

# PRIORITY 1

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50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana M 05000316

AUTH. NAME      AUTHOR AFFILIATION  
FITZPATRICK, E.      Indiana Michigan Power Co. (formerly Indiana & Michigan Ele  
RECIP. NAME      RECIPIENT AFFILIATION  
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SUBJECT: Forwards DC Cook Nuclear Power Plant NPDES permit. Permit  
issued on 950626 & valid through Oct 1999.

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July 25, 1995

AEP:NRC:1208F

Docket Nos.: 50-315  
50-316

U. S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2  
GROUND AND SURFACE WATER PERMIT

A copy of the Cook Nuclear Power Plant National Pollutant Discharge Elimination System (NPDES) permit is attached pursuant to Appendix "B" of the Cook Nuclear Plant Environmental Technical Specifications. The permit was issued on June 26, 1995, and is valid through October 1999.

Should you have any questions or concerns about this notification, please contact Walter T. MacRae (614) 223-2019.

Sincerely,

E. E. Fitzpatrick  
Vice President

plt

Attachment

cc: A. A. Blind  
G. Charnoff  
H. J. Miller  
NFEM Section Chief  
NRC Resident Inspector - Bridgman  
J. R. Padgett

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ATTACHMENT TO AEP:NRC:1208F

COOK NUCLEAR POWER PLANT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

(NPDES)

STATE OF MICHIGAN



JOHN ENGLER, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T MASON BUILDING, PO BOX 30028, LANSING MI 48909-7528

ROLAND HARMES, Director

NATURAL RESOURCES  
COMMISSION

JERRY C. BARTNIK  
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DAVID HOLLI  
JOEY M. SPANO

June 28, 1995

CERTIFIED MAIL

Ms. Diane Fitzgerald  
Indiana Michigan Power Company  
Donald C. Cook Nuclear Plant  
One Cook Place  
Bridgman, Michigan 49106

Dear Ms. Fitzgerald:

SUBJECT: NPDES Permit No. MI0005827  
Donald C. Cook Nuclear Plant, Bridgman, Michigan

Your National Pollutant Discharge Elimination System (NPDES) Permit has been processed in accordance with appropriate state and federal regulations. It contains the requirements necessary for you to comply with state and federal water pollution control laws.

REVIEW THE PERMIT EFFLUENT LIMITS AND COMPLIANCE SCHEDULES CAREFULLY. These are subject to the criminal and civil enforcement provisions of both state and federal law. Permit violations are audited by the Michigan Department of Natural Resources and the United States Environmental Protection Agency and may appear in a published quarterly noncompliance report made available to agencies and the public.

Your monitoring and reporting responsibilities must be complied with in accordance with this permit. If applicable, Discharge Monitoring Report forms will be transmitted to you in the near future. These reports are to be submitted monthly or otherwise as required by your NPDES permit.

Any reports, notifications, or questions regarding the attached permit or NPDES program should be directed to the following address:

Mr. Fred Morley, District Supervisor  
Plainwell District Office, SWQD, MDNR  
621 North 10th Street  
P.O. Box 355  
Plainwell, Michigan 49080  
Telephone: (616) 685-9886

Ms. Diane Fitzgerald  
Indiana Michigan Power Company  
Page 2  
June 28, 1995

NOTE: All references within this permit made to the Water Quality Division or Chief of the Water Quality Division are to refer to the Surface Water Quality Division or Chief of the Surface Water Quality Division, respectively.

Sincerely,

*William E. McCracken*  
William E. McCracken, P.E.  
Chief, Permits Section  
Surface Water Quality Division  
517-373-8088

Enclosure: Permit

cc: EPA-Region V (2)  
208 Agency - Southwest Michigan Regional Planning Commission  
Indiana Michigan Power Company, Fort Wayne, Indiana  
Mr. Fred Morley - Plainwell District, SWQD (2)  
Data Entry, SWQD  
Point Source Studies (Grand Rapids District Office), SWQD  
Files

PERMIT NO. MI0005827

MICHIGAN DEPARTMENT OF NATURAL RESOURCES  
AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq; the "Act"), Michigan Act 451, Public Acts of 1994, Part 31 (the "Michigan Act"), and Michigan Executive Orders 1991-31 and 1995-4,

Indiana Michigan Power Company  
P.O. Box 60  
Fort Wayne, Indiana 46801

is authorized to discharge from a facility located at

Donald C. Cook Nuclear Plant  
One Cook Place  
Bridgman, Michigan 49106

designated as IN MI Power Co-Cook Plt

to the receiving water named Lake Michigan in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.

This permit takes effect on the date of issuance. Any person who is aggrieved by this permit may file a sworn petition with the Office of Administrative Hearing of the Michigan Department of Natural Resources setting forth the conditions of the permit which are being challenged and specifying the grounds for the challenge. The Department may reject any petition filed more than 60 days after issuance as being untimely. Upon granting of a contested case, the Department shall review the permit to determine which contested conditions shall be stayed until the Department takes its final action. If a condition contested by the applicant is a requirement placed on wastewater covered by a new or increased discharge authorization, such increased discharge authorization shall be stayed until the Department takes final action. All other conditions of the permit remain in full effect. If the contested condition is a modification of a previous permit condition and the Department determines the contested condition shall be stayed, then such previous condition remains in effect until the Department takes final action.

This permit and the authorization to discharge shall expire at midnight October 1, 1999. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Michigan Department of Natural Resources to the Permits Section of the Surface Water Quality Division no later than 180 days prior to the date of expiration.

This permit is based on an application submitted on April 4, 1994 as amended through February 7, 1995. On its effective date this permit shall supersede NPDES Permit No. MI0005827, expiring October 1, 1994.

Issued June 26, 1995.

*William E. McCracken*

William E. McCracken  
Chief, Permits Section  
Surface Water Quality Division





## PART I

## A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

## 1. Final Effluent Limitations, Outfall 001 and 002 (Combined Discharge)

During the period beginning upon the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge a maximum of one billion five hundred million (1,500,000,000) gallons per day of noncontact condenser cooling water and miscellaneous low volume wastes from outfall 001 to Lake Michigan; and one billion eight hundred twenty million (1,820,000,000) gallons per day of noncontact condenser cooling water and miscellaneous low volume wastes from outfall 002 to Lake Michigan. Such discharges shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	lbs/day		Other Limitations		Measurement Frequency	Sample Type
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum		
Flow (MGD)	(report)	(report)			Daily	Report Total Daily Flow
Total Residual Oxidant (TRO)*						
During Chlorination - No Bromine Use						
Discharge Mode						
Continuous (greater than 160 min/day)				36 ug/l	5X Weekly	Grab
Intermittent (less than/equal to 160 min/day)				200 ug/l	5X Weekly	Grab
During Bromine Use						
Discharge Mode						
Continuous - None (The discharge of bromine shall not exceed 120 min/day)						
Intermittent (less than/equal to 120 min/day)				50 ug/l	5X Weekly	Grab
TRO Discharge Time (minutes/day)			(report)		5X Weekly	Report Total Discharge Time
Betz Clam-Trol CT-1			0.05 mg/l**		***	Grab
(The authorization to discharge CT-1 ceases after December 31, 1995)						
Betz Clam-Trol CT-2			0.01 mg/l**		***	Grab
Betz Clam-Trol CT-4			0.04 mg/l**		***	Grab
Temperature (°F)						
Intake			(report)		Daily	Reading
Discharge			(report)		Daily	Reading
Heat Addition (Million BTU/Hour)****			16,800		Daily	Calculation
Hydrazine (ug/l)			(report)		Monthly	Grab
Outfall Observation (report)					Daily	Visual
			Daily Minimum	Daily Maximum		
pH (Standard Units)			6.5	9.0	Weekly	Grab

(continued)

## PART I

## Section A.1. (continued)

\* Total Residual Oxidant (TRO) shall be analyzed using EPA Method 330.1 (alternate methods may be used upon approval of the Plainwell District Supervisor of the Surface Water Quality Division). TRO monitoring is only required during periods of chlorine or bromine use and subsequent discharge. Limitations for the intermittent discharge of chlorine apply only when the discharge of chlorine is less than or equal to 160 minutes per day, otherwise the limitations for continuous discharge of chlorine apply. Authorization to discharge bromine with or without chlorine is limited to 120 minutes per day at the limitations specified above with the additional requirement that any discharge of chlorine is restricted to a concurrent discharge with bromine (no additional discharge of chlorine is authorized for that day).

During the intermittent discharge of chlorine without bromine ("During Chlorination - No Bromine Use" limitations given above), the daily maximum value reported for TRO shall be the average of a minimum of 3 equally spaced grab samples taken during a chlorine discharge event, with the additional limitation that no single sample may exceed 300 ug/l.

During the intermittent discharge of bromine with or without chlorine ("During Bromine Use" limitations given above), the daily maximum value reported for TRO shall be the maximum of at least 3 equally spaced grab samples taken during a bromine discharge event (no single sample may exceed 50 ug/l).

The permittee shall enter a zero ("0") on the Discharge Monitoring Reports for the TRO discharge modes not being used.

The permittee may use dehalogenation techniques to achieve the applicable TRO limitations, using sodium thiosulfate, sodium sulfite, sodium bisulfite, or other dehalogenating reagents approved by the Plainwell District Supervisor. The quantity of reagent(s) used shall be limited to 1.5 times the stoichiometric amount of applied chlorine/bromine oxidant. The permittee shall report monthly the quantity of each dehalogenation reagent used per day.

The sampling procedures, preservation and handling, and analytical protocol for compliance monitoring for Betz Clam-Trol (Clam-Trol) CT-1, CT-2 and CT-4 shall be in accordance with the Methyl Orange Method. The detection level shall not exceed 0.2 mg/l, 0.05 mg/l and 0.26 mg/l for Clam-Trol CT-1, CT-2 and CT-4 respectively unless higher levels are appropriate because of sample matrix interference. Other methods may be used upon approval of the Plainwell District Supervisor of the Surface Water Quality Division. The highest value measured during the discharge event shall be reported. If the Clam-Trol concentration in all samples is less than the detection limit, report zero on the discharge monitoring reports.

\*\* The water quality-based effluent limitation for Clam-Trol CT-1, CT-2 and CT-4 are less than the level of detection using the specified analytical method. Detoxification of Clam-Trol treated effluent is required unless the permittee demonstrates, through mass-balance calculations, that the discharge concentration of Clam-Trol CT-1, CT-2 and CT-4 will be less than or equal to the final effluent limit value of 0.05 mg/l, 0.01 mg/l and 0.04 mg/l respectively. Such a demonstration must

(continued)

## PART I

## Section A.1. (continued)

be submitted for approval to the Plainwell District Supervisor prior to the first treatment with Clam-Trol. Any discharge of Clam-Trol at or above the level of detection is a specific violation of this permit. If all the samples in any monthly reporting period are less than the level of detection, the Michigan Department of Natural Resources will consider the permittee to be in compliance with the final effluent limitations for this pollutant for that reporting period, provided that the permittee has also demonstrated compliance with the final limit through mass-balance calculations or is also in full compliance with the toxicity testing program set forth in Part I.A.7.

The discharge of Clam-Trol CT-1, CT-2 and CT-4 is restricted to no more than six (6) times per year for no more than 12 hours per discharge event. The permittee shall notify the Plainwell District Supervisor at least 1 week prior to each discharge.

The permittee shall gradually phaseout the use of Clam-Trol CT-1 by the end of the year 1995 and may switch to CT-2 and/or CT-4 or other approved products.

\*\*\* Every three hours during discharge.

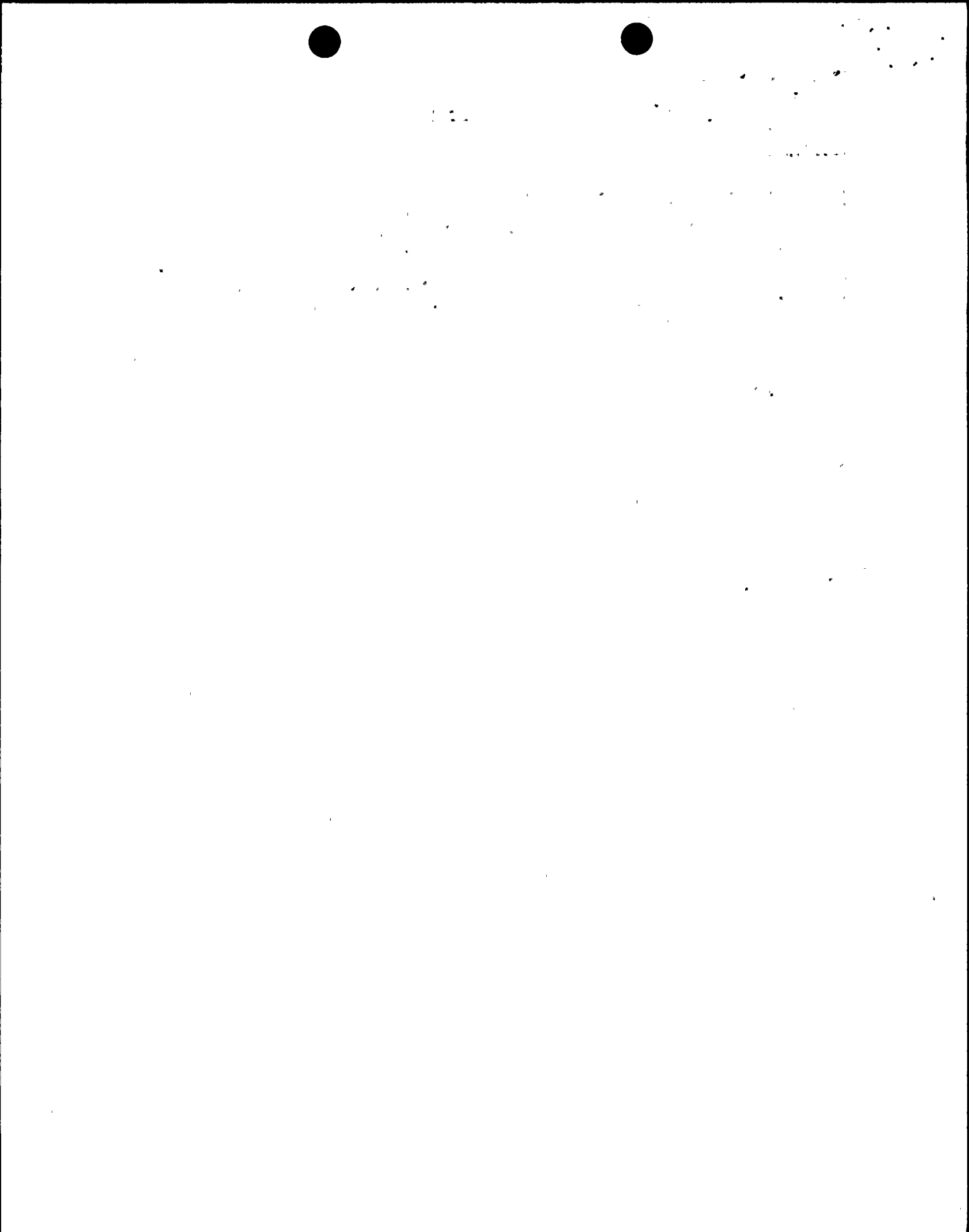
\*\*\*\* The daily maximum limit of 16,800 Million BTU/Hour is for the total power plant discharge. The permittee shall report the total of heat loads discharged through outfalls 001 and 002 under outfall 001, in addition to reporting the heat loads discharged individually for the outfalls 001 and 002, in the discharge monitoring reports.

a. The receiving stream shall contain no unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits as a result of this discharge.

b. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken prior to discharge to Lake Michigan.

c. Any unusual characteristics of the discharge (i.e., unnatural turbidity, color, oil film, floating solids, foams, settleable solids, or deposits) shall be reported immediately to the Plainwell District Supervisor of the Surface Water Quality Division followed with a written report within 5 days detailing the findings of the investigation and the steps taken to correct the condition.

(continued)



## PART I

## Section A.1. (continued)

- d. In the event the permittee shall require the discharge of water treatment additives in addition to any previously approved by the Plainwell District Supervisor of the Surface Water Quality Division, the permittee shall notify the Plainwell District Supervisor. Written approval from the Plainwell District Supervisor to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. The permit may be modified in accordance with the requirements of Part II.B.4. if a constituent of the additive or additives requires limiting. The water treatment additives Betz Powerline 1440, Nalco Elimn-ox (approved with monthly monitoring for hydrazine), Betz Deposi-Trol 855D, Sulfur Hexafluoride Gas (SF-6), Calgon LCS-60, EDTA, polymeric flocculants, and Potassium nitrate are approved at the levels specified in the application. The water treatment additive Calgon H-130M is not approved at this time.
- e. The term noncontact cooling water shall mean water used for cooling which does not come into direct contact with any raw material, intermediate product, by-product, waste product, or finished product.
- f. The permittee shall not discharge chemical metal cleaning wastes to the receiving waters of the State as a result of plant operations.
- g. Dye(s) for detecting leaks: Prior to using any dye, the permittee shall submit a plan which details the specifics of the treatment to the Plainwell District Supervisor of the Surface Water Quality Division for approval. The Rhodamine B or Fluorescein dyes to detect leaks in the power plant's condensers during the generating units outages are not approved at this time. The permittee may use the Rhodamine WT dye instead.
- h. Hydrazine shall be analyzed using the ASTM Method D1385-88 with a detection level of 10 ug/l or other methods approved by the Plainwell District Supervisor of the Surface Water Quality Division.

## PART I

## Section A.

## 2. Final Effluent Limitations, Outfall 00A (Unit 1 Steam Generator Blowdown) and Outfall 00B (Unit 2 Steam Generator Blowdown)

During the period beginning upon the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge a maximum of one million (1,000,000) gallons per day of steam generator blowdown from outfall 00A through outfalls 001 and 002 to Lake Michigan; and one million (1,000,000) gallons per day of steam generator blowdown from outfall 00B through outfalls 001 and 002 to Lake Michigan. Such discharges shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	<u>lbs/day</u>		<u>Other Limitations</u>		<u>Measurement</u>	<u>Sample</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Frequency</u>	<u>Type</u>
Flow (MGD)	(report)	(report)			Daily Per- Occurrence	Report Total Daily Flow
Total Suspended Solids			30 mg/l	100 mg/l	Weekly Per Occurrence	Grab

a. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken at outfalls 00A and 00B prior to discharge to the intake forebay and thence to outfalls 001 or 002.

## PART I

## Section A.

## 3. Final Effluent Limitations, Outfall 00C (Plant Heating Boiler Blowdown)

During the period beginning upon the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge a maximum of forty three thousand (43,000) gallons per day of heating boiler blowdown from outfall 00C through outfalls 001 and 002 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements</u>	
	<u>lbs/day</u>		<u>Other Limitations</u>		<u>Measurement Frequency</u>	<u>Sample Type</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>		
Flow (MGD)	(report)	(report)			Daily Per Occurrence	Report Total Daily Flow
Total Suspended Solids			30 mg/l	100 mg/l	Daily Per Occurrence*	Grab..

\* Total Suspended Solids are to be monitored daily per occurrence or weekly if the heating boiler is operated continuously for periods greater than one week.

a. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken at outfall 00C prior to discharge to the intake forebay and thence to outfalls 001 or 002.

## PART I

## Section A.

## 4. Final Effluent Limitations, Outfall 00G (Reverse Osmosis System Reject)

During the period beginning upon the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge a maximum of two hundred sixty thousand (260,000) gallons per day of reverse osmosis system reject from outfall 00G through outfalls 001 and 002 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Characteristic	Discharge Limitations				Monitoring Requirements	
	lbs/day		Other Limitations		Measurement	Sample
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Frequency	Type
Flow (MGD)	(report)	(report)			Weekly	Report Total Daily Flow
Total Suspended Solids			30 mg/l	100 mg/l	Weekly	Grab

a. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken at outfall 00G prior to discharge to the intake forebay and thence to outfalls 001 or 002.



## PART I

## Section A.

## 5. Final Effluent Limitations, Outfall 00H (Turbine Room Sump Emergency Overflow)

During the period beginning upon the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge a maximum of two million six hundred thousand (2,600,000) gallons per day of turbine room sump emergency overflow from outfall 00H through outfalls 001 and 002 to Lake Michigan. Such discharge shall be limited and monitored by the permittee as specified below:

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>				<u>Monitoring Requirements*</u>	
	<u>lbs/day</u>		<u>Other Limitations</u>		<u>Measurement</u>	<u>Sample</u>
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Frequency</u>	<u>Type</u>
Flow (MGD)	(report)	(report)			Daily Per Occurrence	Report Total Daily Flow
Total Suspended Solids			30 mg/l	100 mg/l	2X Monthly Per Occurrence	Grab
Oil & Grease			15 mg/l	20 mg/l	2X Monthly Per Occurrence	Grab

\* During discharge only

a. Samples, measurements, and observations taken in compliance with the monitoring requirements above shall be taken at outfall 00H prior to discharge to the intake forebay and thence to outfalls 001 or 002.

## PART I

## Section A.

6. Special Condition - Deicing Discharge Authorization

The permittee is authorized to discharge a portion of the flow from outfall 001 or outfall 002 through intake structure outfall 003 to prevent ice buildup. The permittee is not required to provide any additional monitoring of this discharge because the effluent limitations and monitoring requirements specified for outfalls 001 and 002 will determine compliance with applicable water quality standards and any other requirements.

7. Special Condition - Toxicity Testing During Clam-Trol Treatment

If the permittee has not demonstrated through mass-balance calculations that the final effluent limits of 0.05 mg/l and 0.04 mg/l for Clam-Trol CT-1 and CT-4, respectively, will be met (See Part I.A.1., page 2 of 24), then the authorization to discharge Clam-Trol treated effluent after detoxification with bentonite clay from outfalls 001 and 002 requires the permittee to conduct a 48-hour acute toxicity test using a Daphnia species to verify adequate detoxification. This test shall be conducted on the discharge during the first treatment following the effective date of this permit. This test shall be conducted using procedures contained in EPA/600/4-90/027F "Methods for Measuring the Acute Toxicity of Effluent to Freshwater and Marine Organisms". This test may also be conducted using procedures contained in ASTM E-1193 "Guide for Conducting Renewal Life-Cycle Toxicity Tests with Daphnia Magna".

The results of the above testing shall be submitted to Plainwell District Supervisor of the Surface Water Quality Division within 45 days following Clam-Trol application. If the results of toxicity testing do not exceed 1.0 acute toxic units (TU<sub>A</sub>), the permittee is authorized to continue the use and discharge of Clam-Trol as proposed in the application received on April 4, 1994 as amended through February 7, 1995.

If, upon review of the data, it is determined by the Plainwell District Supervisor that the results of toxicity testing exceed 1.0 TU<sub>A</sub>, the permittee will be so notified. The permittee will not be authorized to discharge Clam-Trol until a proposal to remedy the unacceptable condition(s) is approved by the Plainwell District Supervisor.

"Acute toxic unit" is defined as the reciprocal of the test concentration that causes the acute effect by the end of the acute exposure period.



## PART I

## Section A.

8. Special Condition - Toxicity Testing and Compliance Demonstration for Water Additive.

The authorization to discharge water additive Nalco Macro-Trol 9210 from outfalls 001 or 002 will require the permittee to submit acute toxicity data for the above water additive based on the entire product. Minimal characterization of aquatic toxicity includes: 1) a 96-hour LC50 for rainbow trout or fathead minnow; and 2) a 48-hour EC50 for Daphnia species. Testing procedures shall follow ASTM, Standard E 729-88a, "Standard Guide for Conducting Acute Toxicity Tests with Fishes, Macroinvertebrates, and Amphibians". The tests should be conducted using flow-through techniques. Prior to conducting the testing, a plan shall be submitted to and approved by the Plainwell District Supervisor of the Surface Water Quality Division.

The permittee shall also determine the concentration of the water additive in the discharge by analysis or, if an approved analytical technique is not available, by calculations based on the mass balance through the system.

The toxicity data and discharge concentration data shall be submitted to the Plainwell District Supervisor prior to actual discharge.

If, as determined by the Plainwell District Supervisor, the water additive, as currently used, does not exceed the water quality-based effluent limitation, the permittee will be authorized to use the water additive at the level specified in the application.

If, upon review of the above demonstrations, it is determined by the Plainwell District Supervisor that the effluent limitation is being exceeded, the permittee will be so notified. The permittee shall achieve compliance with the effluent limitation within three months of such notification.

9. Special Condition - Thermal Plume Study

As a condition of this permit, the permittee shall conduct a thermal plume study for outfalls 001 and 002. The study shall be conducted seasonally, during spring, summer and fall. Each seasonal study shall include a determination of the current velocity and volume which serves to dilute the discharge in Lake Michigan, a determination of the stratification of the effluent, if any in Lake Michigan, predominant wind direction and velocity at the time of the study, and detailed mapping of the plume for each study.

Within three (3) months of the effective date of this permit, a plan for conducting the study shall be submitted to the Plainwell District Supervisor of the Surface Water Quality Division for approval. The study shall be implemented in accordance with the approved plan, which will include information regarding initiation of the study. If the permittee desires to make any substantial changes in the approved plan, such proposed changes shall be submitted to and be approved by the Plainwell District Supervisor prior to implementation. The results of this study shall be submitted to the Plainwell District Supervisor within four (4) months of the completion of the study.

## PART I

## Section A.

10. Special Condition - Temperature Modification

The Michigan Department of Natural Resources is considering the necessity of incorporating temperature limitations in this permit to assure that the requirements of Rule 82(1) of the Michigan Water Quality Standards are met. Therefore, when consideration of this issue has been completed, the Department may modify this permit in accordance with Part II.B.4. to add appropriate temperature limitations or requirements.

11. Special Condition - PCB Prohibition

Effective upon the date of issuance of this permit, the permittee shall not discharge any polychlorinated biphenyls to the receiving waters of the State of Michigan as a result of plant operations other than due to the presence of such compounds in the intake water.

12. Special Condition - Intake Screen Backwash

During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge intake screen backwash from outfall 004 to Lake Michigan. The permittee shall collect and remove debris accumulated on intake trash bars and dispose of such material on land in an appropriate manner or by other appropriate disposal means.

13. Special Condition - Continuous Chlorination of Service Water Systems

The permittee may demonstrate that the continuous chlorination of the Service Water systems (SWS) does not result in the discharge of toxic levels of chlorine. The demonstration should be submitted as part of the "Service Water Systems Chlorination Plan" (Plan) to the Plainwell District Supervisor of the Surface Water Quality Division. The Plan shall include weekly studies, over a six (6) weeks period, conducted during continuous chlorination of the SWS, for the discharge through outfalls 001 and 002. Analysis of multiple samples taken during a 24-hour discharge period is required to fully characterize the daily discharge. TRC shall be analyzed using U.S. EPA Method 330.1 or the Orion Electrode Model 97-70 or other methods approved by the Plainwell District Supervisor. The study report shall be submitted to the Plainwell District Supervisor for review. If the study demonstrates that TRC is not discharged at levels greater than 6 ug/l through outfalls 001 and 002 other than during periods of intermittent chlorination of the noncontact condenser cooling water, the intermittent TRC discharge limits (0.2 mg/l maximum concentration and discharge time not more than 160 minutes/day) will apply, otherwise the effluent limit of 0.036 mg/l, as a daily maximum, for continuous discharge of TRC will apply. The permittee may implement the Plan upon written notification of the Plainwell District Supervisor.

## PART I

## Section A.

14. Special Condition - Reopener Clause

This permit may be modified or, alternatively, revoked and reissued to comply with any applicable standard(s) or limitation(s) promulgated under Sections 301(b)(2)(c)(d), 304(b)(2) and 307(a)(2) of the Act, if the effluent standard(s) or limitation(s) so promulgated:

- a. is(are) either different in condition or more stringent than any effluent limitation in the permit; or
- b. control(s) any pollutant not limited in the permit.

15. Special Condition - Notification Requirement

The permittee shall notify the Plainwell District Supervisor of the Surface Water Quality Division, in writing, within 10 days of knowing, or having reason to believe, that any activity or change has occurred or will occur which would result in the discharge of:

- a. Detectable levels\* of chemicals on the current Michigan Critical Materials Register or priority pollutants or hazardous substances set forth in 40 CFR 122.21, Appendix D, which were not acknowledged in the application\*\* or listed in the application at less than detectable levels.
- b. Detectable levels\* of any other chemical not listed in the application or listed at less than detection, for which the application specifically requested information.
- c. Any chemical at levels greater than five times the average level reported in the application\*\*.

Any other monitoring results obtained as a requirement of this permit shall be reported in accordance with the schedule of compliance.

\*The detectable level shall be defined as the Method Detection Limit (MDL) as given in Appendix B to Part 136, Federal Register, Vol. 49, No. 209, October 26, 1984, pp. 43430-31.

\*\*The application submitted on April 4, 1994 as amended through February 7, 1995.

16. Discharge to the Groundwaters

This site is listed on the Michigan Sites of Environmental Contamination and is in the process of remediation. The reissuance of this permit does not authorize venting of contaminated groundwaters to the surface waters, nor does it constitute a release of liability for any groundwater contamination at or around the site. The State reserves its rights to seek remedies to abate any groundwater contamination.

## PART I

## B. MONITORING AND REPORTING

## 1. Representative Sampling

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.

## 2. Reporting:

a. DMR Submittal Requirements - The permittee shall submit Discharge Monitoring Report (DMR) forms to the PCS Unit, Surface Water Quality Division, Michigan Department of Natural Resources, P.O. Box 30273, Lansing, Michigan 48909-7773, for each calendar month of the authorized discharge period(s). The DMRs shall be postmarked no later than the 10th day of the month following each month of the authorized discharge period(s).

## 3. Definitions

a. The monthly average discharge is defined as the total discharge by weight, or concentration if specified, during the reporting month divided by the number of days in the reporting month that the discharge from the production or commercial facility occurred. If the pollutant concentration in any sample is less than the detection limit, regard that value as zero when calculating monthly average concentration. When less than daily sampling occurs, the monthly average discharge shall be determined by the summation of the measured daily discharges by weight, or concentration if specified, divided by the number of days during the reporting month when the samples were collected, analyzed and reported.

b. The daily maximum discharge means the total discharge by weight, or concentration if specified, during any calendar day.

c. The Regional Administrator is defined as the Region V Administrator, U.S. EPA, located at R-16J, 77 W. Jackson Blvd., Chicago, Illinois 60604.

d. The Chief of the Permits Section, Surface Water Quality Division mailing address is P.O. Box 30273, Lansing, Michigan 48909.

## 4. Test Procedures

Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304(h) of the Act, under which such procedures may be required.

## PART I

## Section A.

## 5. Recording Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

- a. The exact place, date, and time of measurement or sampling;
- b. The person(s) who performed the measurement or sample collection;
- c. The dates the analyses were performed;
- d. The person(s) who performed the analyses;
- e. The analytical techniques or methods used;
- f. The date of and person responsible for equipment calibration; and
- g. The results of all required analyses.

## 6. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report. Such increased frequency shall also be indicated.

## 7. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if requested by the Regional Administrator or the Michigan Department of Natural Resources.



PART I

C. SCHEDULE OF COMPLIANCE

1. The permittee shall continue to operate the installed facilities to achieve the effluent limitations specified for outfalls 001, 002, 00A, 00B, 00C, 00G and 00H.

2. Reapplication

If the discharges authorized by this permit are expected to continue beyond the expiration date of this permit, the permittee is required to submit an application for reissuance to the Chief of the Permits Section of the Surface Water Quality Division on or before April 1, 1999.

3. Written Notification Required

Within 14 days of every requirement date specified in this permit, the permittee shall submit a written notification to the Plainwell District Supervisor of the Surface Water Quality Division indicating whether or not the particular requirement was accomplished. If the requirement was not accomplished, the notification shall include an explanation of the failure to accomplish the requirement, actions taken or planned by the permittee to correct the situation, and an estimate of when the requirement will be accomplished. If a written report is required to be submitted by a specified date and the permittee accomplishes this, a separate written notification is not required.

## PART II

## A. MANAGEMENT REQUIREMENTS

## 1. Duty to Comply

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit.

It is the duty of the permittee to comply with all the terms and conditions of this permit. Any noncompliance with the Effluent Limitations, Special Conditions, or terms of this permit constitutes a violation of the Michigan Act and/or the Act, and constitutes grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of an application for permit renewal.

## 2. Change of Conditions

Any anticipated facility expansion, production increases, or process modification which will result in new, different, or increased discharges of pollutants must be reported by submission of a new application to the Chief of the Permits Section of the Surface Water Quality Division or, by notice to the Plainwell District Supervisor if the following conditions are met: 1) the changes will not result in the discharge of wastewater not currently authorized or at volumes greater than currently authorized by this permit, 2) the changes will not violate the effluent limitations specified in this permit, and 3) the changes will not require notification pursuant to Part I.A.15. Following such notice, the permit may be modified to specify and limit any pollutant not previously limited.

## 3. Containment Facilities

The permittee shall provide facilities for containment of any accidental losses of concentrated solutions, acids, alkalies, salts, oils, or other polluting materials in accordance with the requirements of the Part 5 Rules of the Michigan Act.

## 4. Operator Certification

The permittee shall have the waste treatment facilities under direct supervision of an operator certified by the Michigan Department of Natural Resources, as required by Section 3110 of the Michigan Act.

## 5. Noncompliance Notification

If, for any reason, the permittee does not comply with or will be unable to comply with any daily maximum effluent limitation specified in this permit, the permittee shall provide the Plainwell District Supervisor of the Surface Water Quality Division with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. A description of the discharge and cause of noncompliance; and
- b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and the steps taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.



## PART II

## Section A.

## 6. Spill Notification

The permittee shall immediately report any spill or loss of any product, by-product, intermediate product, oils, solvents, waste material, or any other polluting substance which occurs to the surface waters or groundwaters of the state by calling the Department of Natural Resources 24-hour Emergency Response telephone number, 1-800-292-4706 (calls from out-of-state dial 1-517-373-8166); and within ten (10) days of the spill or loss, the permittee shall submit to the Plainwell District Supervisor of the Surface Water Quality Division a full written explanation as to the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken, and schedule of implementation.

## 7. Facility Operation

The permittee shall at all times properly operate and maintain all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

## 8. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the surface or groundwaters of the state resulting from noncompliance with any : effluent limitation specified in this permit including, but not limited to, such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge in noncompliance.

## 9. Bypass

## a. Bypass Prohibition - Bypass is prohibited unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass; and

(3) The permittee submitted notices as required under 9.b. or 9.c. below.

- b. Notice of Anticipated Bypass - If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Plainwell District Supervisor of the Surface Water Quality Division, if possible at least ten days before the date of the bypass, and provide information about the anticipated bypass as required by the Plainwell District Supervisor. The Plainwell District Supervisor may approve an anticipated bypass, after considering its adverse effects, if it will meet the three conditions listed in 9.a. above.

(continued)

## PART II

## Section A.9. (continued)

- c. Notice of Unanticipated Bypass - The permittee shall submit notice to the Plainwell District Supervisor of the Surface Water Quality Division of an unanticipated bypass by telephone at 616-685-9886 (if the notice is provided after regular working hours, use the following number: 1-800-292-4706) as soon as possible but no later than 24 hours from the time the permittee becomes aware of the circumstances.
- d. Written Report of Bypass - A written submission shall be provided within five working days of commencing any bypass to the Plainwell District Supervisor of the Surface Water Quality Division, and at additional times as directed by the Plainwell District Supervisor. The written submission shall contain a description of the bypass and its cause; the period of bypass, including exact dates and times, and if the bypass has not been corrected, the anticipated time it is expected to continue; steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass; and other information as required by the Plainwell District Supervisor.
- e. Bypass Not Exceeding Limitations - The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of 9.a., 9.b., 9.c., and 9.d., above. This provision does not relieve the permittee of any notification responsibilities under Part I.A.15. of this permit.
- f. Definitions
  - (1) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.
  - (2) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

## 10. Power Failures

In order to maintain compliance with the effluent limitations and prohibitions of this permit, the permittee shall either:

- a. Provide an alternative power source sufficient to operate facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit which provision shall be indicated in this permit by inclusion of a specific compliance date in each appropriate "Schedule of Compliance for Effluent Limitations".
- b. Upon the reduction, loss, or failure of one or more of the primary sources of power to facilities utilized by the permittee to maintain compliance with the effluent limitations and conditions of this permit, the permittee shall halt, reduce or otherwise control production and/or all discharge in order to maintain compliance with the effluent limitations and conditions of this permit.

## PART II

## Section A.

## 11. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed from or resulting from treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters, or the entry of toxic or harmful contaminants thereof onto the groundwaters in concentrations or amounts detrimental to the groundwater resource.

## 12. Upset Noncompliance Notification

If a process "upset" (defined as an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee) has occurred, the permittee who wishes to establish the affirmative defense of upset shall notify the Plainwell District Supervisor of the Surface Water Quality Division by telephone within 24 hours of becoming aware of such conditions and within five (5) days, provide in writing, the following information:

- a. That an upset occurred and that the permittee can identify the specific cause(s) of the upset;
- b. That the permitted wastewater treatment facility was, at the time, being properly operated;
- c. That the permittee has specified and taken action on all responsible steps to minimize or correct any adverse impact in the environment resulting from noncompliance with this permit.

In any enforcement proceedings the permittee, seeking to establish the occurrence of an upset, has the burden of proof.

13. Any requirement of this permit which is included under the unique terms of the Michigan Act and rules promulgated thereunder, is not enforceable under the Federal Clean Water Act regulations.

## PART II

## B. RESPONSIBILITIES

## 1. Right of Entry

The permittee shall allow the Michigan Department of Natural Resources, any agent appointed by the department, or the Regional Administrator, upon the presentation of credentials:

- a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and
- b. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to sample any discharge of pollutants.

## 2. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Plainwell District Supervisor of the Surface Water Quality Division and the Regional Administrator.

## 3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Act and Rule 2128 of the Part 21 Rules of the Michigan Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State Water Pollution Control Agency and the Regional Administrator. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act and Sections 3112 and 3115 of the Michigan Act.

## 4. 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; or
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

## PART II

## Section B.

## 5. Toxic Pollutants

Notwithstanding Part II.B.4. 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 for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the permittee so notified.

## 6. Civil and Criminal Liability

Except as provided in permit conditions on "Bypass" (Part II.A.9., pursuant to 40 CFR 122.41(m)) and "Upset" (Part II.A.12., pursuant to 40 CFR 122.41(n)), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance, whether or not such noncompliance is due to factors beyond his control, such as accidents, equipment breakdowns, or labor disputes.

## 7. 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 may be subject under Section 311 of the Act except as are exempted by federal regulations.

## 8. State Laws

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 established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Act.

## 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 violation of any Federal, State or local laws or regulations, nor does it obviate the necessity of obtaining such permits or approvals from other units of government as may be required by law.

## 10. Severability

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

## 11. Notice to Public Utilities (Miss Dig)

The issuance of this permit does not exempt the permittee from giving notice to public utilities and complying with each of the requirements of Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled Laws, when constructing facilities to meet the terms of this permit.



## PART III

## A. Groundwater Discharge Authorization

The permittee is authorized to discharge from its wastewater treatment facility to the groundwaters of the state in accordance with the conditions specified below. This authorization is granted pursuant only to the Michigan Act, and not pursuant to Michigan's delegated authority to issue NPDES permits under the federal Clean Water Act. At such time that the Michigan Department of Natural Resources issues a state groundwater discharge permit or other administrative document authorizing discharge or requiring groundwater monitoring, Part III of this permit will be rescinded. In the interim, all submittals required under this part should be directed to the Waste Management Division, Plainwell District Office, 621 North 10th Street, P.O. Box 355, Plainwell, Michigan 49080.

## B. Groundwater Discharge and Monitoring Requirements

During the period beginning upon the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge process wastes (Outfall 00D) and sanitary wastes (Outfall 00E) to the groundwater. Such discharges shall be monitored by the permittee as specified below:

Process wastes shall be disposed of into the ground in such a manner and by means of such facilities and such location that they shall not injuriously affect public health, welfare, or commercial, industrial, domestic, agricultural, recreational, or other uses of the groundwaters.

Monitoring requirements for boiler water treatment systems process water (water softener, clarifiers, make-up demineralizers) and boiler cleaning water prior to discharge into the ground.

<u>PARAMETER TO BE MEASURED</u>	<u>FREQUENCY</u>	<u>TYPE OF SAMPLE</u>
Flow	Continuous	
pH	Continuous	Daily maximum, minimum
Cadmium	At times of boiler cleaning, water discharge	Grab
Oil & Grease	Weekly	Grab
Sulfate (SO <sub>4</sub> )	At all times when regeneration of ion exchange resins occurs	24-Hr. Composite
Total Phosphorus	Weekly	24-Hr. Composite
Total Dissolved Solids	At all times when regeneration of ion exchange resins occurs	24-Hr. Composite

## PART III

## Section B.

Monitoring requirements for sanitary wastewaters prior to discharge into the ground:

<u>PARAMETER TO BE MEASURED</u>	<u>FREQUENCY</u>	<u>REPORT</u>
Flow	Continuous	
State which seepage area is being utilized	List when seepage areas are altered	List beginning and ending date and time of use of each seepage area

Monitoring requirements for groundwater collected in monitoring wells:

<u>PARAMETER TO BE MEASURED</u>	<u>FREQUENCY</u>	<u>TYPE OF SAMPLE</u>
Record static water elevation	Quarterly	Reading at time of sampling
pH	Quarterly	Grab
Total Chromium (Cr)	Quarterly	Grab
Copper (Cu)	Quarterly	Grab
Sulfate (SO <sub>4</sub> )	Quarterly	Grab
Hardness	Quarterly	Grab
Nitrate-Nitrogen as N	Quarterly	Grab
Sodium (Na)	Quarterly	Grab
Polychlorinated Biphenyls	Quarterly	Grab
Boron (B)	Quarterly	Grab
Total Phosphorus (P)	Quarterly	Grab
Total Dissolved Solids	Quarterly	Grab
Cadmium	Quarterly	Grab
Oil & Grease	Quarterly	Grab

ATTACHMENT TO AEP:NRG:1208F

COOK NUCLEAR POWER PLANT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

(NPDES)