation events. Any discharge or increase in the volume of a discharge caused by precipitation within any 24-hour period greater than the 1-year, 24-hour precipitation event and less than or equal to the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of those in 406.106(b):

Constituent	Storet Number	Concentration
Settleable solids		0.5 ml/l
pH	00400	(range 6-9)

c) Discharges of acid or ferruginous mine drainage (except for discharges in subsection (b), above, mountaintop removal areas, steep slope areas, controlled surface mine discharges and discharges from underground workings):

1) caused by precipitation within any 24 hour period less than or equal to the 2-year, 24-hour precipitation event (or snowmelt of equivalent volume) may comply with the following limitations instead of those in 406.109(b):

Constituent	Storet Number	Concentration
Settleable solids		0.5 ml/l
Iron (total)	01045	3.5 mg/l
pH	00400	(range 6-9)

2) Caused by precipitation within any 24 hour period greater than the 2-year, 24-hour precipitation event but less than or equal to the 10-year, 24-hour precipitation event shall be subject to the requirements of subsection c) 1), above, except for the total iron effluent standard.

d) All discharges mentioned in (a), (b), and (c) of this section, discharges of acid or ferruginous mine drainage from underground workings which are commingled with other discharges and controlled acid or ferruginous surface mine discharges caused by precipitation within any 24 hour period greater than the 10-year, 24-hour precipitation event (or snowmelt of equivalent volume) shall be subject only to a pH limitation (range 6-9).

IT IS SO ORDERED.

Board Members Jacob D. Dumelle and Bill Forcade concurred.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board, hereby certify that the above Opinion and Order was adopted on the 11th day of July, 1986, by a vote of 6-0.

Dorothy M. Gunn

Dorothy M. Gunn, Clerk
Illinois Pollution Control Board