ILLINOIS POLLUTION CONTROL BOARD
April 4, 1972

In the Matter of)
) #R 71-14
WATER QUALITY STANDARDS REVISIONS)

SEPARATE OPINION (by Mr. Kissel):

On March 7, 1972, the Board adopted the new Water Quality Standards Revisions to complete the entire package of new water quality standards for the State of Illinois. I voted for those regulations because in the main they are reasonable and attainable. I do feel, however, that my concern should be expressed in two areas: permits and basin studies.

[PERMITS]

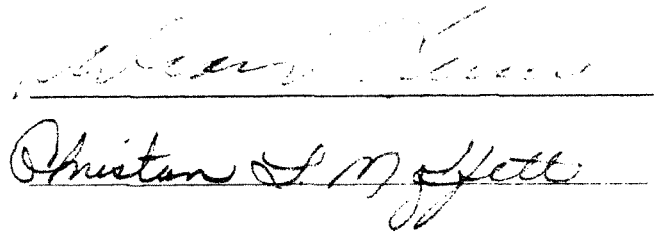
In Part IX, Permits, Paragraphs 901, et seq., the Board has adopted a rather comprehensive permit procedure recommended by the Agency. The Agency is also the one who will administer that program, and is the one who is responsible for seeing that the water quality standards and timetables are met.

Generally, the permit program will require construction and operating permits for new sewers and wastewater sources and operating permits for existing wastewater sources. This means that virtually every discharger and sewer builder in the State will have to submit an application for a permit to the Agency and before that person can construct or operate the sewer or wastewater source, a permit will have to be issued by the Agency. With the number of permit applications to be expected, this is indeed a tremendous undertaking by the Agency. My concern is that we may have given the Agency too much to do in the next few years, because these permits, along with the permit program for air pollution, solid waste disposal and public water supplies, constitute a tremendous amount of paperwork. If not properly and expeditiously handled, the State of Illinois will suffer both from a pollution and economic standpoint. We could have reduced the load in the permit area significantly if we had decided to take the recommendation of the City of Chicago and the Metropolitan Sanitary District of Greater Chicago by exempting those who discharge to larger municipal systems and requiring that the operators of those systems administer the

program. Certainly, the Agency would still have been given the "right of review" over those permit systems, but would not have had the onus of approving each and every permit within those systems. This proposal was an attractive one because it would have eliminated the sure-to-come duplication of effort by the larger municipal units and the Agency. But I felt that it should not be adopted as yet. It is important at this time to keep the regulations of pollution within the state system, and to see how it works. Thus, while I have not accepted the City's and the Metropolitan Sanitary District's proposal now, it may be that if the present program does not work, and the Agency becomes "bogged down" in the administrative process in dealing with permit applications, that strong consideration should be given to changing the regulations along the lines suggested by the City and the MSD. I believe that within a year to 18 months, it should be known whether the present permit regulations are a success or failure, and we would expect that if it is not a success, the City of Chicago, MSD or others will tell the Board so that the administrative process to change the regulation can be started.

The second area on which I believe comment is in order is basin planning. The water quality standards recently adopted do the best job that can be done when one is faced with the burden of adopting statewide regulations. Generally, the new standards are based on present knowledge, and experience of scientists and engineers, not only in Illinois, but across the country. Thus, while they are the best we know today, it does not mean that we should stop here. As we were told time and again, the only real "way to go" is by looking at the pollution problem on a stream by stream basis -- that is, basin study and planning. It is encouraging that the Institute has set up a study program for the Rock River basin which hopefully will guide us in the future as to how basin studies should be done. Basin study and planning gives regulators the opportunity to look at how pollution can be stopped in the "real world", because the stream is monitored for flow rate, contamination of the water, contamination of bottom sediments, discharges to the stream, etc. With this specific information on hand, we will know what must be, or need not be, done to protect the waters of the stream for the designated use. I hope that the Agency and the Institute (as they are presently doing) will continue their efforts in this most important area.

I, Christan L. Moffett, Clerk of the Pollution Control Board, certify that Mr. Kissel filed the above Separate Opinion this 18th of April, 1972,



ORDER

1. CHAPTER 4 of the Rules and Regulations of the Pollution Control Board, entitled "Water Pollution," is hereby designated as Chapter 3.

2. The following new provisions are hereby added to the Rules and Regulations of the Illinois Pollution Control Board:

ILLINOIS POLLUTION CONTROL BOARD
RULES AND REGULATIONS

CHAPTER 3: WATER POLLUTION

PART I: INTRODUCTION

101 Authority.

Pursuant to the authority contained in Section 13 of the Environmental Protection Act, which authorizes the Board to issue regulations "to restore, maintain, and enhance the purity of the waters of this State in order to protect health, welfare, property, and the quality of life, and to assure that no contaminants are discharged into the waters without being given the degree of treatment or control necessary to prevent pollution", and to adopt water quality standards, effluent standards, standards for the issuance of permits, standards for the certification of sewage works operators, standards relating to water pollution episodes or emergencies, and requirements for the inspection of pollution sources and for monitoring the aquatic environment, the Board adopts the following rules and regulations.

102 Policy.

The General Assembly has found that water pollution "constitutes a menace to public health and welfare, creates public nuisances, is harmful to wildlife, fish, and aquatic life, impairs domestic, agricultural, industrial, recreational, and other legitimate beneficial uses of water, depresses property values, and offends the senses."

It is the purpose of these rules and regulations to designate the uses for which the various waters of the State shall be maintained and protected; to prescribe the water quality standards required to sustain the designated uses; to establish effluent standards to limit the contaminants discharged to the waters; and to prescribe additional regulations necessary for implementing, achieving and maintaining the prescribed water quality. These regulations were developed in close cooperation with the Federal Environmental Protection Agency in order that, consistent with Illinois law, they may also serve the purposes of the Federal Water Pollution Control Act.

103 Repeals.

These rules and regulations replace and supersede Rules and Regulations SWB-1, SWB-5 through SWB-15, and SWB-19, adopted by the Illinois Sanitary Water Board and continued in effect by Section 49 (c) of the Environmental Protection Act "Until repealed, amended, or superseded by regulations under this Act." Accordingly Rules and Regulations SWB-1, SWB-5 through SWB-15, and SWB-19 are hereby repealed, except that any proceeding arising from any act committed before the effective date of the applicable provision of this Chapter shall be governed by the above listed regulations.

104 Definitions. As used in this Chapter, the following terms shall have the meanings specified [See additional definitions adopted Jan. 6, 1972]:

"Aquatic Life" means native populations of fish and other aquatic life;

"Dilution Ratio" means the ratio of the seven-day, once in ten years low flow of the receiving stream to the average dry weather flow of the treatment works for the design year.

"Institute" means the Illinois Institute for Environmental Quality;

"Interstate Waters" are all waters which cross or form part of the border between Illinois and other states;

"Intrastate Waters" are all the waters of Illinois which are not interstate waters;

"Marine Toilet" means any toilet on or within any watercraft;

"Modification" means

1) Any physical change in a treatment works which involves different or additional processes or equipment or which increases or decreases the capacity or efficiency of the treatment works; or

2) any change in the number or location of points where effluent is discharged, directly or indirectly, to the waters; or

3) any change in any components of a sewer system which alters the quantity of wastewater capable of being conveyed, or which increases or decreases the quantity of wastewater capable of being discharged at overflow or bypass structures; or

4) any increase in quantity or strength of a discharge from any wastewater source, unless such increase does not exceed an upper limit specifically allowed by an existing Permit granted by the Agency and does not involve any additional contaminants contained in standards set by this Chapter that are not itemized and approved in an existing Agency permit.

"Population Equivalent" is a term used to evaluate the impact of industrial or other waste on a treatment works or stream. One population equivalent is 100 gallons of sewage per day, containing 0.17 pounds of BOD_5 and 0.20 pounds of suspended solids. The impact on a treatment works is evaluated as the equivalent of the highest of the three parameters. Impact on a stream is the higher of the BOD_5 and suspended solids parameters;

"Primary Contact" means any recreational or other water use in which there is prolonged and intimate contact with the water involving considerable risk of ingesting water in quantities sufficient to pose a significant health hazard, such as swimming and water skiing;

"Public and Food Processing Water Supply" means any water use in which water is withdrawn from surface waters of the State for human consumption or for processing of food products intended for human consumption;

"Restricted Use" means certain designated waters which are not protected for aquatic life;

"Secondary Contact" means any recreational or other water use in which contact with the water is either incidental or accidental and in which the probability of ingesting appreciable quantities of water is minimal, such as fishing, commercial and recreational boating and any limited contact incident to shoreline activity;

"Underground Waters" means any waters of the State located beneath the surface of the earth;

"Watercraft" means every type of boat, ship or barge used or capable of being used as a means of transportation on water.

105 Analytical Testing (adopted January 6, 1972).

PART II. WATER QUALITY STANDARDS

This part of the rules and regulations concerning water pollution describes the water quality standards that must be met to maintain the specified beneficial uses. References to STORET numbers identify the specific parameter as defined in the STORET system Handbook published by the Federal Environmental Protection Agency.

201 Mixing Zones.

(a) In the application of any of the rules and regulations in this Chapter, whenever a water quality standard is more restrictive than its corresponding effluent standard then an opportunity shall be allowed for the mixture of an effluent with its receiving waters. Water quality standards must be met at every point outside of the mixing zone. The size of the mixing zone cannot be uniformly prescribed. The governing principle is that the proportion of any body of water or segment thereof within mixing zones must be quite small if the water quality standards are to have any meaning. This principle shall be applied on a case-by-case basis to ensure that neither any individual

source nor the aggregate of sources shall cause excessive zones to exceed the standards. The water quality standards must be met in the bulk of the body of water, and no body of water may be used totally as a mixing zone for a single outfall or combination of outfalls. Moreover, except as otherwise provided in this Chapter, no single mixing zone shall exceed the area of a circle with a radius of 600 feet. Single sources of effluents which have more than one outfall shali be limited to a total mixing area no larger than that allowable if a single outfall were used.

In determining the size of the mixing zone for any discharge, the following must be considered:

1. The character of the body of water,
2. the present and anticipated future use of body of water,
3. the present and anticipated water quality of the body of water,
4. the effect of the discharge on the present and anticipated future water quality,
5. the dilution ratio, and
6. the nature of the contaminant.

(b) In addition to the above, for waters designated for aquatic life (General Standards), the mixing zone shall be so designed as to assure a reasonable zone of passage for aquatic life in which the water quality standards are met. The mixing zone shall not intersect any area of any such waters in such a manner that the maintenance of aquatic life in the body of water as a whole would be adversely affected.

202 Stream Flows.

Except as otherwise provided in this Chapter with respect to temperature, the water quality standards in this Part shall apply at all times except during periods when flows are less than the average minimum seven day low flow which occurs once in ten years.

203 General Standards.

The General Standards listed below will protect the State's water for aquatic life, agricultural use, primary and secondary contaqt use, and most industrial uses, and ensure the aesthetic quality of the State's aquatic environment. Except as otherwise provided in this Chapter, all waters of the State shall meet the following standards:

(a) Freedom from unnatural sludge or bottom deposits, floating debris, visible oil, odor, unnatural plant or algal growth, unnatural color or turbidity, or matter in concentrations or combinations toxic or harmful to human, animal, plant or aquatic life of other than natural origin.

(b) pH (STORET number - 00400) shall be within the range of 6.5 to 9.0 except for natural causes.

(c) Phosphorus (STORET number - 00665): Phosphorus as P shall not exceed 0.05 mg/l in any reservoir or lake, or in any stream at the point where it enters any reservoir or lake.

(d) Dissolved oxygen (STORET number - 00300) shall not be less than 6.0 mg/l during at least 16 hours of any 24 hour period, nor less than 5.0 mg/l at any time.

(e) Radioactivity:

(1) Gross beta (STORET number - 03501) concentration shall not exceed 100 pico curies per liter (pCi/l).

(2) Concentrations of radium 226 (STORET number - 09501) and strontium 90 (STORET number - 13501) shall not exceed 1 and 2 pico curies per liter respectively.

(f) The following levels of chemical constituents shall not be exceeded:

CONSTITUENT	STORET NUMBER	CONCENTRATION (mg
Ammonia Nitrogen (as N)	00610	1.5
Arsenic (total)	01000	1.0
Barium (total)	01005	5.0
Boron (total)	01020	1.0
Cadmium (total)	01025	0.05
Chloride	00940	500.
Chromium (total hexavalent)		0.05
Chromium (total trivalent)		1.0
Copper (total)	01040	0.02
Cyanide	00720	0.025
Fluoride	00950	1.4
Iron (total)	01046	1.0
Lead (total)	01049	0.1
Manganese (total)	01055	1.0
Mercury	71900	0.0005
Nickel (total)	01065	1.0
Phenols	32730	0.1
Selenium (total)	01145	1.0
Silver (total)	01075	0.005
Sulfate	00945	500.
Total Dissolved Solids	00515	1000.
Zinc	01090	1.0

(g) Based on a minimum of five samples taken over not more than a 30-da period, fecal coliforms (STORET number - 31616) shall not exceed a geometric mean of 200 per 100 ml, nor shall more than 10% of the samples during any 30-day period,exceed 400 per 100 ml.

(h) Any substance toxic to aquatic life shall not exceed one-tenth of the 48-hour median tolerance limit (48-hr. TLm) for native fish or essential fish food organisms.

(i) Temperature (STORET numbers (F°) 00011 and (C°) 00010):

(1) There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.

(2) The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.

(3) The maximum temperature rise above natural temperatures shall not exceed 5°F.

(4) In addition, the water temperature at representative locations in the main river shall not exceed the maximum limits in the following table during more than one percent of the hours in the 12-month period ending with any month. Moreover, at no time shall the water temperature at such locations exceed the maximum limits in the following table by more than 3°F.

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC
Mississippi River (Wisc. Border to Iowa Border) (°F)	45°	45°	57°	68°	78°	85°	86°	86°	85°	75°	65°	52°
Mississippi River (Iowa Border to Alton Lock and Dam) (°F)	45°	45°	57°	68°	78°	86°	88°	88°	86°	75°	65°	52°
Mississippi River (So. of Alton Lock & Dam) (°F)	50°	50°	60°	70°	80°	87°	89°	89°	87°	78°	70°	57°
Ohio River (°F)	50°	50°	60°	70°	80°	87°	89°	89°	87°	78°	70°	57°
Wabash River & Its interstate Tributaries (°F)	50°	50°	60°	70°	80°	90°	90°	90°	90°	78°	70°	57°
Other Waters (°F)	60°	60°	60°	90°	90°	90°	90°	90°	90°	90°	90°	60°

Main river temperatures are temperatures of those portions of the river essentially similar to and following the same thermal regime as the temperatures of the main flow of the river.

(5) The owner or operator of a source of heated effluent which discharges 0.5 billion British thermal units per hour or more shall demonstrate in a hearing before this Board not less than 5 nor more than 6 years after the effective date of these regulations or, in the case of new sources, after the commencement of operation, that discharges from that source have not caused and cannot be reasonably expected to cause significant ecological

damage to the receiving waters. If such proof is not made to the satisfaction of the Board appropriate corrective measures shall be ordered to be taken within a reasonable time as determined by the Board.

(6) Permits for heated effluent discharges, whether issued by the Board or the Environmental Protection Agency, shall be subject to revision in the event that reasonable future development creates a need for reallocation of the assimilative capacity of the receiving stream as defined in the regulation above.

(7) The owner or operator of a source of heated effluent shall maintain such records and conduct such studies of the effluents from such source and of their effects as may be required by the Environmental Protection Agency or in any permit granted under the Environmental Protection Act.

(8) Appropriate corrective measures will be required if, upon complaint filed in accordance with Board rules, it is found at any time that any heated effluent causes significant ecological damage to the receiving stream.

204 Public and Food Processing Water Supply.

In addition to the General Standards, waters designated in Part III of this Chapter for public and food processing water supply shall meet the following standards at any point at which water is withdrawn for treatment and distribution as a potable supply or for food processing:

(a) Waters shall be of such quality that with treatment consisting of coagulation, sedimentation, filtration, storage and chlorination, or other equivalent treatment processes, the treated water shall meet in all respects both the mandatory and the recommended requirements of the Public Health Service Drinking Water Standards - 1962.

(b) The following levels of chemical constituents shall not be exceeded:

CONSTITUENT	STORET NUMBER	CONCENTRATION (mg/l)
Arsenic (total)	01000	0.01
Barium (total)	01005	1.0
Cadmium (total)	01025	0.01
Chlorides	00940	250
Carbon Chloroform Extract (CCE)	32005	0.2
Cyanide	00720	0.01
Iron (total)	01046	0.3
Lead (total)	01049	0.05
Manganese (total)	01055	0.05
Methylene Blue Active Substance (MBAS)	38260	0.5
Nitrates plus Nitrites as N	00630	10.0
Oil (Hexane-solubles or equivalent)	00550	0.1
Phenols	32730	0.001
Selenium (total)	01145	0.01
Sulfates	00945	250.
Total Dissolved Solids	00515	500.

(c) Other contaminants that will not be adequately reduced by the treatment processes noted in paragraph (a) of this Rule shall not be present in concentrations hazardous to human health.

205 Restricted Use Standards.

Waters designated in Part III of this Chapter for Restricted Use shall meet the following standards:

(a) Freedom from unnatural sludge or bottom deposits, floating debris, visible oil, odor, unnatural plant or algal growth, or unnatural color or turbidity.

(b) pH (STORET number - 00400) shall be within the range of 6.0 to 9.0 except for natural causes.

(c) Dissolved oxygen (STORET number - 00300) shall not be less than 3.0 mg/l during at least 16 hours in any 24-hour period, nor less than 2.0 mg/l at any time.

(d) Based on a minimum of five samples taken over not more than a 30-day period, fecal coliforms (STORET number -31616) shall not exceed a geometric mean of 1,000 per 100 ml, nor shall more than 10% of the samples during any 30-day period exceed 2,000 per 100 ml.

(e) Concentrations of other substances shall not exceed the applicable effluent standards prescribed in Part IV of this Chapter.

(f) Temperature (STORET numbers - (°F) 00011 and (°C) 00010) shall not exceed 93° F (34°C) more than 5% of the time, or 100°F (37.8°C) at any time.

206 Lake Michigan.

The Waters of Lake Michigan shall meet the following standards in addition to the General and Public and Food Processing Water Supply Standards:

(a) Dissolved oxygen (STORET number - 00300) shall not be less than 90% of saturation except due to natural causes.

(b) pH (STORET number -00400) shall be within the range of 7.0 to 9.0 except for natural causes.

(c) The following levels of chemical constituents shall not be exceeded.

CONSTITUENT	STORET NUMBER	CONCENTRATION (mg/l)
Ammonia Nitrogen	00610	0.02
Chloride	00540	12.0
Sulfate	00945	24.0
Phosphorus (as P)	00665	0.007
Total Solids (Dissolved)	00515	180.0

(d) Based on a minimum of five samples taken over not more than a 30-day period, fecal coliforms (STORET number - 31616) shall not exceed a geometric mean of 20 per 100 ml.

(e) Temperature (STORET numbers - (°F) 00011 and (°C) 00010):

(1) (A) All sources of heated effluents in existence as of January 1, 1971 shall meet the following restrictions outside of a mixing zone which shall be no greater than a circle with a radius of 1000 feet or an equal fixed area of simple form.

(i) There shall be no abnormal temperature changes that may affect aquatic life.

(ii) The normal daily and seasonal temperature fluctuations that existed before the addition of heat shall be maintained.

(iii) The maximum temperature rise at any time above natural temperatures shall not exceed 3°F. In addition, the water temperature shall not exceed the maximum limits (°F.) indicated in the following table:

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
45	45	45	55	60	70	80	80	80	65	60	50

(B) The owner or operator of a source of heated effluent which discharges 0.5 billion British Thermal Units per hour (BTU/HR.) or more shall demonstrate in a hearing before this Board not less than 5 nor more than six years after the adoption of this regulation, that discharges from that source have not caused and cannot be reasonably expected in future to cause significant ecological damage to the Lake. If such proof is not made to the satisfaction of the Board, backfitting of alternative cooling devices shall be accomplished within a reasonable time as determined by the Board.

(C) The owner or operator of a source of heated effluent shall maintain such records and conduct such studies of the effluents from such source and of their effects as may be required by the Environmental Protection Agency or in any permit granted under the Environmental Protection Act.

(D) Backfitting of alternative cooling facilities will be required if, upon complaint filed in accordance wth Board rules, it is found at any time that any heated effluent causes significant ecological damage to the Lake.

(2) Any effluent source under construction as of January 1, 1971, but not in operation, shall meet all the requirements of Section 1 of this regulation and in addition shall meet the following restrictions

(A) Neither the bottom, the shore, the hypolimnion, nor the thermocline shall be affected by any heated effluent.

(B) No heated effluent shall affect spawning grounds or fish migration routes.

(C) Discharge structures shall be so designed as to maximize short-term mixing and thus to reduce the area significantly raised in temperature.

(D) No discharge shall exceed ambient temperatures by more than 20° F.

(E) Heated effluents from more than one source shall not interact.

(F) All reasonable steps shall be taken to reduce the number of organisms drawn into or against the intakes.

(G) Cleaning of condensers shall be accomplished by mechanical devices. If chemicals must be used to supplement mechanical devices, the concentration at the point of discharge shall not exceed the 96-hour TLm for fresh water organisms.

(3) (A) No source of heated effluent which was not in operation or under construction as of January 1, 1971 shall discharge more than a daily average of 0.1 billion BTU/Hr

(B) Sources of heated effluents which discharge less than a daily average of 0.1 billion BTU/Hr. not in operation or under construction as of January 1, 1971 shall meet all requirements of sections 1 and 2 of this regulation.

207 Underground Waters.

The underground waters of Illinois which are a present or potential source of water for public or food processing supply shall meet the General and Public and Food Processing Water Supply standards except due to natural causes.

208 Nondegradation.

Waters whose existing quality is better than the established standards at the date of their adoption will be maintained in their present high quality. Such waters will not be lowered in quality unless and until it is affirmatively demonstrated that such change will not interfere with or become injurious to any appropriate beneficial uses made of, or presently possible in such waters and that such change is justifiable as a result of necessary economic or social development.

PART III: WATER USE DESIGNATIONS

This part of the rules and regulations concerning water pollution designates the water uses for which particular waters of the State are to be protected. Waters designated for specific uses must meet the most restrictive standards listed in Part II of this Chapter for any specified use, in addition to meeting the General Standards.

301 General Use Waters.

All waters of the State of Illinois are designated for general use except those designated as Restricted Use Waters.

302 Restricted Use Waters.

The following are designated as restricted use waters:

(a) The Chicago Sanitary and Ship Canal;

(b) The Calumet-Sag Channel;

(c) The Little Calumet River from its junction with the Grand Calumet River to the Calumet-Sag Channel;

(d) The Grand Calumet River;

(e) The Calumet River;

(f) Lake Calumet;

(g) The South Branch of the Chicago River;

(h) The North Branch of the Chicago River from its confluence with the North Shore Channel to its confluence with the South Branch;

(i) The Des Plaines River from its confluence with the Chicago Sanitary and Ship Canal to the Interstate 55 bridge;

(j) The North Shore Channel, except that dissolved oxygen in said Channel shall be not less than 5 mg/l during 16 hours of any 24 hour period, nor less than 4 mg/l at any time;

(k) All waters in which, by reason of low flow or other conditions, a diversified aquatic biota cannot be satisfactorily maintained even in the absence of contaminants.

303 Public and Food Processing Water Supply.

All waters of Illinois are designated for Public and Food Processing Water Supply use except those designated as Restricted Use Waters, and except for the following:

(a) The Chicago River;

(b) The Little Calumet River.

PART IV: EFFLUENT STANDARDS
(see additional provisions adopted Jan. 6, 1972)

404 Deoxygenating Wastes.

Except as provided in Rule 602 of this Chapter, all effluents containing deoxygenating wastes shall meet the following standards:

(a) On and after July 1, 1972, or such earlier date as may have been specified in Rules and Regulations SWB-7 through SWB-15, no effluent shall exceed 30 mg/l of five-day biochemical oxygen demand (BOD_5) (STORET number 00310) or 37 mg/l of suspended solids (STORET number), except as follows:

(i) sources discharging to the Mississippi or Ohio Rivers shall comply with this paragraph (a) by December 31, 1973; and

(ii) sources discharging to the Wabash River may discharge up to 40 mg/l of BOD_5 and 45 mg/l of suspended solids until December 31, 1974.

(b) On and after July 1, 1972, or such earlier date as may have been specified in Rules and Regulations SWB-7 throught SWB-15, no effluent from any source whose untreated waste load is 10,000 population equivalents or more, or from any source discharging into the Chicago River System or into the Calumet River System, shall exceed 20 mg/l of BOD_5 or 25 mg/l of suspended solids, except as follows:

(i) sources discharging to the Mississippi or Ohio Rivers shall comply with this paragraph (b) by December 31, 1973; and

(ii) sources discharging to the Illinois or Wabash Rivers, or to the DesPlaines River downstream from its confluence with the Chicago Sanitary and Ship Canal, shall comply with this paragraph (b) by December 31, 1974.

(c) On or after December 31, 1973, no effluent whose dilution ratio is less than five to one shall exceed 10 mg/l of BOD_5 or 12 mg/l of suspended solids, except as follows:

(i) sources within the Metropolitan Sanitary District of Greater Chicago whose untreated waste load is 500,000 population equivalents or more shall comply with this paragraph (c) by December 31, 1977;

(ii) sources whose dilution ratio is two to one or more but less than five to one shall comply with this paragraph (c) by December 31, 1974;

(iii) sources employing third-stage treatment lagoons shall be exempt from this paragraph (c), provided all of the following conditions are met:

(A) the untreated waste load is less than 2500 population equivalents; and

(B) the source is sufficiently isolated that combining with other sources to aggregate 2500 population equivalents or more is not practicable; and

(C) the lagoons are properly constructed, maintained, and operated; and

(D) the effluent does not, alone or in combination with other sources, cause a violation of applicable water quality standards.

(d) On or after December 31, 1974, no effluent discharged to the Lake Michigan basin shall exceed 4 mg/l of BOD_5 or 5 mg/l of suspended solids.

(e) On or after December 31, 1977, no effluent from any source whose untreated waste load is 500,000 population equivalents or more shall exceed 4 mg/l of BOD_5 or 5 mg/l of suspended solids.

(f) Except as provided in paragraphs (d) and (e) of this Rule 404, on or after December 31, 1973, no effluent whose dilution ratio is less than one to one shall exceed 4 mg/l of BOD_5 or 5 mg/l of suspended solids, except as follows:

(i) sources exploying third-stage treatment lagoons shall be exempt from this paragraph (f), provided all of the conditions of subparagraph (c)(iii) of this Rule 404 are met.

(ii) Other sources not within paragraphs (d) and (e) of this Rule 404 shall be exempt from this paragraph

(f) provided all of the following conditions are met:

(A) the effluent shall not, alone or in combination with other sources, cause a violation of any applicable water quality standard; and

(B) the effluent shall not, alone or in combination with other sources, cause dissolved oxygen in the waters of the State to fall below 6.0 mg/l during at least 16 hours of any 24-hour period, or below 5.0 mg/l at any time; and

(C) the effluent shall not exceed 10 mg/l of BOD_5 or 12 mg/l of suspended solids; and

(D) on or before Sept. 1, 1972, the owner or operator of such source shall file with the Agency the Project Completion Schedule required by Rule 1002 of this Chapter. In addition to the requirements of Rule 1002, such schedule shall include a program for achieving compliance with the above conditions and with applicable water quality standards, including, but not limited to, dissolved oxygen, bottom deposits, ammonia nitrogen, and phosphorus, with particular reference to nitrogenous oxygen demand and to the control of stormwater overflows; and

(E) the Agency finds that the program will within the compliance dates otherwise applicable assure compliance with the conditions of this subparagraph.

(g) Notwithstanding any other provision of this Rule, any source affected by this Rule 404 and relying in good faith upon the dilution rules of Rules and Regulations SWB-7 through SWB-15 to comply with applicable effluent standards need not comply with the dilution standard of Rule 401(a) until Dec. 31, 1974.

(h) Compliance with the numerical standards in this Rule 404 shall be determined on the basis of 24-hour composite samples averaged over any consecutive 30-day period. In addition, no more than 5% of the samples collected shall exceed 2.5 times the numerical limits prescribed by this Rule.

405 Bacteria.

No effluent shall exceed 400 fecal coliforms per 100 ml after July 31, 1972, or such concentrations as may have been presecibed for earlier dates by SWB-7 through SWB-15.

PART V: MONITORING AND REPORTING

This part of the rules and regulations concerning water pollution prescribes requirements for monitoring, reporting and measuring contaminant discharges.

501 Reporting Requirements.

(a) Every person discharging effluents to the waters of Illinois shall submit operating reports to the Agency at a frequency to be determined by the Agency. Such reports shall contain information regarding the quantity of influent and of effluent discharged, of wastes bypassed, and of combined sewer overflows; the concentrations of those physical, chemical, bacteriological and radiological parameters which shall be specified by the Agency; and any additional information the Agency may reasonably require.

(b) Every person within this State who utilizes mercury or any of its compounds in excess of 15 pounds per year as Hg shall file with the Agency, on or before June 1, 1971 and annually thereafter, a report setting forth the nature of the enterprise; a list, by type and by quantity of mercury products and mercury derivatives produced, use in, and incidental to its processes, including by-products and waste products; the estimated concentrations and annual total number of pounds of mercury that will be discharged into the waters of the State or that will be discharged into any sewer system; and what measures are taken or proposed to be taken to reduce or to eliminate such discharges. (R 70-5 adopted March 31, 1971).

502 Effluent Measurement.

In order to facilitate the ability of the Agency to conduct its inspecting and investigating responsibilities as described in Section 4 (d) of the Act, all effluent discharged sewers, pipes or outfalls shall be designed or modified so that a sample of the effluent can be obtained at a point after the final treatment process and before discharge to or mixing with any waters of the State. All treatment works shall include such devices for taking samples and for measuring and recording effluent flow as the Agency may reasonably require.

PART VI: PERFORMANCE CRITERIA

601 (adopted Jan. 6, 1972)

602 Combined Sewers and Treatment Plant Bypasses.

(a) The installation of new combined sewers is prohibited, except where sufficient retention or treatment capacity is provided to ensure that no violation of the effluent standards in Part IV of this Chapter occurs.

(b) Excess infiltration into sewers shall be eliminated, and the maximum practicable flow shall be conveyed to treatment facilities. Overflows from sanitary sewers are expressly prohibited.

(c) All combined sewer overflows and treatment plant bypasses shall be given sufficient treatment to prevent pollution or the violation of applicable water quality standards. Sufficient treatment shall consist of the following:

(1) All dry weather flows, and the first flush of storm flows as determined by the Agency, shall meet the applicable effluent standards;

(2) Additional flows, as determined by the Agency but not less than ten times the average dry weather flow for the design year, shall receive a minimum of primary treatment and disinfection with adequate retention time;

(3) Additional treatment, through retention and return of excess flows to the treatment plant or otherwise, shall be provided when required to achieve compliance with water quality standards.

(d) Compliance with paragraph (c) of this Rule 602 shall be achieved on or before the following dates:

(1) All treatment plant bypasses, by the applicable date for improvement of treatment works under Part IV of this Chapter;

(2) All combined sewer overflows within the Metropolitan Sanitary District of Greater Chicago, by December 31, 1977;

(3) All other combined sewer overflows, by December 31, 1975.

603 Intake Structures.

New water intake structures on waters designated for General use, whose construction begins after the effective date of this Chapter, shall be so designed as to minimize harm to fish and to other aquatic organisms.

604 New Connections. (to be published separately)

PART VII: SEWER DISCHARGE CRITERIA

This part of the rules and regulations concerning water pollution places certain restrictions on the types , concentrations and quantities of contaminants which can be discharged into sewer systems in the State.

701 General Requirements.

Any wastes discharged to any sewer owned by any municipality, any county, or any sanitary district in the State of Illinois shall meet the following criteria in addition to any established by the municipality, county, or sanitary district itself:

(a) liquids, solids, or gases which by reason of their nature or quantity may cause fire or explosion; or be injurious in any other way to sewers, treatment works structures or to the operation of the treatment works; or cause a safety hazard to the personnel operating the treatment works, or cause the effluent from the treatment works to violate applicable effluent standards are prohibited;

(b) solid or viscous wastes which cause obstruction to the flow in sewers or other interference with the proper operation of any sewer or treatment works are prohibited.

702 Mercury (STORET number - 71900) (R 70-5 adopted March 31, 1971).

(a) No effluent to any public sewer system shall include mercury or any of its compounds in excess of 0.0005 mg/l as Hg at any time.

(3) Any other device determined by the Agency to provide an effluent which meets the effluent criteria of this Chapter.

802 Contaminated Bilge or Ballast Waters.

No bilge or ballast water which fails to meet the effluent standards of this Chapter shall be discharged to the waters of the State.

PART IX: PERMITS

This part establishes basic rules for the issuance of permits for the construction, modification, and operation of treatment works, sewers, wastewater sources and other discharges.

901 Construction Permits

(a) No person shall cause or allow the construction of any new treatment works, sewer, or wastewater source or cause or allow the modification of any existing treatment works, sewer, or wastewater source without a Construction Permit issued by the Agency, except as provided in paragraph (b).

(b) Construction Permits shall not be required for the following:

(1) storm sewers that transport only land runoff; or

(2) any treatment works, sewer, or wastewater source that is designed and intended to serve a single building and eventually transport, treat, or discharge the sewage of 15 or less persons; or

(3) any treatment works, sewer, or wastewater source that, on the effective date of this Part, is being constructed or will be constructed under the authorization of a Permit already issued by the Agency or its predecessors; provided however, that all construction must be completed within three years from the effective date of this Part.

902 Operating Permits: New or Modified Treatment Works, Sewers and Wastewater Sources.

No person shall cause or allow the use or operation of any treatment works, sewer, or wastewater source for which a Construction Permit is required under Rule 901 without an Operating Permit issued by the Agency, except for such testing operations as may be authorized by the Construction Permit.

903 Operating Permits: Existing Treatment Works and Wastewater Sources

(a) No person shall cause or allow the use or operation of any treatment works or wastewater source after December 31, 1972 without an Operating Permit issued by the Agency, except as provided in paragraphs (b), (c) and (d).

(b) Operating Permits are not required for treatment works and wastewater sources that are designed and intended to serve a single building and eventually treat or discharge the sewage of 15 or less persons.

(c) Operating Permits for the following classes of treatment works and wastewater sources will be required by the following dates:

(1) Any wastewater source consisting solely of non-contact cooling water, by June 30, 1973; and

(2) Treatment works receiving wastewater with a population equivalent of 10,000 or more with at least 60% of the loading being sewage, by December 31, 1973; and

(3) Treatment works receiving wastewater with a population equivalent of under 10,000,with at least 60% of the loading being sewage, by June 30, 1974.

(d) If necessary to prevent anunmanageable workload, the Agency may extend the dates by which Operating Permits are required under paragraphs (a) and (c) for a period not to exceed four months. The Agency must notify the persons affected and the Board of the extension at least four months before the dates set forth in paragraphs (a) and (c).

904 Operating Permits: Existing Sewer Systems

(a) No person who owns and operates an interconnected system of sanitary sewers and/or combined sewers consisting of more than one mile of pipe shall cause or allow the use or operation of part or all of that system of sewers after December 31, 1974, without an Operating Permit issued by the Agency, except as provided in paragraph (b).

(b) Operating Permits for any system of sewers tributary to treatment works designed to treat wastewater having a population equivalent of 25,000 or less will not be required until March 31, 1975.

905 Operating Permits: Existing Discharges to Sewers

[Reserved for use in connection with Part VII]

906 Joint Construction and Operating Permits

In cases where the Agency determines that a proposed treatment works, sewer, or wastewater source is sufficiently standard so as to obviate the need for separate Construction and Operating Permits, the Agency may issue a Joint Construction and Operating Permit.

907 Experimental Permits

(a) In order to promote the development of water pollution control technology, the Agency may issue Experimental Permits for treatment processes or techniques that do not satisfy the Standards for Issuance set forth in Rule 921, provided that the applicant submits clear, cogent and convincing proof that the process or technique has a reasonable and substantial chance for success.

(b) The existence of a valid Experimental Permit shall constitute a prima facie defense to any action brought against the Permittee for a violation of this Chapter, but only to the extent that such action is based on the failure of the process or technique, during the period of validity of the Permit, to meet the effluent limitations or water quality standards of this Chapter.

908 Former Permits

The issuance of any Permit by the Agency or any predecessor prior to the effective date of this Part will not excuse compliance with the requirements for obtaining Operating Permits as set forth in Rules 903, 904 and 905.

911 Applications - Contents

(a) All applications for any Permit required under this Part shall contain, where appropriate, the following information and documents:

(1) a complete description of the volume and nature of the wastewater influent and effluent to be transported, treated or discharged, including a statement as to the presence or absence of all contaminants for which effluent or water quality standards are set by this Chapter; and

(2) a description of the present condition of the receiving body of water and the effect of the wastewater on such receiving body of water; and

(3) a statement as to any projected changes in the

volume or nature of the wastewater which the applicant desires to have included within the terms of the Permit; and

(4) a description of the geographic location of the facility or source, and its interrelation with any existing or proposed treatment works, sewer, or wastewater source which will transport, treat, or discharge the same wastewater; and

(5) plans and specifications, prepared by a registered professional engineer, fully describing the design, nature, function and interrelationship of each individual component of the facility or source; and

(6) a statement identifying and justifying any departure from current design criteria promulgated by the Agency.

(b) The Agency may adopt procedures requiring such additional information as is necessary to determine whether the treatment works, sewer, or wastewater source will meet the requirements of the Act and this Chapter.

(c) The Agency may prescribe the form in which all information required under this Rule shall be submitted.

912 Applications - Signatures and Authorizations

(a) All Permits applications shall be signed by the owner of the treatment works, sewer, or wastewater source or the owner's duly authorized agent, and shall be accompanied by evidence of authority to sign the application.

(b) Permit applications for sewer construction or modification shall be accompanied by signed statements from the owners of all intermediate receiving sewers and the receiving treatment works certifying that their facilities have adequate capacity to transport and/or treat the wastewater that will be added through the proposed sewer without violating any provisions of the Act and this Chapter.

913 Applications - Registered or Certified Mail

All Permit applications shall be mailed or delivered to the appropriate address designated by the Agency. Any application or revised application sent by mail shall be sent by registered or certified mail, return receipt requested.

Applications which are hand-delivered shall be delivered to and receipted for by any authorized person employed in the Permit Section of the Agency's Division of Water Pollution Control.

914 Applications - Time to Apply

Any person required to have a Permit must file an application with the Agency at least 90 days before the date on which the Permit is required.

915 Applications - Filing and Final Action by Agency

(a) An application for Permit shall not be deemed to be filed until the Agency has received, at the designated address, all information, documents, and authorizations in the form and with the content required by Rules 911-913 and related Agency procedures. Provided, however, that if the Agency fails to notify the applicant within 30 days after the filing of a purported application that the application is incomplete and of the reason the Agency deems it incomplete, the application shall be deemed to have been filed as of the date of such purported filing. The applicant may treat the Agency's notification that an application is incomplete as a denial of the application for purposes of review.

(b) If the Agency fails to take final action, by granting or denying the Permit as requested or with conditions, within 90 days from the filing of the application, the applicant may deem the Permit granted for a one-year period commencing on the 91st day after the application was filed.

(c) Any applicant for a Permit may waive the requirement that the Agency must take final action within 90 days from the filing of the application

(d) The Agency shall send all notices of final action by registered or certified mail, return receipt requested.

(e) The Agency shall be deemed to have taken final action on the date that the notice is mailed.

921 Standards for Issuance

The Agency shall not grant any Permit required by this Part, except an Experimental Permit under Rule 907, unless the applicant submits adequate proof that the treatment works, sewer, or wastewater source:

(a) will be constructed, modified, or operated so as not to cause a violation of the Act or of this Chapter, or has been granted a variance under Title IX of the Act; and

(b) either conforms to the design criteria promulgated by the Agency under Rule 931, or is based on such other criteria which the applicant proves will produce consistently satisfactory results; and

(c) conforms to all conditions contained in the Construction Permit, where applicable; and

(d) if subject to a future compliance date, the applicant has an approved Project Completion Schedule in accordance with the provisions of Rule 1002.

922 Duration of Permits

(a) Construction Permits: Construction Permits for sewers and wastewater sources shall require that construction be completed within two years. Construction Permits for treatment works shall require that construction be completed within three years. In situations where the magnitude and complexity of the project require it, the Agency may issue a Construction Permit requiring completion within a period not to exceed five years.

(b) Operating Permits: All Operating Permits other than those issued under Rule 902 for newly constructed sewers shall have a duration not to exceed five years. The Agency may issue Operating Permits having a duration as short as one year in order to facilitate basin planning, to coordinate Operating Permits with future compliance deadlines and to maintain intensive control over new or experimental processes.

923 Conditions

In addition to specific conditions authorized under this Part, the Agency may impose such conditions in any Permit issued pursuant to this Part as may be necessary to accomplish the purposes of the Act or this Chapter, provided such conditions are not inconsistent with this Chapter.

924 Appeals from Conditions in Permits

An applicant may consider any condition imposed by the Agency in a Permit as a refusal by the Agency to grant a Permit, which shall entitle the applicant to appeal the Agency's decision to the Board pursuant to Section 40 of the Act.

925 Permit No Defense

Except as provided in Rule 907, the issuance and possession of a Permit under this Part shall not constitute a defense to a violation of the Act or this Chapter, except for construction or operation without a permit.

931 Design, Operation and Maintenance Criteria

(a) The Agency may adopt procedures which set forth criteria for the design, operation, and maintenance of treatment works, sewers, and wastewater sources. These procedures shall be revised from time to time to reflect current engineering judgment and advances in the state of the art.

(b) Before adopting new criteria or making substantive changes to any criteria adopted by the Agency, the Agency shall:

(1) publish a summary of the proposed changes in the Board Newsletter or a comparable publication, at the Agency's expense; and

(2) provide a copy of the full text of the proposed changes to any person who in writing so requests; and

(3) defer adoption of the changes for 45 days from the date of publication to allow submission and consideration of written comments on the proposed changes.

941 Modification of Permits

Any permit issued by the Agency may be modified to make its provisions compatible with any new regulations adopted by the Board.

942 Permit Revocation

Violation of the conditions of a Permit issued under the provisions of this Part shall be grounds for revocation by the Agency of the Permit, in addition to other sanctions provided by the Act. Such sanctions shall be sought by filing a complaint with the Board.

951 Approval of Federal Permits

The Agency shall not approve any effluent discharge for the purposes of any federal permit unless that discharge is in compliance with all provisions of the Act and this Chapter, or has been granted a variance under Title IX of the Act.

961 Hearings

(a) The Agency may conduct hearings prior to issuing a Permit pursuant to this Part, to determine whether an applicant has submitted proof that the treatment works, sewer, or wastewater source is or will be in compliance with the Act and this Chapter.

(b) The Agency shall adopt procedural regulations for the conduct of such hearings, which regulations shall be effective upon filing with the Secretary of State. Revisions to such procedural regulations adopted by the Agency pursuant to this paragraph shall take effect in like manner.

971 Procedures

In addition to procedures specifically authorized under this Part, the Agency may adopt and promulgate all procedures reasonably necessary to perform its duties and responsibilities under this Chapter. Such procedures and revisions thereto, shall not become effective until filed with the Index Division of the Office of the Secretary of State as required by "An Act concerning Administrative Rules," approved June 14, 1951, as amended.

PART X: IMPLEMENTATION PLAN

This part requires an annual waste discharges report to be prepared by the Environmental Protection Agency and provides for the filing and approval of programs to meet future deadlines.

1001 Waste Discharge Report.

The Agency shall annually prepare and submit to the Board a Waste Discharge Report which lists the waste discharges in the State, describes the type, quantity and concentrations of the various contaminants being discharged, and describes the existing and planned treatment controls and the scheduled dates for completion of treatment improvements.

1002 Project Completion Schedule.

(a) Any person who owns or operates any sewer treatment works or wastewater source that requires modification or additional controls to meet any applicable effluent standard contained within this Part shall file a Project Completion Schedule with the Agency. The Project Completion Schedule shall include a description of the wastewater source, the contaminants to be controlled, the additional controls or treatment required, and a time schedule for the project's completion which must meet the applicable deadlines, as well as interim dates by which various increments of the proposed compliance program shall be completed, such as dates when plans and specifications shall be completed, dates when contracts will be awarded, dates for equipment delivery, and dates for the commencement of construction. The approval by the Agency of a Project Completion Schedule and compliance therewith shall constitute a prima facie defense to any enforcement action respecting the requirements whose compliance the program is designed to achieve, during the period of the program.

(b) Project Completion Schedules shall be filed in accordance with the following timetable:

(i) For compliance with Rules 407 and 408, the schedule shall be filed no later than July 1, 1972;

(ii) In other cases in which compliance with effluent standards is required by December 31, 1973, the schedule shall be filed no later than Sept. 1, 1972;

(iii) Where compliance with effluent standards is required at a date later than December 31, 1973, the schedule shall be filed no later than December 31, 1972.

(c) Failure to adhere to an approved compliance schedule shall constitute a violation of this Part for which appropriate sanctions may be sought in accordance with the Act.

I, Christan Moffett, Clerk of the Pollution Control Board, certify that the Board adopted the above Opinion and Order this 7th day of MARCH, 1972, by a vote of 4-0.

Christan Moffett