



Minnesota Pollution Control Agency

520 Lafayette Road, Saint Paul, Minnesota 55155-3898

Telephone (612) 296-6300

February 28, 1992

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Robert P. Bringer
Vice President for Environmental Affairs
3M - Cottage Grove
P.O. Box 33331
St. Paul, Minnesota 55133

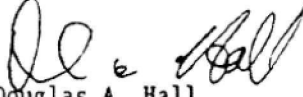
Dear Mr. Bringer:

RE: FINAL REISSUED NPDES/SDS PERMIT #MN 0001449
3M Company Chemolite Plant
Cottage Grove, Minnesota

Enclosed is a copy of the final reissued National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Permit covering your facilities at the above referenced location, which supersedes an earlier NPDES/SDS permit that was issued on September 27, 1985. This Permit has been drafted pursuant to the Clean Water Act, as amended (33 U.S.C. 1251 et seq), Minnesota Rules Chapter 7001. All comments submitted in writing during the public notice comment period, pursuant to Minnesota Rules Part 7001.0110 and the hearing record, where a hearing was held, pursuant to Minnesota Rules Part 7001.0130, have been considered in the formulation of final determinations and recommendations on the NPDES/SDS Permit.

If you have any questions regarding this permit, please contact Don Kriens at (612) 296-7734.

Sincerely,


Douglas A. Hall
Supervisor, Permits Unit
Industrial Section
Water Quality Division

DAH:jae

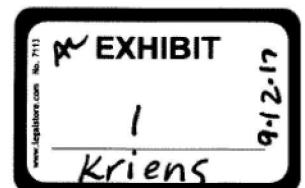
Enclosure: Final Permit

cc: Permits, U.S. Environmental Protection Agency, Chicago (w/final permit)

**Exhibit
1373**

State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

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MN.103.0639.000439

1373.0001

AUTHORIZATION TO DISCHARGE AND TO CONSTRUCT, INSTALL AND OPERATE A
WASTEWATER DISPOSAL SYSTEM
UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND STATE DISPOSAL SYSTEM PERMIT PROGRAM

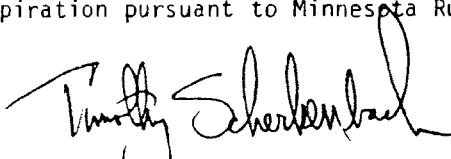
In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C. 1251 et seq; hereinafter the "Act"), Minnesota Statutes Chapters 115 and 116, as amended, and Minnesota Rules Chapter 7001

MINNESOTA MINING AND MANUFACTURING COMPANY

(hereinafter the Permittee) is authorized by the Minnesota Pollution Control Agency (MPCA) to construct, install and operate a wastewater disposal system at and to discharge from 3M Company Chemolite Plant, Cottage Grove, Minnesota, to receiving water named Mississippi River via a ravine, in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit is a reissuance of an existing permit which has an expiration date of midnight, August 31, 1990. This reissued permit shall become effective on the date of issuance by the Commissioner and shall supersede the existing permit upon issuance.

This permit and the authorization to discharge shall expire at midnight, January 31, 1997. The Permittee is not authorized to discharge nor to operate the disposal system after the above date of expiration. In order to receive such authorization beyond the above date of expiration, the Permittee shall submit such information and forms as are required by the Agency no later than 180 days prior to the above date of expiration pursuant to Minnesota Rules Part 7001.0050.


Timothy K. Scherkenbach
Division Manager
Water Quality Division

Date: February 28, 1992

For Charles W. Williams
Commissioner
Minnesota Pollution Control Agency

A. DESCRIPTION

The principal activities at this diverse facility include the manufacture of iron oxide pigments, hollow glass bead extenders, polymeric films and extrusions, adhesives, resins, fluorochemicals, polymers, abrasive materials, lithographic and proofing systems materials, ceramic materials, pressure sensitive tapes, several pilot plant operations for the development of new products, and the operation of the 3M Corporation's hazardous waste incinerator.

The wastewater from the facility is collected in five different sewers for different forms of wastewater treatment appropriate to each waste stream.

One of the sewers is a "freshwater" sewer for non-contact cooling water and stormwater runoff, which flows at a long term average rate of 4.2 million gallons per day (mgd) and at a daily maximum rate of 6.8 mgd. This water is cooled in an open pond and dechlorinated prior to discharge from outfall serial number 20200.

The other sewers are the sanitary sewer and sewers for various process water waste streams designated as the Phase I, II and III sewers. The wastewater treatment system consists of three parts, designated as Phase I, II and III.

The sanitary sewer and the Phase II sewer both flow to the Phase II treatment system, which consists of an equalization tank, an aeration tank and a settling tank. The Phase II sewer is pretreated with the addition of sulfuric acid, ammonia, and phosphoric acid and skimmed prior to the treatment system. Effluent from the Phase II treatment system combines with the Phase I sewer and is treated in the Phase I treatment system, which consists of two parallel mixing tanks for the addition of lime and polymer followed by five parallel flocculation tanks and settling tanks, which discharge to three settling ponds in series for further polishing of the water and for pH adjustment.

The Phase III sewer discharges to the Phase III treatment system, which consists of a mixing tank for the addition of sodium hydroxide and lime, followed by a mixing tank for the addition of lime, followed by three parallel flocculation/settling tanks, from which the discharge flows to the same settling ponds which the Phase I treatment system discharge to. The discharge from these settling ponds is discharged from outfall serial number 20100 at a long term average rate of 4.1 mgd and at a maximum daily rate of 6.1 mgd.

A limited number of nonhazardous wastewater streams generated by offsite 3M locations are treated in the various wastewater treatment systems. Outfalls 20100 and 20200 combine in a ravine and discharge to the Mississippi River at Mile Point 817 in Section 35, Township 27 North, Range 21 West, City of Cottage Grove, Washington County, Minnesota. The combined discharges are designated outfall 20300.

PART I

B.1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting until January 31, 1997, the Permittee is authorized to discharge from outfall serial number 20100.

Such discharges shall be limited and monitored by the Permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	kg/day (lbs/day) Monthly Average	Daily Max	Other Units (specify) Monthly Average	Daily Max	Measurement Frequency	Sample Type
Flow-m ³ /Day (MGD)	--	--	--	--	Continuous	Daily Average Flow Estimate
CBOD ₅	455(1000)	1100(2440)	--	--	2 X Weekly	24 hour composite
Total Suspended Solids	545(1200)	1100(2440)	--	--	Weekly	24 hour composite
Oil & Grease	--	--	10 mg/l	15 mg/l	Weekly	Grab
Fecal Coliform*	--	--	200 org./100ml	--	Weekly	Grab
Phosphorus-total-dissolved	--	--	--	--	Weekly	24 hour composite
Ammonia-total (as NH ₃ -N)	425(935)	610(1335)	--	--	Daily	24 hour composite
Un-ionized Ammonia (as NH ₃ -N)	--	--	--	1.0 mg/l	Daily	24 hour composite
Phenols	1.5(3.4)	3.6(8.0)	--	--	2 X Weekly	24 hour composite
Iron-total	23(50)	45(100)	--	--	2 X Weekly	24 hour composite
Zinc-total	26(56)	62(135)	--	--	2 X Weekly	24 hour composite
Temperature	--	--	--	--	Daily	Grab
Selenium	--	--	--	--	Weekly	24 hour composite
Mercury	--	--	--	--	Weekly	24 hour composite
Toxic Pollutant Monitoring	--	--	--	--	Quarterly**	

The pH shall be within the range of 6.0-9.0 no less than 99% of the time as measured continuously on a monthly basis. Individual excursions from this range shall not exceed 60 minutes and the total duration of the excursions in one month shall not exceed 7 hours and 26 minutes.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The discharge shall not contain oil or other substances in amounts sufficient to create a visible color film on the surface of the receiving waters.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a point representative of the process wastewater discharge prior to mixing with other waters.

* Calculated as the geometric mean of all samples taken within a calendar month. This limitation shall apply from March 1-October 31, inclusive.

** See PART I, B.5.

PART I

B.2. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting until January 31, 1997, the Permittee is authorized to discharge from outfall serial number 20200.

Such discharges shall be limited and monitored by the Permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	kg/day (lbs/day)		Other Units (specify)		Measurement Frequency	Sample Type
	Monthly Average	Daily Max	Monthly Average	Daily Max		
Flow-m ³ /Day (MGD)	--	--	--	--	Continuous	Daily Average Flow Estimate
CBOD ₅	--	--	25 mg/l	50 mg/l	Weekly	24 hour composite
Total Suspended Solids	--	--	30 mg/l	60 mg/l	Weekly	24 hour composite
Phosphorus-total-dissolved	--	--	--	--	Weekly	24 hour composite
Oil and Grease	--	--	10 mg/l	15 mg/l	Weekly	Grab
Temperature	--	--	--	28.3°C (83°F)	Weekly	Grab
Total Residual Chlorine	--	--	--	*	Weekly	Grab
Toxic Pollutant Monitoring	--	--	--	--	Semi-Annually**	

The pH shall not be less than 6.0 nor greater than 9.0. These upper and lower limitations are not subject to averaging and shall be met at all times.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The discharge shall not contain oil or other substances in amounts sufficient to create a visible color film on the surface of the receiving waters.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at a point representative of the discharge prior to mixing with other waters.

* Total Residual Chlorine shall not be found at detectable concentrations using approved EPA analytical methods.

** See PART I, B.5.

MN.103.0639.000439

PART I

B.3. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning May 1, 1993 and lasting until January 31, 1997, the Permittee is authorized to discharge from outfall serial number 20100.

Such discharges shall be limited and monitored by the Permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	kg/day	Other Units (specify)			Measurement	Sample
	<u>Monthly</u> <u>Average</u>	<u>Daily Max</u>	<u>Monthly</u> <u>Average</u>	<u>Daily Max</u>	<u>Frequency</u>	<u>Type</u>
Mercury	.0113	.0398	--	--	1 X Weekly	24 hr composite

B.4. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning May 15, 1994, and lasting until January 31, 1997, the Permittee is authorized to discharge from outfall serial number 20300.

Such discharges shall be limited and monitored by the Permittee as specified below:

<u>EFFLUENT CHARACTERISTICS</u>	<u>DISCHARGE LIMITATIONS</u>				<u>MONITORING REQUIREMENTS</u>	
	kg/day (lbs/day)		Other Units		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Max</u>	<u>Monthly Average</u>	<u>Daily Max</u>		
Toxicity Units	--	--	--	1.0 TU _a *	See PART I.C.11	See PART I.C.6
Total Residual Chlorine**	--	--	--	.04 mg/l**	1 X Weekly	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: after combination of outfalls 20100 and 20200 at a point representative of the combined outfalls.

*1.0 TU_a is described under PART I.C.7.

**Monitoring and the daily maximum discharge limitation for total residual chlorine shall begin on the effective date of this permit.

B.5. Toxic Pollutant Monitoring

An analysis shall be conducted on outfalls 20100 and 20200 for all parameters addressed by U.S. EPA methods 624 and 625 including organic compounds and metals. Samples for analysis shall be grab samples for volatile pollutants and a 24-hour composite sample for other pollutants, taken so as to be representative of the discharge which would occur during a normal operating day. Wastewater samples shall be prepared and analyzed in accordance with 40 CFR Part 136. Organic parameters shall be analyzed by GC-MS in accordance with U.S. EPA methods 624 and 625. Polychlorinated Biphenyl Compounds (PCBs) shall be analyzed by EPA method 608 using a detection limit of 20 ppt (parts per trillion).

In addition to the quantitative analysis for the listed parameters, the Permittee shall identify and quantify any additional substances indicated to be present in the extracts by peaks on the reconstructed gas chromatograms (total ion plots) more than 10 times higher than the adjacent peak-to-peak background noise. The identification shall be by reference to the EPA/NIH computerized library of mass spectra, with visual confirmation by an experienced analyst. Quantification may be an order-of-magnitude estimate based upon comparison with an internal standard.

C. SPECIAL REQUIREMENTS

1. Pretreatment Requirements

No pollutant shall be discharged from this facility to a publicly owned treatment works except in accordance with pretreatment standards established in accordance with the Act or Minnesota Statutes or any such local standards or requirements. No pollutant shall be discharged into any publicly owned disposal system which interferes with, passes through inadequately treated or otherwise is incompatible with such disposal system. The Permittee shall not make modifications to divert any discharge of pollutants authorized by this permit to a publicly owned treatment works without having first notified and received the approval of the Commissioner.

2. Water Treatment and Chemical Additives

The Permittee shall request approval from the Commissioner in advance of the proposed new use or increase in the use of any water treatment or chemical additives at this facility which have the potential to cause aquatic toxicity or adverse human health effects, or are suspected or known carcinogens, mutagens, or teratogens. Biocides and slimicides are included as chemical additives requiring approval for use. Common chemical additives such as lime, ferric chloride, alum, clays, and commonly used process additives do not require approval. The Permittee shall use reasonable discretion in determining by qualified personnel having a toxicological background whether approval is required. Request for such approval shall include at a minimum the following information for the proposed additive:

- a. The commercial and chemical names;
- b. Aquatic toxicity and human health or mammalian toxicity data;
- c. Environmental fate information (including, but not limited to, persistence, half-life, and bioaccumulation data);
- d. Whether the chemical is a suspected carcinogen, mutagen, or teratogen; and
- e. The proposed methods, and average and maximum rates and frequencies of chemical additives.

This permit may be modified to restrict the use or discharge of a water treatment or chemical additive, or to require additional monitoring. The Commissioner may request, at any time, additional information on the Permittees use of unreported additives.

3. Water Treatment Additives Containing Phosphorus

The Permittee shall evaluate water treatment additives or chemicals used in cooling water, wastewater treatment, or maintenance activities at the manufacturing facilities for the presence of phosphorus. The Permittee, where feasible, shall substitute phosphorus containing chemicals with those containing no phosphorus or minimal quantities of phosphorus. The Permittee shall submit a report on this evaluation and any remedial actions taken to minimize phosphorus discharges to cooling water or process wastewater discharges by September 1, 1992. The Permittee may request a reduction or elimination of the monitoring requirement for phosphorus pursuant to PART I.B.1 by written request to the Commissioner upon conclusion of 12 months of phosphorus monitoring data. The Commissioner may then approve such reduction or elimination of phosphorus monitoring.

4. Reopening Clause

This permit shall be modified, or, alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301 (b)(2)(C), and (D), 304 (b)(2), and 307 (a)(2) of the Act, if the effluent standard or limitations so issued or approved:

- (1) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- (2) Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

5. Polychlorinated Biphenyl Compounds

There shall be no discharge of polychlorinated biphenyl compounds including, but not limited to those commonly used in electrical transmission components.

6. Toxicity Reduction Evaluation (TRE)

X The Permittee shall conduct a Toxicity Reduction Evaluation (TRE) and perform a Toxicity Reduction Plan (TRP) on outfall 20100 to eliminate the acute toxicity of its effluent. The TRE shall, at a minimum, evaluate the nature and variability associated with effluent causative toxicants in the effluent and determine the concentrations of causative toxicant(s) when acute toxicity occurs. Based on the TRE, the Permittee shall investigate, design, and perform a TRP that eliminates the acute toxicity of the 20100 process effluent. The TRE plan shall, at a minimum, include the following elements:

- a. A review of the source chemicals or compounds at the plant which could be contributing to the acute toxicity of the discharge;
- b. An evaluation of the water chemistry of the effluent to determine possible sources which are contributing to the acute toxicity;

- c. A literature review of acute toxicity data for applicable chemicals pursuant to a. and b. above;
- d. An evaluation of internal process wastewater streams to determine possible sources which are contributing to acute toxicity;
- e. Analytical testing for potential chemicals contributing to acute toxicity;
- f. Evaluation of potential cumulative and/or synergistic effects from chemicals in the process wastewaters and effluent;
- g. Use of fractionation techniques for determination of which portions of the effluent may be causing acute toxicity;
- h. Necessary toxicity testing of the whole effluent and a fractionated portion of the effluent to determine the sources of toxicity;
- i. Identification of pollutants contributing to acute toxicity and rationale for their selection and describe means which Permittee will use to eliminate toxicity;
- j. All other elements necessary to constitute a complete plan for a monitoring study to meet the requirements of this section.

The Permittee shall complete the TRE plan submitted November 21, 1991, and approved by the MPCA in accordance with the following schedule:

Permittee to complete all	
activity in the TRE plan and	
submit final TRE report to MPCA	December 31, 1992

If the source of toxicity is located prior to the December 31, 1992 deadline, the TRE report shall be submitted as soon as practicable.

The Permittee shall conduct all toxicity testing, reporting, and other activities for the TRE in accordance with the procedures and criteria contained in Methods for Aquatic Toxicity Identification Evaluations, EPA/600/3-88/034, in conjunction with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-85-013. In addition, the Permittee shall comply with the following procedures and requirements:

a. Species

Test organisms during the TRE shall include at a minimum the fathead minnow (Pimephales promelas), and the crustacean Ceriodaphnia sp. An additional species in addition to the above is to be selected by the Permittee and approved by the MPCA for routine or continuous acute toxicity testing as described in 1.C.10. below.

b. Procedures

- 1) Sample collection of the effluent shall be by flow or time proportioned 24 hour composite. Dilution water shall be Mississippi River water or a standard reconstituted water simulating the hardness of the receiving stream. The Permittee shall notify the MPCA for use of substitution water in the event that the receiving water itself demonstrates toxicity.
- 2) The dilution factor for any serial dilution testing of the effluent shall be no less than 0.3 nor greater than 0.5.
- 3) The use of a reference toxicant shall be required as part of the quality assurance guidelines specified in the EPA Manual 600/4-85-013.
- 4) Submittal of results shall include the date of effluent collection, date of preparation of dilution water, date of the toxicity tests, calculation of LC_{50} 's, if any, and the raw data used in making the calculations.

7. Acute Toxicity Definition

The 20100 process effluent shall achieve a less than one acute toxicity unit (1.0 TU) value by the May 15, 1994 date as described in 1.C.8. below. A $1.0^a TU_a$ is described as $TU_a = \frac{100}{LC_{50}}$ where the LC_{50}

is mortality or immobilization of 50 percent of the test species in 100 percent effluent.

Similarly, "acute toxicity" or "acutely toxic" means mortality or immobilization of an aquatic test species which equals or exceeds 50 percent of the test organisms in 100 percent effluent, within a 96 hour period, unless for a specific species, another test period is considered appropriate (i.e., 48 hours for Daphnids). In determining whether an effluent is acutely toxic, all aquatic toxicity testing shall be done in a manner approved by the MPCA.

8. Toxicity Reduction Plan

The Permittee shall submit to the MPCA a Toxicity Reduction Plan (TRP) which shall include a Preliminary Engineering Report identifying the technologies, source reduction practices, neutralization techniques, and other methods that may be effective to eliminate the acute toxicity of the 20100 process effluent. Following the TRP, the Permittee shall submit final plans and specifications for any construction or method used to eliminate acute toxicity from the 20100 process effluent. The TRP and any plans and specifications shall be submitted in accordance with the following schedule:

Permittee shall submit the TRP plan to the MPCA	May 15, 1993
MPCA review of TRP plan, MPCA approval, rejection, or modification to plan	June 15, 1993
Permittee to submit plans and specifications for any construction needed to eliminate acute toxicity	September 15, 1993
MPCA approval, rejection, or modification of plans and specifications	October 15, 1993
Permittee to complete construction of any facilities needed and eliminate acute toxicity in the effluent	May 15, 1994

The Permittee may request a modification to the above TRE and TRP schedules, with the burden of demonstrating good cause for any additional time request.

9. This permit shall be modified in the future after completion of the TRE program to provide for concentration based effluent limitations at Outfall 20300 in accordance with the conclusions of the TRE program which shall determine the causative toxicants at outfall 20100. Mass loading limitations for these toxicants will also be established for outfall 20100 using a flow rate of 4.1 MGD and concentrations determined to be typical from past data and/or data developed from pre-existing operations.

10. Continued Acute Toxicity Testing - Outfall 20100

Upon completion of the TRE and TRP, the Permittee shall begin bimonthly (every other month) acute toxicity testing on the 20100 process effluent according to the following requirements:

a. Continued Bimonthly Acute Toxicity Testing

If, after the first year of testing, all results from the bimonthly acute toxicity tests for twelve (12) consecutive months

indicate less than 50 percent mortality in 100 percent effluent, the Permittee may reduce the frequency of testing to once per year. Except as required under subparagraph b. below, this frequency of testing shall continue for the remainder of the term of this permit.

b. Serial Dilution Tests

If during any of the bimonthly or annual acute toxicity tests described in subparagraph a, above, the results from one or more of the species tests indicate a species mortality rate of 50 percent or greater of the test organisms in 100 percent effluent, the effluent at ≥ 1.0 TU, the Permittee shall begin and continue on a monthly basis, serial dilution tests on all species for a period of at least three months. If the results from the first two of these monthly serial dilution tests demonstrate mortality less than 50 percent in 100 percent effluent, the third test need not be conducted and the Permittee shall resume the testing programs, as scheduled and described in subparagraph a, above.

c. Determination of Need for Future Toxicity Reduction Evaluation

If the results of any combination of any two of four consecutive tests required by either a and/or b above or any verification testing done by the Commissioner in accordance with methods approved by the U.S. Environmental Protection Agency (EPA), indicates a species mortality rate of 50 percent or greater in 100 percent 20100 process effluent, effluent at ≥ 1.0 TU, then the Commissioner shall evaluate the results of those aquatic toxicity tests and determine the need for a subsequent Toxicity Reduction Evaluation (TRE). In the evaluation, the Commissioner shall consider all data submitted by the Permittee pertinent to making a determination of need for a subsequent toxicity reduction evaluation.

11. Acute Toxicity Limitation and Acute Toxicity Testing - Outfall 20300

The 20300 discharge shall meet a less than one acute toxicity unit (1.0 TU) limitation, as required in PART I.B.4, by May 15, 1993. The Permittee shall demonstrate compliance with this limitation by conducting acute toxicity testing on outfall 20300 in the months of July 1994 and November 1994. If results from these tests indicate less than 1.0 TU, the frequency of testing shall be once per year thereafter during the term of this permit. If during any of the monthly or annual acute toxicity tests, the results from one or more of the species tests indicate a species mortality of 50 percent or greater of the test organisms in 100 percent effluent, the Permittee shall begin, and continue on a monthly basis, serial dilution tests on all species for a period of at least three months. If the results from the first two of these monthly serial dilution tests demonstrate mortality less than 50 percent in 100 percent effluent, the third test need not be conducted and the Permittee shall resume the annual testing program for outfall 20300.

If the results of any combination of any two of four consecutive tests required above, for outfall 20300, or any verification testing done by the Commissioner in accordance with methods approved by the U.S. Environmental Protection Agency (EPA) indicates a species mortality rate of 50 percent or greater in 100 percent effluent (20300), effluent at ≥ 1.0 TU, then the Commissioner shall evaluate the results of these aquatic toxicity tests and determine the need for a Toxicity Reduction Evaluation (TRE) for outfall 20300. In the evaluation, the Commissioner shall consider all data submitted by the Permittee pertinent to making a determination of need for a toxicity reduction evaluation.

12. Chronic Toxicity Testing - Outfall 20300

The Permittee shall conduct chronic toxicity tests on the effluent from outfall 20300. The chronic toxicity tests shall be conducted on the most sensitive species identified during acute toxicity testing. Testing and reporting procedures shall follow procedures contained in EPA/600/4-89/001, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms," for fathead minnows and Ceriodaphnia or ASTM E 1193-87, "Standard Guide for Conducting Renewal Life-Cycle Toxicity Tests with Daphnia Magna," for Daphnia. Alternate methods may be used upon approval from the MPCA. A final report on the testing conducted shall be submitted to the MPCA. The MPCA will review the toxicity data submitted by the Permittee to determine if applicable standards relating to chronic toxicity are being satisfied. If the chronic toxicity requirements are not being met and chronic toxicity is found to be of concern by the MPCA, this permit may be modified in accordance with PART II, B.2. of this permit to include additional whole effluent toxicity control requirements as necessary.

Chronic toxicity testing shall be conducted in accordance with the following schedule:

- Permittee to Submit Study Plan for Chronic Toxicity Testing by June 1, 1994.
- Permittee to Conduct Chronic Toxicity Testing on Outfall 20300 During the Months of July, September, October, and December, 1994.
- Permittee to Submit Final Report On All Chronic Toxicity Testing to the MPCA by February 1, 1995.

13. Mercury Reduction

The Permittee shall conduct the following activities to reduce or eliminate the discharge of mercury to meet the effluent limitation in PART I, B.3. in accordance with the following schedule:

- a. Develop and submit a plan of study for approval to:
 - 1) identify sources of mercury in the various sewers conveying wastewater to the treatment plant; and

2) to investigate various methods including source reduction measures and additional wastewater treatment to reduce or eliminate the discharge of mercury

April 15, 1992

- b. MPCA approval, rejection, or modification of plan

May 15, 1992

- c. Submit for review and approval a final report of the findings of the mercury reduction study, to include plans and specifications for treatment if necessary

August-15, 1992

- d. Complete implementation of mercury reduction measures, to include construction of any required wastewater treatment facilities

May 1, 1993

14. Projection/Reduction of Toxic Pollutants

The Permittee shall implement a program to evaluate chemicals used at the facility which may pose toxicity in the wastewater and discharges. The program shall focus on evaluation of new chemicals or compounds used, on a yearly basis, in research or pilot projects or newly introduced chemicals in a manufacturing process, to assess the potential toxicity and impacts from such compounds. The Permittee shall investigate means to reduce the discharge of any toxic pollutants to the maximum extent possible. The program shall include assessment of any additional wastewater treatment including possible pretreatment of specific waste streams if necessary to minimize toxicity. The Permittee shall submit an annual report in June of each year for the duration of the permit for the prior years' efforts on this program.

D. MONITORING AND REPORTING

1. Monitoring

a. Representative Sampling

Samples and measurements taken for the purposes of monitoring shall be representative of the volume and nature of the monitored activity.

b. Certified Laboratory

In order to insure the quality and validity of analytical data, all samples collected to determine compliance with this permit shall be analyzed by a laboratory certified by the Minnesota Department of Health as provided by Minn. Rules 4740.2040, Certified Test Categories.

c. Test Procedures

Test procedures for the analysis of parameters shall conform to regulations promulgated pursuant to Section 304 (h) of the Act, and Minnesota Statutes, Section 115.03, Subd. 1 (e) (7) as amended.

The Permittee shall calibrate all field instruments in the field prior to sample collection. The Permittee also shall periodically calibrate and perform maintenance on all other monitoring and analytical instrumentation used to monitor parameters discharged under this permit, at intervals to insure accuracy of measurements. The Permittee shall maintain written records of all such calibrations and maintenance.

d. Recording of Results

For each measurement taken or sample collected pursuant to the requirements of this Permit, the Permittee shall record the following information.

- 1) The exact place, date, and time of sampling;
- 2) the dates the analyses were performed;
- 3) the person who performed the analyses; and
- 4) the results of such analyses.

e. Additional Monitoring by Permittee

If the Permittee monitors any parameter designated herein more frequently than required by this permit, or as otherwise directed by the Agency or Commissioner, the results of such monitoring shall be included in the calculation and reporting of values submitted on the Discharge Monitoring Report Form. Any increased monitoring frequency shall also be indicated on such designated form.

f. Recording and Records Retention

The Permittee shall retain for a minimum of three years all recordings and documents in its possession or the possession of its divisions, employees, agents, accountants, contractors or attorneys that relate to this Permit, including original recordings from any continuous monitoring instrumentation, and any calibration and maintenance records. These retention periods shall be automatically extended during the course of any legal or administrative proceedings or when so requested by the Regional Administrator, the Agency, or the Commissioner.

2. Reporting

- a. All monitoring results obtained pursuant to the provisions of this permit shall be summarized on a monthly basis and reported on the designated "Discharge Monitoring Report Form."
- b. Reports shall be submitted monthly and received or postmarked no later than the 21st day of the month following the completed reporting period. The first report is due on the reporting date following the first reporting period where monitoring is required beginning on the date of issuance of this permit. If the reporting period specified above is quarterly, reports shall be due on the 21st day of April, July, October, and January. Reports shall be signed by the Permittee or the duly authorized representative of the Permittee. Signed copies of these, and all other reports required herein, shall be submitted to the Commissioner at the following address:

Minnesota Pollution Control Agency
Water Quality Division
Industrial Section
520 Lafayette Road
St. Paul, Minnesota 55155

- c. The Permittee shall report the results of the monitoring in the units specified in this permit. The reports or written statements shall be submitted even if no discharge occurred during the reporting period. The report shall include (a) a description of any modifications in the wastewater collection, treatment, and disposal facilities; (b) any substantial changes in operational procedures; (c) any other significant activities which alter the nature or frequency of the discharge; (d) any other material factors affecting compliance with the conditions of this permit and such information as the Agency or Commissioner may reasonably require of the Permittee pursuant to Minnesota Statutes, Chapters 115 and 116 as amended, and Minnesota Rules Chapter 7001.

- d. Except for data determined to be confidential under Section 308 of the Act, and Minnesota Statutes, Section 116.075, Subd. 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Agency. Procedures for submitting such confidential material shall be pursuant to Minnesota Rules Part 7000.1300. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report, confidential or otherwise, is subject to the imposition of criminal penalties as provided for in Section 309 of the Act and Minnesota Statutes, Chapter 609.671 (1988).

E. DEFINITIONS

1. The "Agency" means the Minnesota Pollution Control Agency, as constituted pursuant to Minnesota Statutes, Section 116.02, Subd. 1.
2. The "Commissioner" means the Commissioner, or other Agency staff as authorized by the Commissioner, of the Minnesota Pollution Control Agency as described in Minnesota Statutes, Section 116.03 as amended.
3. The "Regional Administrator" means the Environmental Protection Agency (EPA) Regional Administrator for the region in which Minnesota is located (now Region V).
4. The "Act" means the Federal Water Pollution Control Act, as amended 33 U.S.C. 1251, et seq.
5. A "Composite" sample, for monitoring requirements, is defined as (a) a series of grab samples collected at least once per hour at equally spaced time intervals and proportioned according to flow, or (b) grab samples of equal volume each collected after a predetermined volume of flow has passed (e.g., 25 ml of sample after each 1,000 gallons of flow), or (c) a series of grab samples collected at least once per hour at equally spaced time intervals when this is found to be acceptable by Agency staff.
6. A "Grab" sample is an individual sample collected at one point in time.
7. "Monthly Average."
 - a. Weight Basis - The "monthly average" discharge is defined as the summation of the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.
 - b. Concentration Basis - The "monthly average" concentration, other than for fecal coliform group organisms, is defined as the arithmetic average (weighted by flow value) of all the daily determinations of concentration made during the calendar month. Daily determinations of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily determination of concentration shall be the arithmetic average (weighted by flow value) of all the samples collected during the calendar day. The arithmetic average (weighted by flow value) is the summation of each concentration times its respective flow divided by the summation of the respective flows.

The "monthly average" for fecal coliform group organisms is defined as the geometric mean of samples collected in a period of one calendar month. The geometric mean of a set of values is the Nth root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For the purposes of calculating the geometric mean, values of zero shall be considered to be one.

8. "Daily Maximum" Discharge
 - a. Weight Basis - The "daily maximum" discharge means the total discharge by weight during any calendar day.
 - b. Concentration Basis - The "daily maximum" concentration means the daily determination of concentration for any calendar day.
9. The "Calendar Week Average" concentration, other than for fecal coliform group organisms, is defined as the arithmetic mean of the samples collected in a period of a calendar week. The calendar week average for fecal coliform group organisms is defined as the geometric mean of samples collected in a period of calendar week.
10. Pollutants, Toxic Pollutants, Other Wastes, Point Source, Disposal System, Waters of the State, and other terms for the purpose of this permit are defined in Section 502 of the Act and Minnesota Statutes 115.01 as amended and Minnesota Rules Chapter 7001.

PART II

A. MANAGEMENT REQUIREMENTS

1. Bypass Notification

A bypass is an intentional diversion of a waste stream from any portion of the treatment facility. Bypasses are prohibited except as allowed by PART II, A.1. of this Permit or as allowed by rules of the Agency.

a. Bypass not causing exceedance of permit effluent limitations.

(1) A bypass that does not result in an exceedance of applicable effluent limits is allowed only if the bypass is necessary for essential maintenance to assure efficient operation of the wastewater treatment facility.

(2) The Permittee shall notify the Agency in writing of the need for an anticipated bypass at least ten days before the date of the bypass. If the bypass was unanticipated, the Permittee shall notify the Agency as soon as possible under the circumstances, but in no event more than 24 hours after the bypass.

b. Bypass causing exceedance of permit effluent limitations. A bypass that causes an exceedance of an effluent limit, whether anticipated or unanticipated, is prohibited except under the following conditions:

(1) The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. For the purposes of this paragraph, "severe property damage" means substantial damage to property of the Permittee or of others; damage to the wastewater treatment facilities that may cause them to become inoperable; or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. "Severe property damage" does not mean economic loss as a result of a delay in production.

(2) There is no feasible alternative to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or performance of maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance.

(3) In the case of an anticipated bypass, the Permittee has notified the Commissioner at least ten days in advance of the bypass or as soon as possible under the circumstances, and the Commissioner has approved the bypass. The Commissioner shall

approve the bypass if the Commissioner finds that the conditions set forth in (1) and (2) above are met. The Permittee shall provide the Commissioner such information as the Commissioner requires to make a decision on the bypass.

(4) In the case of an unanticipated bypass, the Permittee has notified the Agency within 24 hours of the bypass. The Permittee shall provide in writing the reasons for an unanticipated bypass.

- c. Water Quality Violations. In no event shall a bypass, whether anticipated or unanticipated, be permitted if it results in a violation of applicable water quality standards.
- d. Affirmative Bypass Defense. A Permittee who experiences a bypass, either anticipated or unanticipated, may raise as an affirmative defense to an alleged violation of this Permit that the bypass was authorized under PART 11, A.1. of this Permit.

The Permittee has the burden to establish such affirmative defense by a preponderance of competent evidence.

- e. Health Hazards/Nuisance Conditions. If an unanticipated bypass may cause a health hazard or nuisance condition to occur, the Permittee shall notify the Agency immediately by calling the Agency's emergency response number (612) 296-8100.
- f. Written Reports. The Permittee shall include with its next Discharge Monitoring Report a written report about any bypass that caused an exceedance of permit limits. The report shall contain the following information:
 - (1) A description of the discharge, approximate volume, and the cause of the bypass.
 - (2) The period of the bypass including exact dates and times; and, if the bypass is still occurring, the anticipated time the bypass will continue.
 - (3) A description of the steps taken to reduce, eliminate and prevent recurrence of the bypass.

2. Upsets

An upset is an exceptional incident in which there is unintentional and temporary exceedance of permit limits due to factors beyond the control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

- a. Affirmative Upset Defense. If the Permittee exceeds permit limits due to an upset, the Permittee has an affirmative defense to an enforcement action brought by the Agency as a result of the noncompliance if the Permittee demonstrates the following by a preponderance of competent evidence:

- (1) The specific cause of the upset;
- (2) That the upset was unintentional;
- (3) That the upset resulted from factors beyond the control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or increases in production which are beyond the design capability of the treatment facilities;
- (4) That at the time of the upset the facility was being properly operated;
- (5) That the Permittee notified the Agency within 24 hours of the upset; and
- (6) That the Permittee took all reasonable steps to minimize the adverse impacts on human health, public drinking water supplies, and the environment resulting from the upset.

- b. Written Report. The Permittee shall include with its next Discharge Monitoring Report a written report about any upset that occurred in the previous month. The report shall contain the same information required for a bypass report under paragraph II, A.1.f. and, in addition, shall describe the steps taken to minimize the adverse impacts on human health, public drinking water supplies, and the environment resulting from the upset.

3. Permit Limit Exceedances. If, for any reason, the Permittee exceeds any effluent limitation specified in the Permit, the Permittee shall report with the next Discharge Monitoring Report, the following information:

- a. A description of the discharge, approximate volume, and the cause of the noncompliance.

- b. The period of noncompliance including exact dates and times, the anticipated time of noncompliance if it is still continuing, and the steps taken to correct, reduce, eliminate, and prevent recurrence of the noncomplying discharge.

4. Adverse Impact

The Permittee shall take all reasonable steps to minimize any adverse impact to waters of the State resulting from:

- a. all unauthorized discharges accidental or otherwise, of oil, toxic pollutants or other hazardous substances consistent with Minnesota Statutes Section 115.061 and 40 CFR Part 116 and 116;
- b. effluent limitation violations;
- c. a bypass; or
- d. an upset.

The Permittee shall immediately notify the Commissioner in writing of any occurrences as described in a. through d. above. Notification for bypasses and upsets shall be consistent with the requirements of PART II, A.1.

5. Change in Discharge

- a. All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant more frequently than, or at a level in excess of, that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such a violation may result in the imposition of civil or criminal penalties as provided for in Section 309 of the Act, Minnesota Statutes Section 115.071, and Chapter 609.671 (1988).
- b. Facility modifications, additions, and/or expansions that increase the plant capacity shall be reported to the Commissioner, (Attn: Industrial Section, Water Quality Division) and this permit may then be modified or reissued to reflect such changes.
- c. Any anticipated change in the facility discharge, including any new or modified industrial discharge or change in the quality of existing industrial discharges to the treatment system that may result in a new or increased discharge of pollutants shall be reported to the Commissioner, (Attn: Industrial Section, Water Quality Division). Modification to the permit may then be made to reflect any necessary change in permit conditions, including any necessary effluent limitations for any pollutant not identified and limited herein.

- d. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

6. Facilities Operation and Quality Control

All waste collection, control, treatment, and disposal facilities shall be operated in a manner consistent with the following:

- a. Maintenance of the treatment facility that results in degradation of effluent quality shall be scheduled as much as possible during non-critical water quality periods and shall be carried out in a manner approved by the Director.
- b. The Commissioner may require the Permittee to submit a maintenance plan to eliminate degradation of the effluent. The Permittee shall operate the disposal system in accordance with this plan as approved by the Commissioner.
- c. The Permittee shall provide an adequate operating staff which is duly qualified under Minnesota Rule 9400 if applicable as determined by the Commissioner pursuant to Minnesota Rules Part 7001.0150, to carry out the operation, maintenance and testing functions required to insure compliance with the conditions of this permit.
- d. The Permittee shall at all times maintain in good working order and operate as efficiently as possible all facilities or systems of control installed or used to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures.
- e. Necessary in-plant control tests shall be conducted at a frequency adequate to ensure continuous efficient operation of the treatment facility.

7. Removed Substances

The Permittee shall dispose of solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters in such manner as to prevent any pollutant from such materials from entering waters of the State. The Permittee in disposal of such materials shall comply with all applicable water, air, and solid waste and hazardous waste statutes and regulations. When requested, the Permittee shall submit a plan for such disposal for approval by the Director.

8. System Reliability

The Permittee is responsible for maintaining adequate safeguards to prevent the discharge of untreated or inadequately treated wastes at all times. The Permittee is responsible for insuring system reliability by means of alternate power sources, back-up systems, storage of inadequately treated effluent, or other appropriate methods of maintaining system reliability.

9. Construction

This permit only authorizes the construction of treatment works to attain compliance with the limitations and conditions of this permit, after plans and specifications for treatment facilities have been submitted to and approved in writing by the Commissioner prior to the start of any construction.

10. Need to Halt or Reduce Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

B. RESPONSIBILITIES

1. Transfer of Ownership or Control

No permit may be assigned or transferred by the holder without the approval of the Agency. In the event of any changes in control or ownership of the facilities, a Request for Permit Transfer, signed by both parties shall be sent to the Agency, (Attn: Industrial Section, Water Quality Division). Any succeeding owner or controller shall also comply with the terms and conditions of this permit.

2. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

- a. violation of any terms or conditions of this permit;
- b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- c. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge;
or
- d. Minnesota Rules Parts 7001.0170 and 7001.0180.

3. Toxic Pollutants

Notwithstanding PART II, B.2. above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307 (a) of the Act or Minnesota Statutes Chapters 115 and 116 as amended, for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitations for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and in accordance with applicable laws and regulation.

4. Right of Entry

The Permittee shall, pursuant to Section 308 of the Act and Minnesota Statutes 115.04, allow the Commissioner of the Agency, the Regional Administrator, and their authorized representatives upon presentation of credentials:

- a. to enter upon the Permittee's premises where a disposal system or other point source or portion thereof is located for the purpose of obtaining information, examination of records, conducting surveys or investigations;
- b. to bring such equipment upon the Permittee's premises as is necessary to conduct such surveys and investigations;

- c. to examine and copy any books, papers, records, or memoranda pertaining to the installation, maintenance, or operation of the discharge, including but not limited to, monitoring data of the disposal system or point source or records required to be kept under the terms and conditions of this permit;
- d. to inspect any monitoring equipment or monitoring procedures required in this permit; and
- e. to sample and monitor any substances or parameters at any location.

5. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the Permittee from civil or criminal penalties for non-compliance with the terms and conditions provided herein.

6. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Section 311 of the Act and Minnesota Statutes, Chapters 115 and 116 as amended.

7. Liability Exemption

This permit authorizes the permittee to perform the activities described herein under the conditions set forth. In issuing this permit, the state/agency assumes no responsibility for any damage to persons, property or the environment caused by the activities of the permittee in the conduct of its actions, including those activities authorized, directed or undertaken pursuant to this permit. To the extent the state/agency may have any liability for the activities of its employees, that liability is explicitly limited to that provided in the Torts Claim Act, Minn. Stat. § 3.736.

8. Minnesota Laws

Nothing in this permit shall be construed to preclude the institution of any legal or administrative proceedings or relieve the Permittee from any responsibilities, liabilities, or penalties for violation of effluent and water quality limitations not included in this permit.

9. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or Local laws or regulations.

10. Severability

The provisions of this permit are severable, and if any provisions of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

11. NPDES/SDS Rules

The Permittee shall comply with the provisions of Minn. Rules pts. 7001.0150, subp. 3 and 7001.1090, subp. 1.

12. Other Statutes, Rules and Ordinances

The Agency's issuance of a permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or local ordinances, except the obligation to obtain the permit.

13. More Stringent Rules

The Agency's issuance of a permit does not prevent the future adoption by the Agency of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards or orders against the Permittee.

14. Agency Obligation

The Agency's issuance of a permit does not obligate the Agency to enforce local laws, rules or plans beyond that authorized by Minnesota Statutes.