Entergy

Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043

April 4, 2008

Technical Specification
Appendix B, Section 3.2

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Palisades Nuclear Plant
Docket 50-255
License No. DPR-20

National Pollutant Discharge Elimination System (NPDES) Permit Renewal

Dear Sir or Madam:

This letter transmits a copy of the National Pollutant Discharge Elimination System (NPDES) application for renewal of permit number MI0001457, in accordance with Palisades Facility Operating License, DPR-20, Appendix B, Section 3.2. The application for renewal was submitted to the Michigan Department of Environmental Quality, Water Division, on March 28, 2008.

Summary of Commitments

This letter contains no new commitments and no revision to existing commitments.

Laurie Lahti

Laurie A. Lahti
Licensing Manager
Palisades Nuclear Plant

Enclosure (1)

CC Administrator, Region III, USNRC
Project Manager, Palisades, USNRC
Resident Inspector, Palisades, USNRC

C 001

NRR

ENCLOSURE 1

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

RENEWAL APPLICATION FOR PERMIT NUMBER MI0001457

43 Pages Follow

Entergy

Entergy Nuclear Operations, Inc.
Palisades Nuclear Power Plant
27780 Blue Star Memorial Highway
Covert. MI 49043
Tel 269 764 2000

March 28, 2008

Michigan Department of Environmental Quality
Cashiers Office
WB NP2
5 th Floor South, Constitution Hall
525 W. Allegan
Lansing, MI 48933

ENTERGY NUCLEAR PALISADES-LLC, PALISADES NUCLEAR PLANT
NPDES PERMIT NO. MI0001457

PERMIT APPLICATION RENEWAL

The NPDES Permit for the Palisades Nuclear Plant expires October 1, 2008. The enclosed State of Michigan NPDES Permit Application Forms (Rev. 01/2008) is hereby submitted to support reissuance of the modified NPDES Permit No. MI0001457 issued on November 08, 2004 (initial permit issuance date of September 23, 2004).

Enclosed is a completed application that reflects waste water effluents and systems over the next five years. It includes a check in the amount of $750.00 as the application fee, a flow diagram representing operations for the next five years, and an update on water treatment additive approvals.

The Palisades Nuclear Plant was purchased from Consumers Energy Company by Entergy Services, Inc in April 2007. It is now owned and operated by Entergy Services, Inc. Ownership transfer was formally documented in a notification to the MDEQ Kalamazoo District Office dated March 11, 2007. No changes to the waste water operations or systems were made at the plant as a result of the transfer. The person that signed the enclosed application is the site vice president of the Palisades Plant whom is employed by Entergy Services Inc. This person is responsible for the overall operations of the plant and, therefore, meets the signatory requirements in Rule 323.2214 and 40 CFR 122.22(a) (l) (ii).

The wastewater discharges from this facility have been well characterized through the duration of the current and previous NPDES permits. Outfall 001A (mixing basin discharge) consists principally of noncontact cooling water, cooling tower blow down from internal outfalls 001A- 001C, and combined miscellaneous low volume waste. Internal Outfalls 001D and 001F consists principally of radwaste water and turbine sump water. Monitoring at internal Outfalls 001A-001C was previously eliminated from NPDES permit regulation since flows are calculated prior to combining with mixing basin flows where they are monitored and measured at Outfall 001A.

Waivers are requested for parameters where there is no source association or at undetectable loading levels to the effluent as a result of plant operations through previous NPDES permit application and monitoring characterization. We request waivers from certain data reporting requirements in the application according to 40 CFR 122.53 (d)(7)(i)(B), subpart D for:

1) Outfall 001A, a waiver is requested from reporting data for parameters of (a) BOD 5, (b) COD, (c) TOC, (d) Ammonia Nitrogen (as N), and (e) Total Suspended Solids.

2) Outfall 001D, a waiver is requested from reporting for parameters of (a) BOD 5, (b) COD, (c) TOC, (d) Ammonia Nitrogen (as N), (e) pH, (f) Temperature summer, and (g) Temperature winter.

3) Outfall 001F, a waiver is requested from reporting data for parameters of (a) BOD 5, (b) COD, (c) TOC, (d) Ammonia Nitrogen (as N), (e) Total Suspended Solids, (f) pH, (g) Temperature summer, and (h) Temperature winter.

WATER TEATMENT ADDITIVES

Enclosed as Attachment 1 is a current list of water treatment additives currently approved for used at the Plant. The additives listed were approved by the Department through previous NPDES renewals or by separate approval. The Company requests continued approval of the attached additives.

Additionally, the additive Nalco/Calgon EVAC was requested for use in 2001 to control zebra mussels in plant cooling water systems, however, it was never used at the plant. Instead, the plant will continue to use and apply Betz Clamtrol CT-2 (otherwise known as Spectrus CT 1300) and Betz Clamtrol CT-4 for zebra mussel control under the specified terms and conditions in which the approval is based. The Plant does not intend to pursue approval to use EVAC at this time.

Also, in a letter dated January 12, 2007, we requested the approval to use NalcoThruguard 404 (THR404) to treat the circulating water system. It will assist in scale prevention of the plant cooling water system. Enclosed as Attachment 1, Exhibit 2 is a copy of the MDEQ approval letter. The enclosed list has been updated to include this additive.

STORM WATER

Compliance with all storm water monitoring requirements is maintained as specified in the current permit. Currently this facility has an implemented Storm Water Pollution Prevention Plan which is retained and available at the site for review and/or inspection upon request.

Enclosed as Attachment 2 is a completed "No Exposure to Storm Water" Certification form requesting the exclusion from coverage under the NPDES storm water discharges associated with industrial activities. We believe facility conditions exist for a no exposure exemption based on MDEQ's no exposure guidance document qualifications and criteria.

CURRENT PERMIT STATUS & SUGGESTED CHANGES

The Plant is in compliance with the NPDES Permit MI0001457. In regards to compliance status of the special condition on Cooling Water Intake Structure(s) Application Submittal Requirement For Phase II Facilities, the MDEQ had earlier determined that the Palisades Plant, with cooling towers, has reduced intake flow commensuration with a closed-cycle recirculating system and achieved compliance with

Alternative 125.94(9) (l) (i). A redrafted 316(b) rule is expected from EPA in late 2008 and it is expected that the Palisades Plant cooling water intake system will also be compliant with the new rules. Renewed permit language addressing this subject should be consistent with the new rules. We would appreciate the opportunity to review the plant's Pre-Public Notice draft NPDES permit prior to placing it on Public Notice.

If you have any questions or need additional information please do not hesitate to contact me at 269-764-2464 or by e:mail at edehn@entergy.com.

Sincerely,

Eric Dehn,
Environmental Coordinator
Entergy Services, Inc

CC: Mr. Christopher Schwarz, Palisades
Mr. Greg Danneffel, MDEQ, WB, District Supervisor, Kalamazoo District Office

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

Section I shall be completed by all permit applicants. Instructions for completing Section I, Pages 1 and 2, are on Page 2 of the Appendix. To submit additional information, see Page ii, Item 3.

Water Bureau Use Only	Cashier Use Only: 37000-40535-9412-481000-00
Receipt #:	
Permit ID #:	

PLEASE TYPE OR PRINT

1.

NPDES PERMIT NUMBER
MI0001457

2. APPLICANT

Applicant Name		
Entergy Services Inc, Palisades Nuclear Plant		
Address	Address 2 or P.O. Box	
308 E. Pearl Street		
City	State	ZIP Code
Jackson	MS	39201
Telephone (with area code)	FAX (with area code)	Applicant Web Address
(601) 969-2434	(601) 969-2696	edehn@entergy.com

3. FACILITY

Facility Name 1		
Palisades Nuclear Plant		
Facility Name 2		
Facility Name 3		
Street Address (do not use a P.O. Box Number)		
27780 Blue Star Memorial Highway		
City	State	ZIP Code
Covert	MI	49043
Telephone (with area code)	FAX (with area code)	Facility Web Address
(269) 764-2000	(269) 764-2078	edehn@entergy.com

4. CONTACTS

☒ Application Contact	First Name: Eric		Last Name: Dehn
☒ Facility Contact	Title: Environmental Coordinator		Business:
☒ Discharge Monitoring Reports	Address 1: 27780 Blue Star Memorial Highway		Address 2:
☒ Storm Water Billing	City: Covert	State: MI	ZIP Code: 49043
☐ Biosolids Billing	Telephone (with area code): (269) 764-2000	FAX (with area code): (269) 764-2078	e-mail address: edehn@entergy.com
☒ NPDES Annual Billing			

☐ Application Contact	First Name		Last Name
☐ Facility Contact	Title		Business
☐ Discharge Monitoring Reports	Address 1		Address 2
☐ Storm Water Billing	City	State	City
☐ Biosolids Billing	Telephone (with area code)	FAX (with area code)	e-mail address
☐ NPDES Annual Billing			

☐ Application Contact	First Name		Last Name
☐ Facility Contact	Title		Business
☐ Discharge Monitoring Reports	Address 1		Address 2
☐ Storm Water Billing	City	State	City
☐ Biosolids Billing	Telephone (with area code)	FAX (with area code)	e-mail address
☐ NPDES Annual Billing			

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
Palisades Nuclear Power Plant	MI0001457

5. PERMIT ACTION REQUESTED (Check one box only) - Instructions for this item are on Page 2 of the Appendix.

- ☐ **NEW USE** A proposed discharge.
- ☐ **EXISTING DISCHARGE** that is currently unpermitted.
- ☒ **REISSUANCE** of current permit.
- ☐ **MODIFICATION** of current permit. Attach a description of the proposed modification.

Note: Applications for **New Use** discharges, **Existing Discharges** that are currently unpermitted, and for either **Reissuance** or **Modification** that include an increased loading of pollutants to the receiving water are required to submit a Rule 98 Demonstration with the Application. See Item 6.

6. RULE 98 - ANTIDEGRADATION REQUIREMENTS - Instructions for this item are on Page 2 of the Appendix.

In accordance with Rule 323.1098 of the Michigan Water Quality Standards, the applicant is required to submit an Antidegradation Demonstration for any new or increased loading of pollutants to the surface waters of the state. An Antidegradation Demonstration must contain the information specified in Rule 1098, outlined in the Antidegradation section of the Appendix. For assistance in completing this item, contact the Permits Section.

Will this discharge be an increased loading of pollutants to the surface waters of the state? ☐ Yes, continue below. ☒ No.

☐ Antidegradation Demonstration provided. ☐ Increased loading of pollutants is exempt from Antidegradation Demonstration as indicated below:

- ☐ A short-term (weeks to months) or temporary lowering of water quality.
- ☐ Bypasses that are not prohibited by regulations set forth in 40 CFR §122.41(m).
- ☐ Response actions undertaken to alleviate a release of pollutants into the environment that may pose an imminent and substantial danger to the public health or welfare.
- ☐ Discharges of pollutant quantities from the intake water at a facility if the intake and discharge are to the same body of water.
- ☐ Increases in flow, if the increase is within the design flow of the facility, it is not specifically authorized in the current permit, and there is no significant change expected in the characteristics of the wastewater collected.
- ☐ Intermittent increased loading related to wet-weather conditions.
- ☐ New or increased loading due to MDEQ-approved controls related to wet-weather conditions.
- ☐ Discharges authorized by certificates of coverage and notices of coverage.
- ☐ Increased loadings within the authorized levels of a limit in an existing control document, except those loadings that result from actions by the permittee that would otherwise require submittal of an increased use request.
- ☐ Increased loadings of a pollutant which do not involve a Bioaccumulative Chemicals of Concern (BCC) and which use less than 10 percent of the unused loading capacity that exists at the time of the request.

7 ADDITIONAL FACILITY LOCATION INFORMATION - *Instructions for this item are on Page 2 of the Appendix.* ☐ **No Change From Last Application**

A	Local Unit of Government (LUG) South Haven				LUG e-mail address www.south-haven.com	
B	County Van Buren				Township Covert	
C.	Town 02S	Range 17W	Section 05	¼ NW	¼, ¼ SE	Private (French) Land Claim
D.	Latitude 42 19' 23"				Longitude 86 18' 56"	

8. CERTIFIED OPERATOR ☒ **No Change From Last Application**

Does the facility have an MDEQ certified operator? ☒ Yes ☐ No Instructions for this item are on Page 2 of the Appendix.

First Name Eric		Last Name Dehn	
Certification Number W003010		Certification Classification(s) A1b, A1h, A2d	
Address 1 27780 Blue Star Memorial Highway		Address 2	
City Covert		State MI	Zip Code 49043
Telephone Number (269) 764-2000	Fax Number (269) 764-2078	e-mail address edehn@entergy.com	

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
Palisades Nuclear Power Plant	MI0001457

9. OTHER ENVIRONMENTAL PERMITS ☒ **No Change From Last Application**

Provide the information requested below for any other federal, state, or local environmental permits in effect or applied for at the time of submittal of this Application Form, including, but not limited to, permits issued under any of the following programs: Air Pollution Control, Hazardous Waste Management, Wetlands Protection, Soil Erosion and Sedimentation Control, and other NPDES permits. To submit additional information, see Page ii, Item 3.

Issuing Agency	Permit or COC Number	Permit Type
Federal EPA RCRA	MID098644685	ID # Not a Permit
MDEQ, Air Quality	MI-ROP-B2934-2008	Renewable Operating Permi
MDEQ, Air Quality	PTI 183-06	

10. WATER FLOW DIAGRAM AND NARRATIVE DESCRIPTION ☒ **No Change From Last Application**

Provide a flow diagram **(using 8½" x 11" paper if possible)** showing the wastewater flow through the facility (from intake through discharge), including all processes, treatment units (identify treatment units that operate intermittently), and bypass piping, and include a narrative description that explains the diagram. Show all operations contributing wastewater and the locations of flow meters, chemical feeds, and monitoring and discharge points. The water balance shall show the daily average flow rates at the intake and discharge points, and approximate daily flow rates between treatment units, including influent and treatment rates. Use actual measurements whenever available, otherwise use the best estimate. Show all significant losses of water to products, atmosphere, and discharge. In addition, provide a flow diagram for any storm water discharges from secondary structures that are required by state or federal law, and for storm water runoff from any Site of Environmental Contamination, pursuant to Part 201 of the Michigan Act. **Do not send blueprints.**

Do the treatment facility processes described above include any lagoons or ponds used for wastewater treatment or storage? ☐ Yes ☒ No

If yes, include the ponds or lagoons in the flow diagram.

Municipal Facilities - Include a narrative that briefly describes the history of the wastewater treatment facility and collection system, including the initial construction, the facility improvements that have been made, future plans for upgrade, the location of all constructed emergency overflows, and other pertinent information.

Industrial and Commercial Facilities - The line diagram shall include all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. **Also include a narrative** that provides a brief description of the nature of the business and the manufacturing processes.

ATTACH THIS INFORMATION TO THIS APPLICATION. PLEASE DO NOT BIND THIS INFORMATION.

11. MAP OF FACILITY AND DISCHARGE LOCATION ☒ **No Change From Last Application**

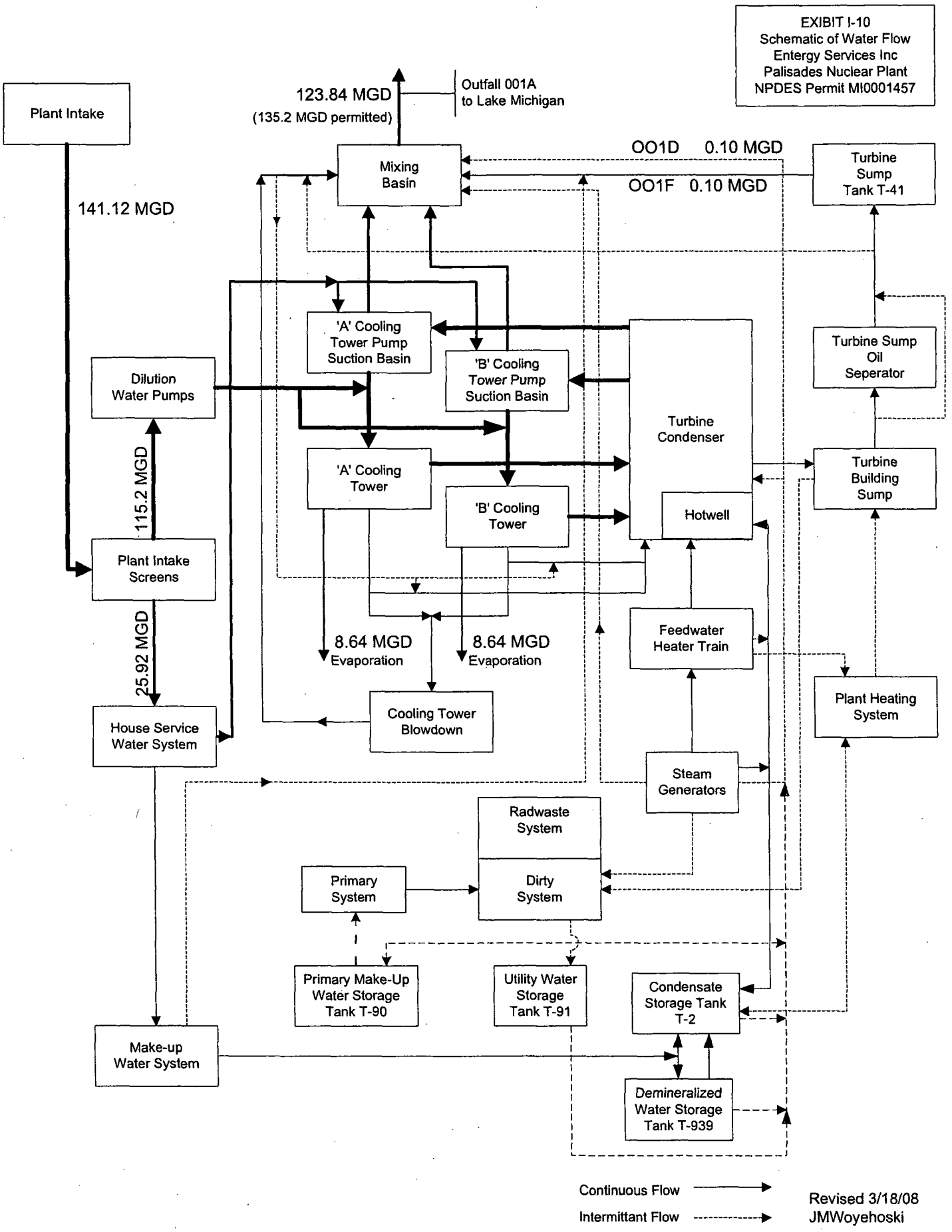
Provide a detailed map on 8½" x 11" paper showing the location of the existing or proposed facility, wastewater and biosolid treatment system(s), and wastewater monitoring and discharge points into receiving waters (including bypasses). Include the exact location of the wastewater monitoring and discharge point(s) and all areas through which the discharge flows (e.g., wetlands, open drains, storm sewers), if applicable, between the discharge point and the receiving water. If the discharge is to a storm sewer, label the storm sewer and show its flow path to the receiving water. Also include the location of any water supply intakes or wells, and groundwater monitoring wells. This map shall be a United States Geological Survey quadrangle (7.5 minute series) or other map of comparable detail, scale, and quality (which shows surface water bodies, roads, bathing beaches, and other pertinent landmarks). **It is preferred that the minimum area this map shall encompass is approximately one mile beyond the property boundaries.**

ATTACH THIS INFORMATION TO THIS APPLICATION.

Palisades Nuclear Power Plant
NPDES Permit MI0001457: 4/4/08 Application
Section I – General Information
Item 10

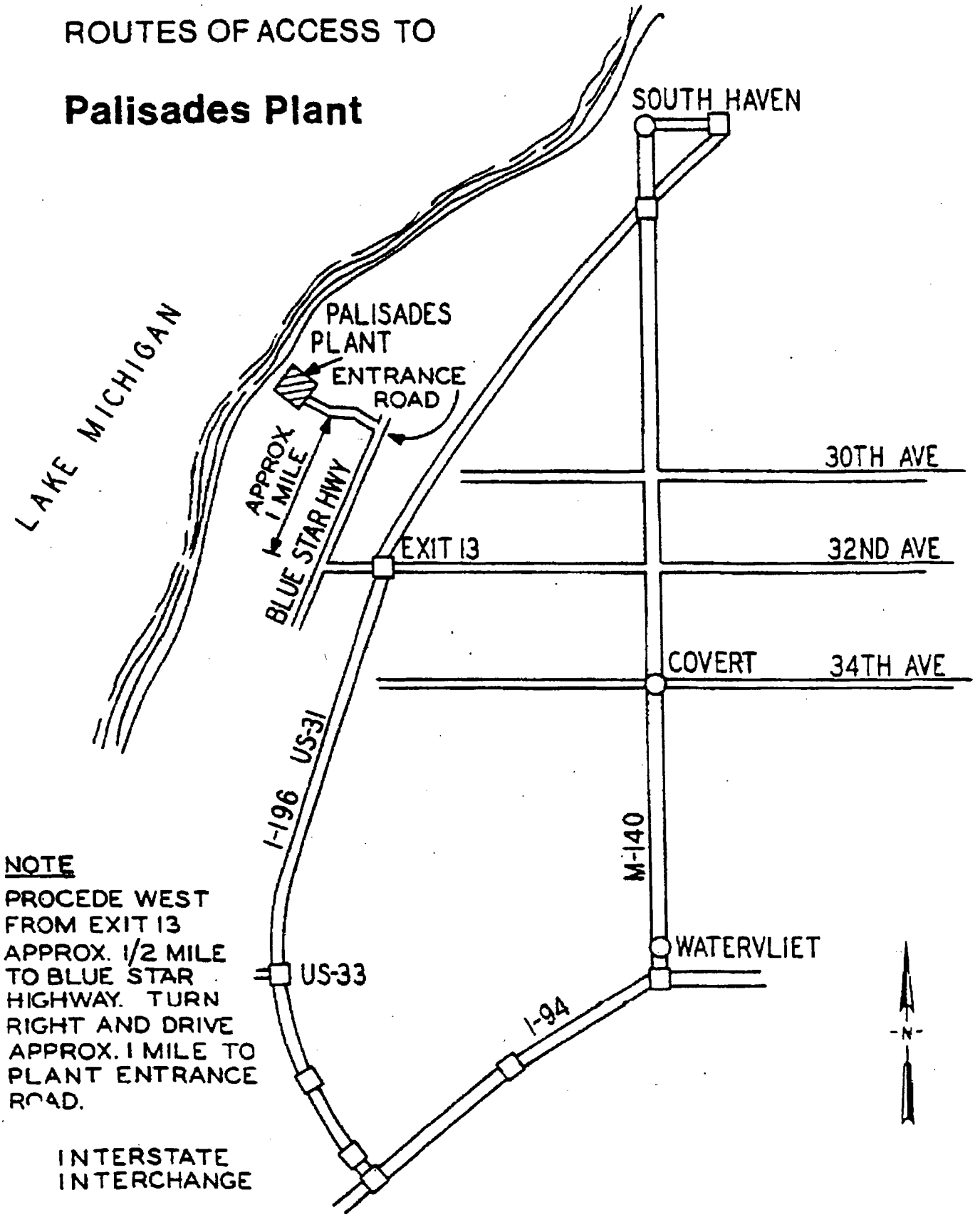
Narrative Description:

Outfall 001A (mixing basin discharge) consists principally of noncontact cooling water, cooling tower blow down from internal outfalls 001A- 001C, and combined treated miscellaneous low volume wastestreams. Internal Outfalls 001D and 001F consists principally of treated radwaste water and turbine sump water. These flows combine with in the mixing basin where the effluent quality is monitored and measured at Outfall 001A prior to discharge to Lake Michigan.


EXIBIT I-10
Schematic of Water Flow
Entergy Services Inc
Palisades Nuclear Plant
NPDES Permit MI0001457
Plant Intake
141.12 MGD
123.84 MGD
(135.2 MGD permitted)
Outfall 001A
to Lake Michigan
Mixing Basin
OO1D 0.10 MGD
OO1F 0.10 MGD
Turbine Sump Tank T-41
'A' Cooling Tower Pump Suction Basin
'B' Cooling Tower Pump Suction Basin
Turbine Sump Oil Seperator
Dilution Water Pumps
Turbine Condenser
'A' Cooling Tower
'B' Cooling Tower
Hotwell
Turbine Building Sump
115.2 MGD
Plant Intake Screens
25.92 MGD
8.64 MGD
Evaporation
8.64 MGD
Evaporation
Feedwater Heater Train
Plant Heating System
House Service Water System
Cooling Tower Blowdown
Steam Generators
Radwaste System
Primary System
Dirty System
Primary Make-Up Water Storage Tank T-90
Utility Water Storage Tank T-91
Condensate Storage Tank T-2
Make-up Water System
Demineralized Water Storage Tank T-939
Continuous Flow
Intermittant Flow
Revised 3/18/08
JMWoyehoski

ROUTES OF ACCESS TO

Palisades Plant



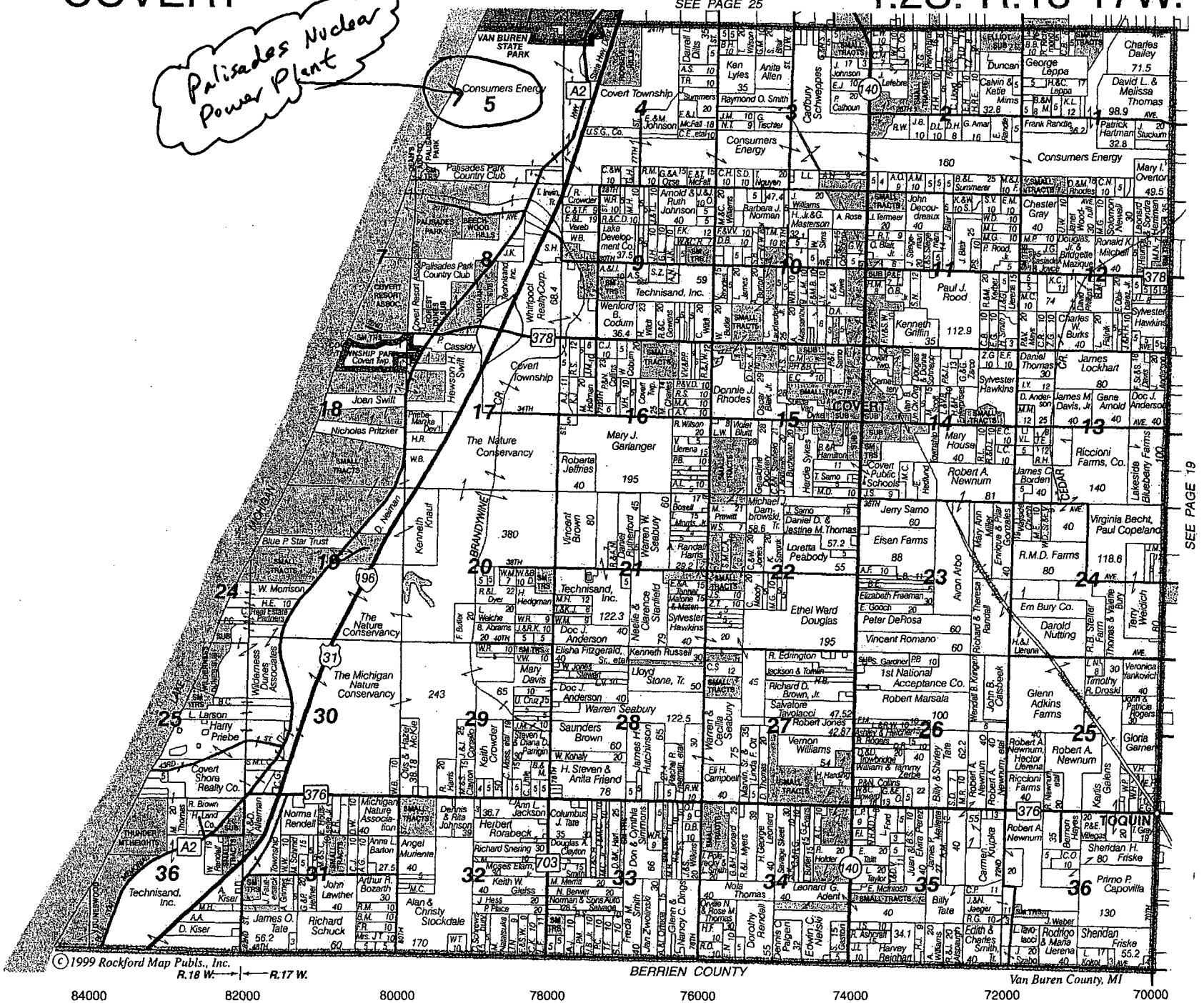
NOTE

PROCEDE WEST FROM EXIT 13 APPROX. 1/2 MILE TO BLUE STAR HIGHWAY. TURN RIGHT AND DRIVE APPROX. 1 MILE TO PLANT ENTRANCE ROAD.

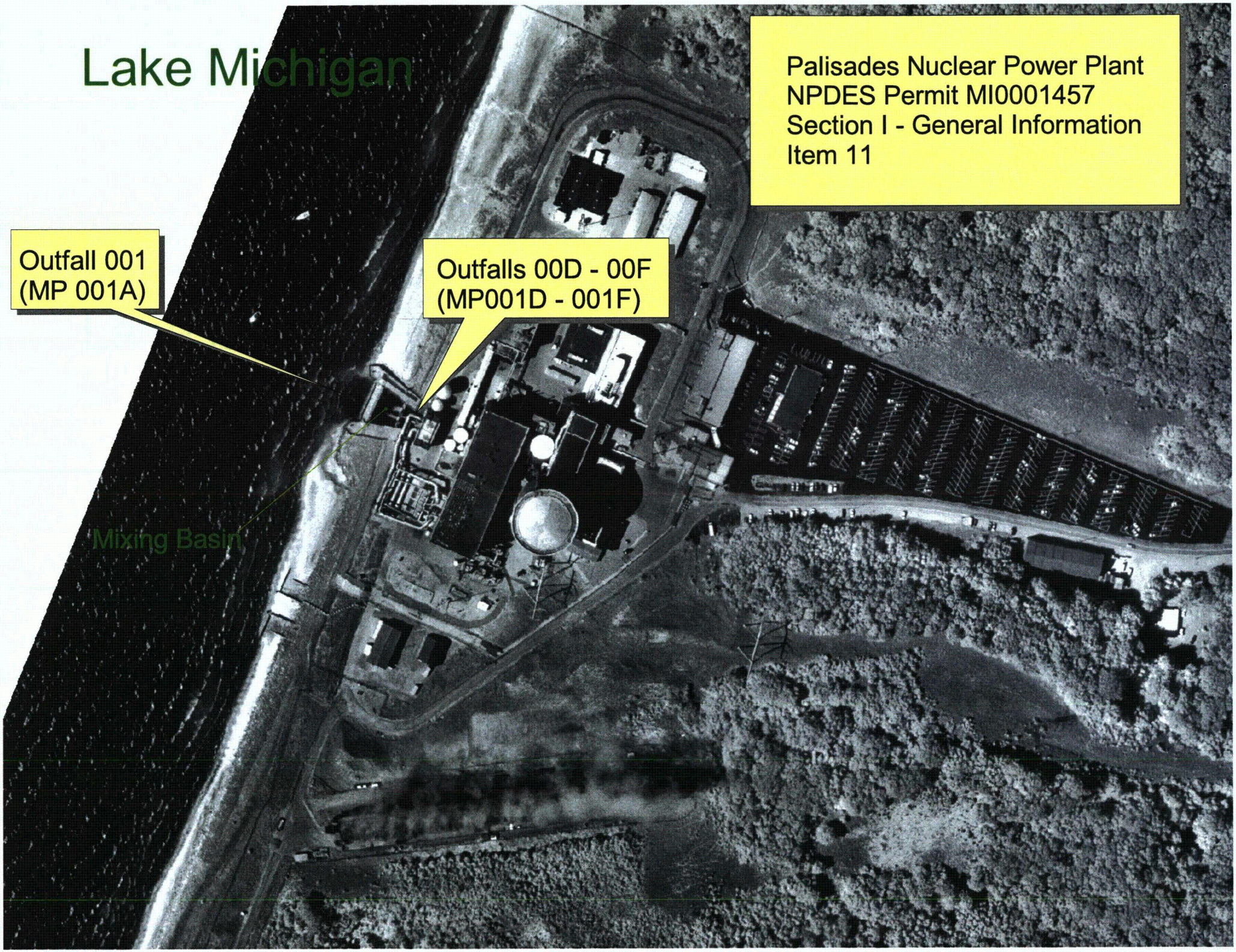
INTERSTATE INTERCHANGE

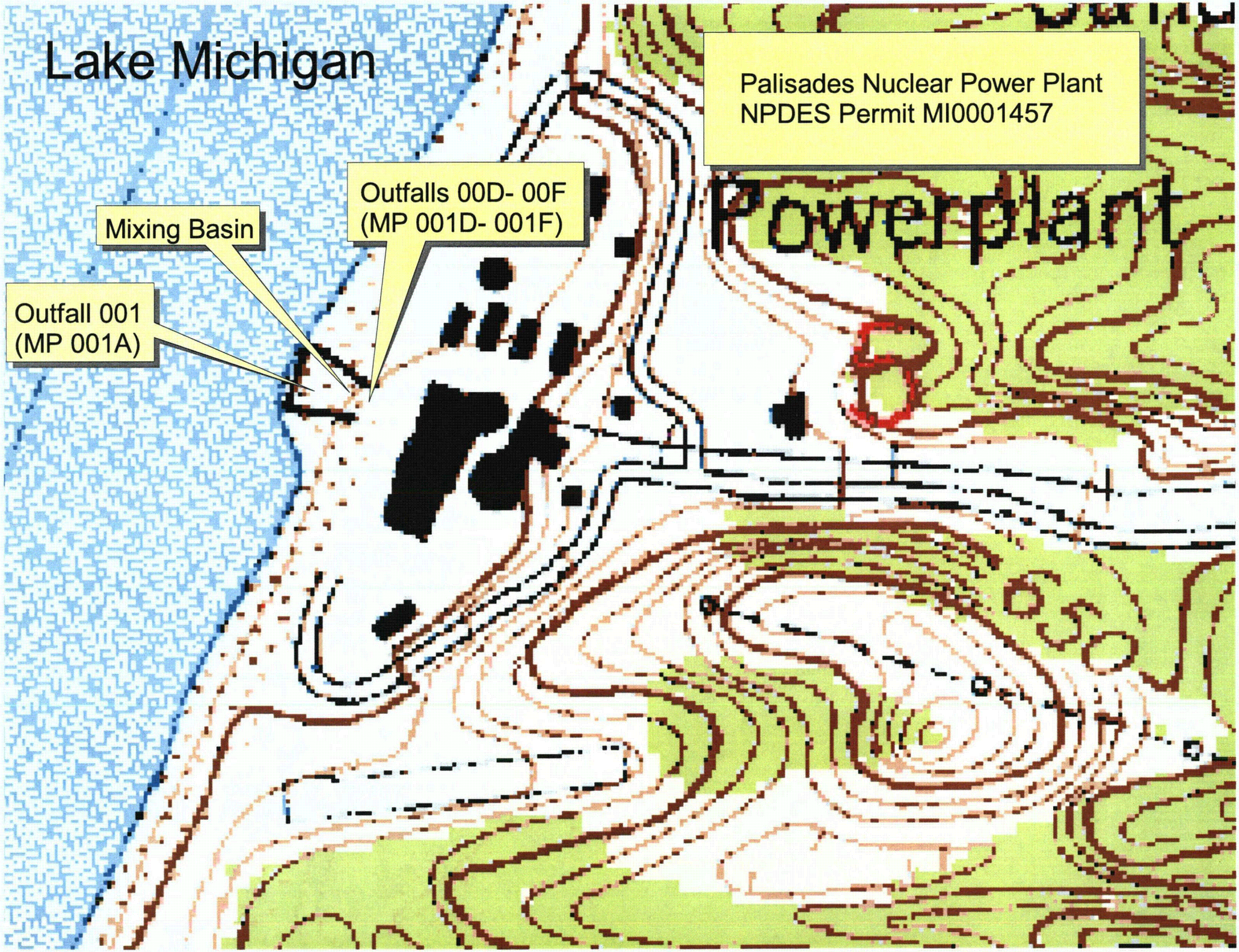
COVERT

T.2S.-R.18-17W.



© 1999 Rockford Map Publs., Inc.


Lake Michigan
Palisades Nuclear Power Plant
NPDES Permit MI0001457
Section I - General Information
Item 11
Outfall 001
(MP 001A)
Outfalls 00D - 00F
(MP001D - 001F)
Mixing Basin


Lake Michigan
Palisades Nuclear Power Plant
NPDES Permit MI0001457
Outfalls 00D- 00F
(MP 001D- 001F)
Mixing Basin
Outfall 001
(MP 001A)
Powerplant

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
Palisades Nuclear Power Plant	MI0001457

12. CONTRACT LABORATORIES THAT PROVIDE ANALYTICAL SUPPORT ☐ **No Change From Last Application**

Provide the name and address of each contract laboratory or consulting firm that performed any analyses submitted as part of this Application. To submit additional information, see Page ii, Item 3.

Laboratory Name KAR Laboritories, Inc			Laboratory Name Brighton Analytical LLC		
Street Address 4425 Manchester Road			Street Address 2105 Pless Drive		
City Kalamazoo	State MI	ZIP Code 49444-2673	City Brighton	State MI	ZIP Code 48114
Telephone (with area code) (269) 381-9666	Fax (with area code) (269) 381-9698		Telephone (with area code) (810) 229-7575	Fax (with area code) (810) 229-8650	
Analysis Performed Low Level Mercury			Analysis Performed GC/MS scans (volatile, base/neutral, acids), metals		
Laboratory Name Consumers Energy Company, Trail Street Laboratory			Laboratory Name		
Street Address 135 W Trail Street			Street Address		
City Jackson	State MI	ZIP Code 49201	City	State	ZIP Code
Telephone (with area code) (517) 788-5888	Fax (with area code)		Telephone (with area code)	Fax (with area code)	
Analysis Performed GC/MS scans (volatile, base/neutral, acids), metals, LL Hg			Analysis Performed		

13. LIST ADJACENT PROPERTY OWNERS ☒ **No Change From Last Application**

List the names and mailing addresses of all property owners for all properties adjacent to the facility, treatment systems, and discharge locations. For vacant lots or empty buildings, supply the owner's mailing address – NOT the lot or building property address. To submit additional information, see Page ii, Item 3.

Name	Address	City	State	ZIP Code
State Of Michigan	23960 Ruggles Road	South Haven	MI	49090
Palisades Country Club	1324 Meadow Brook Lane	Kalamazoo	MI	49001

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
Palisades Nuclear Power Plant	MI0001457

14. APPLICATION CERTIFICATION

Rule 323.2114(1-4), promulgated under the Michigan Act, requires that **this Application must be signed as follows:**

A. For an organization, company, corporation, or authority, by a principal executive office, vice president, or higher.
B. For a partnership, by a general partner.
C. For a sole proprietor, by the proprietor.
D. For a municipal, state, or other public facility, by a principal executive officer or ranking elected official (such as the mayor, village president, city or village manager, or clerk).

Note: If the signatory is not listed above, but is authorized to sign the Application, please provide documentation of that authorization.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for having knowledge of violations."

The last application for this facility was submitted on: 04/03/2003

I understand that my signature constitutes a legal agreement to comply with the requirements of the NPDES Permit. I certify under penalty of law that I possess full authority on behalf of the legal owner/permittee to sign and submit this application.

Print Name: Christopher J. Schwarz Title: Site Vice President

Signature: Date: 3/26/08

This completes Section I. Publicly-Owned Treatment Works (POTWs) discharging sanitary and industrial wastewater to the surface waters, and privately-owned treatment works discharging sanitary wastewater to the surface waters should complete Section II. Privately-owned treatment works include, but are not limited to, Mobile Home Parks, Campgrounds, Condominiums, Hotels and Motels, Nursing Homes, etc. All other applicants should complete Section III. If assistance is needed to complete this Application, contact the Permits Section.

Permit Application Submittal Checklist

Please confirm the following before submitting the Application Form:

☒ 1. Section I has been completed, including all diagrams, maps, and the treatment process narrative.

☒ 2. The Application has been signed as required above in Section I.14. (A.-D.) or a copy of the letter authorizing the signatory to sign the letter has been included, as appropriate.

☒ 3. Section II or Section III has been completed, including any additional information or submissions.

☒ 4. Section IV has been completed by any facility that discharges storm water.

☒ 5. A check or Money Order for the appropriate Application Fee has been made out to the "State of Michigan" and has been included with the Application submittal.

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

Complete a separate Section III.B. - Outfall Information (Pages 20-25) - for each outfall at the facility. Make copies of this blank section of the Application as necessary for additional outfalls.

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000 Intake

1. OUTFALL INFORMATION - Instructions for this item are on Page 3 of the Appendix. ☒ **No Change From Last Application, Items A. – D.**

A.	Receiving Water NA				Hydrologic Unit Code (HUC) 04050002	
B.	County Van Buren				Township Covert	
C.	Town 02S	Range 17W	Section 05	¼ NW	¼, ¼ SE	Private (French) Land Claim)
D.	Latitude 42 19' 31"				Longitude 86 19' 41"	

E. Type of Wastewater Discharged (check all that apply to this outfall): ☒ **No Change From Last Application, Item E.**

☐ Contact Cooling ☐ Groundwater Cleanup ☐ Hydrostatic Pressure Test ☐ Noncontact Cooling Water

☐ Process Wastewater ☐ Sanitary Wastewater ☐ Storm Water - not regulated ☐ Storm Water - regulated

☐ Storm water subject to effluent guidelines (indicate under which category): _____

☒ Other – specify (see "Table 8 - Other Common Types of Wastewater" - in the Appendix) Plant Intake

F. What is the Maximum Design Flow Rate for this outfall: NA-Intake MGD ☒ **No Change From Last Application, Items F. – G.**

G What is the Maximum Authorized Discharge Flow for this outfall for the next five years?

Seasonal Dischargers _____ MGY (Continue with Item H).

Continuous Dischargers 135.2 MGD (Continue with Item I).

H. Seasonal Discharge:

List the discharge periods (by month) and the volume discharged in the space provided below.

From	Through	Actual Discharge Volume (MGD)	Annual Total
From	Through	Actual Discharge Volume (MGD)	
From	Through	Actual Discharge Volume (MGD)	
From	Through	Actual Discharge Volume (MGD)	

I. Continuous Discharge:

How often is there a discharge from this outfall (on average)? 24 Hours/Day 365 Days/Year

Batch dischargers are required to provide the following additional information:

Is there effluent flow equalization? ☐ Yes ☒ No

Batch Peak Flow Rate: _____ Number of batches discharged per day: _____

	Minimum	Average	Maximum
Batch Volume (gallons)			
Batch Duration (minutes)			

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000 Intake

2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE ☒ **No Change From Last Application**

Federal regulations require that different industries report different information, depending on the type of facility. The information below is used to determine the applicable federal regulations for this facility. An abbreviated list is in the Summary of Information to be reported by Industry Type section of the Appendix. Applicants are required to provide the name and the SIC or the NAICS code for each process at the facility. Facilities with production-based limits must report an estimated annual production rate for the next five years, or the life of the permit. If the wastestream is not regulated under federal categorical standards, the applicant is required to report all pollutants which have the reasonable potential to be present in the discharge. To submit additional information, see Page ii, Item 3.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: NA Intake

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production:

PROCESS INFORMATION

A. Name of the process contributing to the discharge: _____

B. SIC or NAICS code: _____

C. Describe the process and provide measures of production:

PROCESS INFORMATION

A. Name of the process contributing to the discharge: _____

B. SIC or NAICS code: _____

C. Describe the process and provide measures of production:

PROCESS INFORMATION

A. Name of the process contributing to the discharge: _____

B. SIC or NAICS code: _____

C. Describe the process and provide measures of production:

PROCESS INFORMATION

A. Name of the process contributing to the discharge: _____

B. SIC or NAICS code: _____

C. Describe the process and provide measures of production:

PROCESS INFORMATION

A. Name of the process contributing to the discharge: _____

B. SIC or NAICS code: _____

C. Describe the process and provide measures of production:

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

LEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000 Intake

3. EFFLUENT CHARACTERISTICS - CONVENTIONAL POLLUTANTS - Instructions for this item are on Page 4 of the Appendix.

☐ Check this box if additional information is included as an attachment. To submit additional information, see Page ii, Item 3.

Please Note: Rule 323.1062 allows the use of either *Escherichia Coli* or Fecal Coliform Bacteria as an indicator that effluent has been disinfected. The MDEQ will use the indicator selected below in the permit issued based on this Application. ☐ Use *Escherichia Coli* as an indicator of disinfection. ☐ Use Fecal Coliform Bacteria as an indicator of disinfection.

Submitted via DMR's	Waiver Request and the Rational Behind the Request	Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type
☐	NA; Intake	Biochemical Oxygen Demand – five day (BOD_5)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	Chemical Oxygen Demand (COD)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	Total Organic Carbon (TOC)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	Ammonia Nitrogen (as N)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	Total Suspended Solids			mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	Total Dissolved Solids			mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	Total Phosphorus (as P)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	Fecal Coliform Bacteria (report geometric means)		Maximum-7day	counts/100ml		Grab
☐	NA; Intake	*Escherichia Coli* (report geometric means)		Maximum-7day	counts/100 ml		Grab
☐	NA; Intake	Total Residual Chlorine			☐ mg/l ☐ µg/l		Grab
☐	NA; Intake	Dissolved Oxygen	Do Not Use	Minimum daily	mg/l		☐ Grab ☐ 24 Hr Comp
☐	NA; Intake	pH (report maximum and minimum of individual samples)	Minimum	Maximum	standard units		☐ Grab ☐ 24 Hr Comp
☒		Temperature, Summer	68.8	68.8	☒ °F ☐ °C	549	☒ Grab ☐ 24 Hr Comp
☒		Temperature, Winter	45.3	45.3	☒ °F ☐ °C	549	☒ Grab ☐ 24 Hr Comp
☐	NA; Intake	Oil & Grease			mg/l		Grab

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000 Intake

Note: For questions on this page, Tables 1-5 are found in the Appendix.

4. PRIMARY INDUSTRY PRIORITY POLLUTANT INFORMATION

Existing primary industries that discharge process wastewater are required to submit the results of at least one permittee-collected effluent analysis for selected organic pollutants identified in Table 2 (as determined from Table 1, Testing Requirements for Organic Toxic Pollutants by Industrial Category), and all of the pollutants identified in Table 3. Existing primary industries are required to also provide the results of at least one permittee-collected effluent analysis for any other chemical listed in Table 2 known or believed to be present in the facility's effluent.

In addition, submit the results of all other effluent analyses performed within the last three years for any chemical listed in Tables 2 and 3.

New primary industries that propose to discharge process wastewater are required to provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in the facility's effluent.

5. DIOXIN AND FURAN CONGENER INFORMATION

Existing industries that use or manufacture 2,3,5-trichlorophenoxy acetic acid (2,4,5-T); 2-(2,3,5-trichlorophenoxy) propanoic acid, (Silvex, 2,3,5-TP); 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon); 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothionate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophrene (HCP), or knows or has reason to believe that 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is present in the facility's effluent, are required to submit the results of at least one effluent analysis for the dioxin and furan congeners listed in Table 6. All effluent analyses for dioxin and furan congeners shall be conducted using USEPA Method 1613.

In addition, submit the results of all other effluent analyses performed within the last three years for any dioxin and furan congener listed in Table 6.

New industries that expect to use or manufacture 2,3,5-trichlorophenoxy acetic acid (2,4,5-T); 2-(2,3,5-trichlorophenoxy) propanoic acid (Silvex, 2,3,5-TP); 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon); 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothionate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophrene (HCP), or knows or has reason to believe that 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is present in the facility's effluent, shall provide estimated effluent concentrations for the dioxin and furan congeners listed in Table 6.

6. OTHER INDUSTRY PRIORITY POLLUTANT INFORMATION

Existing secondary industries, or existing primary industries that discharge nonprocess wastewater, are required to submit the results of at least one effluent analysis for any chemical listed in Tables 2 and 3 known or believed to be present in the facility's effluent.

In addition, submit the results of all other effluent analyses performed within the last three years for any chemical listed in Tables 2 and 3.

New secondary industries, or new primary industries that propose to discharge nonprocess wastewater, are required to provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in the facility's effluent.

7. ADDITIONAL TOXIC AND OTHER POLLUTANT INFORMATION

All existing industries, regardless of discharge type, are required to provide the results of at least one analysis for any chemical listed in Table 4 known or believed to be present in the facility's effluent, and a measured or estimated effluent concentration for any chemical listed in Table 5 known or believed to be present in the facility's effluent. In addition, submit the results of any effluent analysis performed within the last three years for any chemical listed in Tables 4 and 5.

New industries, regardless of discharge type, are required to provide an estimated effluent concentration for any chemical listed in Tables 4 and 5 expected to be present in the facility's effluent.

8. INJURIOUS CHEMICALS NOT PREVIOUSLY REPORTED

New or existing industries, regardless of discharge type, are required to provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in the facility's effluent that have not been previously identified in this Application. Quantitative effluent data for these chemicals that is less than five years old shall be reported.

NOTE: All effluent data submitted in response to questions 4, 5, 6, 7, and 8 above should be recorded on Page 24. To submit additional information, see Page ii, Item 3. If the effluent concentrations are estimated, place an "E in the "Analytical Method" column. The following fields shall be completed for each data row: Parameter, CAS No., Concentration(s), Sample Type, and Analytical Method. For analytical test requirements, see Page ii, Item 5.

If Alternate Test Procedures have been approved for any parameter listed above (Items 4 through 8), see Page ii, Item 5 for additional instructions.

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000 Intake

Submitted via DMR's	SAMPLE DATE →		2/14/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc (µg/l)	Conc (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	Acrolein	00107-02-8	nd				grab	EPA 624
☐	Acrylonitrile	00107-13-1	nd				grab	EPA 624
☐	Benzene	00107-43-2	nd				grab	EPA 624
☐	Bromoform	00075-25-2	nd				grab	EPA 624
☐	Carbon tetrachloride	00056-23-5	nd				grab	EPA 624
☐	Chlorobenzene	00108-90-7	nd				grab	EPA 624
☐	Chloroethane	00075-00-3	nd				grab	EPA 624
☐	2-chloro-ethylvinyl ether	00110-75-8	nd				grab	EPA 624
☐	Chloroform	00067-66-3	nd				grab	EPA 624
☐	Dichlorobromomethane	00075-27-4	nd				grab	EPA 624
☐	1,1-dichloroethane	00075-34-3	nd				grab	EPA 624
☐	1,2-dichloroethane	00107-06-2	nd				grab	EPA 624
☐	Trans-1,2-dichloroethene	00156-60-5	nd				grab	EPA 624
☐	1,1-dichloroethene	00075-35-4	nd				grab	EPA 624
☐	1,2-dichloropropane	00078-87-5	nd				grab	EPA 624
☐	1,3-dichloropropene	00542-75-6	nd				grab	EPA 624
☐	Ethylbenzene	00100-41-4	nd				grab	EPA 624
☐	Bromomethane	00074-83-9	nd				grab	EPA 624
☐	Chloromethane	00074-87-3	nd				grab	EPA 624
☐	Methylene chloride	00075-09-2	nd				grab	EPA 624
☐	1,1,2,2-tetrachloroethane	00079-34-5	nd				grab	EPA 624
☐	Tetrachloroethene	00127-18-4	nd				grab	EPA 624
☐	Toluene	00108-88-3	nd				grab	EPA 624
☐	1,1,1-trichloroethane	00071-55-6	nd				grab	EPA 624
☐	1,1,2-trichloroethane	00079-00-5	nd				grab	EPA 624
☐	Trichloroethene	00079-01-6	nd				grab	EPA 624
☐	Vinyl chloride	00075-01-4	nd				grab	EPA 624

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000-intake

Submitted via DMR's								
		SAMPLE DATE →	2/14/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	2-Chlorophenol	00095-57-8	nd				grab	EPA 625
☐	Phenol	00108-95-2	nd				grab	EPA 625
☐	2-methylphenol (o-cresol)	0095-48-7	nd				grab	EPA 625
☐	3,4-methylphenol (m,p cresol)	84989-04-8	nd				grab	EPA 625
☐	2-nitrophenol	00088-75-5	nd				grab	EPA 625
☐	2,4-dimethylphenol	00105-67-9	nd				grab	EPA 625
☐	2,4-dichlorophenol	00120-83-2	nd				grab	EPA 625
☐	4-chloro-3-methylphenol	00059-50-7	nd				grab	EPA 625
☐	2,4,6-trichlorophenol	00088-06-2	nd				grab	EPA 625
☐	4-nitrophenol	00100-02-7	nd				grab	EPA 625
☐	2,4-dinitrophenol	00051-28-5	nd				grab	EPA 625
☐	4,6-dinitro-2-methylphenol	00534-52-1	nd				grab	EPA 625
☐	Pentachlorophenol	00087-86-5	nd				grab	EPA 625
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B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000

Submitted via DMR's	SAMPLE DATE →		2/14/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	Acenaphthene	00083-32-9	nd				grab	EPA 625
☐	Acenaphthylene	00208-96-8	nd				grab	EPA 625
☐	Anthracene	00120-12-7	nd				grab	EPA 625
☐	Benzidine	00092-87-5	nd				grab	EPA 625
☐	Benzo(a)anthracene	00056-55-3	nd				grab	EPA 625
☐	Benzo(a)pyrene	00050-32-8	nd				grab	EPA 625
☐	Benzo(b)fluoranthene	00205-99-2	nd				grab	EPA 625
☐	Benzo(ghi)perylene	00191-24-2	nd				grab	EPA 625
☐	Benzo(k)fluoranthene	00207-08-9	nd				grab	EPA 625
☐	Bis(2-chloroethoxy)methane	00111-91-1	nd				grab	EPA 625
☐	Bis(2-chloroethyl)ether	00111-44-4	nd				grab	EPA 625
☐	Bis(2-chloroisopropyl)ether	39638-32-9	nd				grab	EPA 625
☐	Bis(2-ethylhexyl)phthalate	00117-81-7	nd				grab	EPA 625
☐	4-Bromophenyl phenyl ether	00101-55-3	nd				grab	EPA 625
☐	Butyl benzyl phthalate	00085-68-7	nd				grab	EPA 625
☐	2-Chloronaphthalene	00091-58-7	nd				grab	EPA 625
☐	4-Chlorophenyl phenyl ether	07005-72-3	nd				grab	EPA 625
☐	Chrysene	00218-01-9	nd				grab	EPA 625
☐	Dibenzo(a,h)anthracene	00053-70-3	nd				grab	EPA 625
☐	3,3-Dichlorobenzidine	00091-94-1	nd				grab	EPA 625
☐	1,4-Dichlorobenzene	00106-46-7	nd				grab	EPA 624
☐	Diethyl phthalate	00084-74-2	nd				grab	EPA 625
☐	Dimethyl phthalate	00113-11-3	nd				grab	EPA 625
☐	Di-n-butyl phthalate	00084-74-2	nd				grab	EPA 625
☐	2,4-Dinitrotoluene	00121-14-2	nd				grab	EPA 625
☐	2,6-Dinitrotoluene	00606-20-2	nd				grab	EPA 625
☐	Di-n-octyl phthalate	00117-84-0	nd				grab	EPA 625

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000-intake

Submitted via DMR's								
		SAMPLE DATE ➔	2/14/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	1,2-Diphenylhydrazine	00122-66-7	nd				grab	EPA 625
☐	Fluoranthene	00206-44-0	nd				grab	EPA 625
☐	Fluorene	00086-73-7	nd				grab	EPA 625
☐	Hexachlorobenzene	00118-71-1	nd				grab	EPA 625
☐	Hexachlorobutadiene	00087-68-3	nd				grab	EPA 625
☐	Hexachlorocyclopentadiene	00077-47-4	nd				grab	EPA 625
☐	Hexachloroethane	00067-72-1	nd				grab	EPA 625
☐	Indeno(1,2,3-cd)pyrene	00193-39-5	nd				grab	EPA 625
☐	Isophorone	00078-59-1	nd				grab	EPA 625
☐	Nitrobenzene	00098-95-3	nd				grab	EPA 625
☐	N-nitrosodimethylamine	00062-75-9	nd				grab	EPA 625
☐	N-nitrosodi-n-propylamine	00621-64-7	nd				grab	EPA 625
☐	N-nitrosodiphenylamine	00086-30-6	nd				grab	EPA 625
☐	Phenanthrene	00085-01-8	nd				grab	EPA 625
☐	Pyrene	00129-00-0	nd				grab	EPA 625
☐	Naphthalene	00091-20-3	nd				grab	EPA 624
☐	1,2,4-Trichlorobenzene	00120-82-1	nd				grab	EPA 624
☐	1,2-Dichlorobenzene	00095-50-1	nd				grab	EPA 624
☐	1,3-Dichlorobenzene	00541-73-1	nd				grab	EPA 624
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B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000-intake

Submitted via DMR's								
		SAMPLE DATE →	2/14/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	Total Antimony	07440-36-0	nd				grab	EPA200.8
☐	Total Arsenic	07440-38-2	nd				grab	EPA200.8
☐	Total Beryllium	07440-41-7	nd				grab	EPA200.8
☐	Total Cadmium	07440-47-3	nd				grab	EPA200.8
☐	Total Chromium	07440-47-3	nd				grab	EPA200.8
☐	Total Copper	07550-50-8	3				grab	EPA200.8
☐	Total Lead	07439-92-1	nd				grab	EPA200.8
☐	Total Mercury	07439-97-6	0.00066				grab	EPA1631E
☐	Total Nickel	07440-02-0	nd				grab	EPA200.8
☐	Total Selenium	07782-49-2	nd				grab	EPA200.8
☐	Total Silver	07440-22-4	nd				grab	EPA200.8
☐	Total Thallium	07440-28-0	nd				grab	EPA200.8
☐	Total Zinc	07440-66-6	nd				grab	EPA200.8
☐	Total Cyanide	00057-112-5	nd				grab	OIA1677
☐	Total Phenols		nd				grab	EPA420.1
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Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	000 Intake

9. WATER TREATMENT ADDITIVES

Water treatment additives include any material that is added to water used at the facility or to wastewater generated by the facility to condition or treat the water.

Approvals of water treatment additives are authorized by the MDEQ under separate correspondence. The issuance of an NPDES permit does not constitute approval of the water treatment additives that are included in this Application.

A. Are there water treatment additives in the discharge from this facility?

☒ Yes.

☐ No. Proceed to Item 10.

B. Have these water treatment additives been previously approved?

☒ Yes. Submit a list of the previously-approved water treatment additives and the date on which they were approved. The information listed in Item C., Items 1-8 shall be updated if it has changed since the previous approval.

☐ No. Continue with Item C.

C. Submit a list of water treatment additives that are or may be discharged from the facility. Applicants are required to submit the information listed below for each additive.

1. The water treatment additive Material Safety Data Sheet.
2. The proposed water treatment additive discharge concentration.
3. The discharge frequency (i.e., number of hours per day, week, etc.).
4. The outfall from which the water treatment additive is to be discharged.
5. The type of removal treatment, if any, that the water treatment additive receives prior to discharge.
6. The water treatment additive function (i.e., microbiocide, flocculant, etc.).
7. A 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either *Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.).
8. The results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2)(a) of the Water Quality Standards. Examples of tests that would meet this requirement include a 96-hour LC50 for rainbow trout, bluegill, or fathead minnow.

The required toxicity information (described in Items 7 and 8 above) is currently available in the Water Bureau files for the water treatment additives listed on the MDEQ's Internet page. To access that information, go to http://www.michigan.gov/deq, click on "Site Map," at the bottom of the right column under **Water Quality Monitoring,** click on "Assessment of Michigan Waters." Under the **Information** heading, click on the "Water Treatment Additive List." If you intend to use one of the water treatment additives on this list, only the information in Items 1 through 6 above needs to be submitted to the Water Bureau.

Note: The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive.

10. WHOLE EFFLUENT TOXICITY (WET) TESTS

Have any acute or chronic WET tests been conducted on any discharges or receiving water(s) in relation to facility discharges within the last three years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the MDEQ in the last three years. For assistance with WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" in the Appendix.

11. CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) INFORMATION. To be completed by CAFOs only

The applicant shall provide: Specific information about the number and type of animals, and type of housing; the type of containment and storage, and the total capacity for CAFO waste storage; CAFO waste storage structure design; the total number of acres under the control of the applicant that is available for land application of CAFO waste; the estimated amounts of CAFO waste generated per year; the estimated amounts of CAFO waste that is transferred to other persons per year; a list and map(s) showing the location of all land application fields; and all potential receiving waters for both the production and all land application areas. For additional information, see "CAFO Guidance and Requirements" in the Appendix.

This completes Section III. Return the completed Application (Sections I, III, and IV and any attachments) to one of the addresses on Page ii of this Application. If assistance is needed to complete this Application, contact the Permits Section.

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

Section III is to be completed by all facilities classified as Industrial or Commercial facilities. Industrial and Commercial facilities include, but are not limited to, facilities that discharge or propose to discharge a wastewater generated by a production process, a service provided, or through a remediation project. Municipal and public facilities are not required to complete Section III (unless requesting authorization for discharges other than sanitary wastewater).

A. Facility Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
Palisades Nuclear Power Plant	MI0001457

1. BUSINESS INFORMATION ☒ **No Change From Last Application**

A. Provide up to four Standard Industrial Classification (SIC) or North American Industry Classification System (NAICS) codes, in order of economic importance, which best describe the major products or services provided by this facility.

1. 4911	2.	3.	4.

B. Indicate if this facility is a primary industry (refer to Table 1 of the Appendix to determine if this facility is a primary industry).

☒ Yes. This facility is a primary industry. Indicate the primary industry as identified in Table 1 of the Appendix: Steam Electric

☐ No. This facility is not a primary industry.

C. Is this facility a Concentrated Animal Feeding Operation (CAFO)?

☐ Yes. Continue with Section III.B.11.

☒ No.

2. WATER SUPPLY AND DISCHARGE TYPE ☐ **No Change From Last Application**

A. Identify all water sources entering the facility and treatment systems, and provide average flows. The volume may be estimated from water supply meter readings, pump capacities, etc. Provide the name of the source where appropriate (i.e., Grand River, Lake Michigan, City of Millpond). To submit additional information, see Page ii, Item 3.

	Name and Location of Source	Average Volume or Flow Rate	Units
Municipal Supply	South Haven	0.018	MGD
Surface Water Intake	Lake Michigan	141.12	MGD
Private Well	NA		
Other: _____	NA		

B. Identify water discharged by the facility and treatment systems, and provide average flows. If water is first used for one purpose and then is subsequently used for another purpose, indicate the type and amount of the last use. For example, if water is initially used for noncontact cooling water and then for process water, indicate the amount of process water. The amount of water from sources should approximate the amount of water usage. If they are different, provide an explanation.

	Average Flow Rate	Units		Average Flow Rate	Units
Process Wastewater	0.035	MGD	Sanitary Wastewater	0.018	MGD
Contact Cooling Water	NA		Regulated Storm Water	Unspecified	MGD
Noncontact Cooling Water	115.2	MGD	High Pressure Test Water	NA	
Groundwater Cleanup	NA		Other: Evap Loss	17.28	MGD

Note: For A and B above, indicate units as MGD (million gallons per day), MGY (million gallons per year), GPD (gallons per day), or other appropriate unit.

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

Complete a separate Section III.B. - Outfall Information (Pages 20-25) - for each outfall at the facility. Make copies of this blank section of the Application as necessary for additional outfalls.

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	001

1. OUTFALL INFORMATION - Instructions for this item are on Page 3 of the Appendix. ☒ **No Change From Last Application, Items A. – D.**

A.	Receiving Water Lake Michigan				Hydrologic Unit Code (HUC) 04050002	
B.	County Van Buren				Township Covert	
C.	Town 02S	Range 17W	Section 05	¼ NW	¼, ¼ SE	Private (French) Land Claim)
D.	Latitude 42 19' 23"				Longitude 86 18' 56"	

E. Type of Wastewater Discharged (check all that apply to this outfall): ☒ **No Change From Last Application, Item E.**

☒ Contact Cooling ☐ Groundwater Cleanup ☐ Hydrostatic Pressure Test ☒ Noncontact Cooling Water

☒ Process Wastewater ☐ Sanitary Wastewater ☐ Storm Water - not regulated ☒ Storm Water - regulated

☐ Storm water subject to effluent guidelines (indicate under which category): _____

☐ Other – specify (see "Table 8 - Other Common Types of Wastewater" - in the Appendix) _____

F. What is the Maximum Design Flow Rate for this outfall: 135.2 MGD ☒ **No Change From Last Application, Items F. – G.**

G What is the Maximum Authorized Discharge Flow for this outfall for the next five years?

Seasonal Dischargers _____ MGY (Continue with Item H).

Continuous Dischargers 135.2 MGD (Continue with Item I).

H. Seasonal Discharge:

List the discharge periods (by month) and the volume discharged in the space provided below.

From	Through	Actual Discharge Volume (MGD)	Annual Total
NA	NA	NA	
From	Through	Actual Discharge Volume (MGD)	
From	Through	Actual Discharge Volume (MGD)	
From	Through	Actual Discharge Volume (MGD)	

I. Continuous Discharge:

How often is there a discharge from this outfall (on average)? 24 Hours/Day 365 Days/Year

Batch dischargers are required to provide the following additional information:

Is there effluent flow equalization? ☐ Yes ☒ No

Batch Peak Flow Rate: _____ Number of batches discharged per day: _____

	Minimum	Average	Maximum
Batch Volume (gallons)			
Batch Duration (minutes)			

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

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PLEASE TYPE OR PRINT

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Palisades Nuclear Power Plant	MI0001457	001

2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE ☒ **No Change From Last Application**

Federal regulations require that different industries report different information, depending on the type of facility. The information below is used to determine the applicable federal regulations for this facility. An abbreviated list is in the Summary of Information to be reported by Industry Type section of the Appendix. Applicants are required to provide the name and the SIC or the NAICS code for each process at the facility. Facilities with production-based limits must report an estimated annual production rate for the next five years, or the life of the permit. If the wastestream is not regulated under federal categorical standards, the applicant is required to report all pollutants which have the reasonable potential to be present in the discharge. To submit additional information, see Page ii, Item 3.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: Cooling Water Blowdown

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production:

The cooling toweres typically provide cooled water to the condensor. A portion of the noncontact cooling tower flow rate is discharged directly to the mixing basin where flow is recorded and reported during discharge.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: Treated miscellaneous low volume wastestreams

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production:

TMLV waste water consists of generator blowdown, demineralizer backwash, regeneration waste, reverse osmosis filter back wash, turbine sump drainage, floor drain, lab waste and radwaste wastewater.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: Treated radwaste wastewater (001D)

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production:

This process removes suspended solids and radioactivity by collection, filtration, and demineralizer prior to discharge to 001D. See Section I - Item 10 detailed Flow diagram.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: Turbine Sump drainage (001F)

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production:

The turbine sump building sump collects filtered floor drainage from the turbine building which is treated by the oil/water seperator prior to discharge to 001F. See Section I - Item 10 - Flow diagram.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: Floor Drainage

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production:

Floor drainage from secondary systems is drained to the turbine sump. Auxillary building floor drainage is processed through the radwaste system eventually to 001D. See Section I - Item 10 Flow diagram.

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

PROCESS INFORMATION

A. Name of the process contributing to the discharge: _____

B. SIC or NAICS code: _____

C. Describe the process and provide measures of production:

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

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3. EFFLUENT CHARACTERISTICS - CONVENTIONAL POLLUTANTS - Instructions for this item are on Page 4 of the Appendix.
   ☐ Check this box if additional information is included as an attachment. To submit additional information, see Page ii, Item 3.

Please Note: Rule 323.1062 allows the use of either *Escherichia Coli* or Fecal Coliform Bacteria as an indicator that effluent has been disinfected. The MDEQ will use the indicator selected below in the permit issued based on this Application. ☐ Use *Escherichia Coli* as an indicator of disinfection. ☐ Use Fecal Coliform Bacteria as an indicator of disinfection.

Submitted via DMRs	Waiver Request and the Rational Behind the Request	Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type
☐	Request waiver, no source addition	Biochemical Oxygen Demand – five day (BOD_5)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	Request waiver, no source addition	Chemical Oxygen Demand (COD)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	Request waiver, no source addition	Total Organic Carbon (TOC)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	Request waiver, no source addition	Ammonia Nitrogen (as N)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	Request waiver, applied internally at source as treatment technology	Total Suspended Solids			mg/l		☐ Grab ☐ 24 Hr Comp
☐	Request waiver, no source addition	Total Dissolved Solids			mg/l		☐ Grab ☐ 24 Hr Comp
☐	No source addition- NA	Total Phosphorus (as P)			mg/l		☐ Grab ☐ 24 Hr Comp
☐	No source addition- NA	Fecal Coliform Bacteria (report geometric means)		Maximum-7day	counts/100ml		Grab
☐	No source addition- NA	*Escherichia Coli* (report geometric means)		Maximum-7day	counts/100 ml		Grab
☒		Total Residual Chlorine	63	63	☐ mg/l ☒ µg/l	988	Grab
☐	No source addition- NA	Dissolved Oxygen	Do Not Use	Minimum daily	mg/l		☐ Grab ☐ 24 Hr Comp
☒		pH (report maximum and minimum of individual samples)	Minimum 6.77	Maximum 8.48	standard units	1106	☒ Grab ☐ 24 Hr Comp
☒		Temperature, Summer	107.8	107.8	☒ °F ☐ °C	183	☒ Grab ☐ 24 Hr Comp
☒		Temperature, Winter	92.8	92.8	☒ °F ☐ °C	182	☒ Grab ☐ 24 Hr Comp
☐	Request waiver; applied internally at source as treatment technology	Oil & Grease			mg/l		Grab
X		Heat Addition	5	2068	2068 MBTU/Hr	365	Calculation

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

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Palisades Nuclear Power Plant	MI0001457	001

Note: For questions on this page, Tables 1-5 are found in the Appendix.

4. PRIMARY INDUSTRY PRIORITY POLLUTANT INFORMATION

Existing primary industries that discharge process wastewater are required to submit the results of at least one permittee-collected effluent analysis for selected organic pollutants identified in Table 2 (as determined from Table 1, Testing Requirements for Organic Toxic Pollutants by Industrial Category), and all of the pollutants identified in Table 3. Existing primary industries are required to also provide the results of at least one permittee-collected effluent analysis for any other chemical listed in Table 2 known or believed to be present in the facility's effluent.

In addition, submit the results of all other effluent analyses performed within the last three years for any chemical listed in Tables 2 and 3.

New primary industries that propose to discharge process wastewater are required to provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in the facility's effluent.

5. DIOXIN AND FURAN CONGENER INFORMATION

Existing industries that use or manufacture 2,3,5-trichlorophenoxy acetic acid (2,4,5-T); 2-(2,3,5-trichlorophenoxy) propanoic acid, (Silvex, 2,3,5-TP); 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon); 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothionate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophrene (HCP), or knows or has reason to believe that 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is present in the facility's effluent, are required to submit the results of at least one effluent analysis for the dioxin and furan congeners listed in Table 6. All effluent analyses for dioxin and furan congeners shall be conducted using USEPA Method 1613.

In addition, submit the results of all other effluent analyses performed within the last three years for any dioxin and furan congener listed in Table 6.

New industries that expect to use or manufacture 2,3,5-trichlorophenoxy acetic acid (2,4,5-T); 2-(2,3,5-trichlorophenoxy) propanoic acid (Silvex, 2,3,5-TP); 2-(2,4,5-trichlorophenoxy) ethyl 2,2-dichloropropionate (Erbon); 0,0-dimethyl 0-(2,4,5-trichlorophenyl) phosphorothionate (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophrene (HCP), or knows or has reason to believe that 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) is present in the facility's effluent, shall provide estimated effluent concentrations for the dioxin and furan congeners listed in Table 6.

6. OTHER INDUSTRY PRIORITY POLLUTANT INFORMATION

Existing secondary industries, or existing primary industries that discharge nonprocess wastewater, are required to submit the results of at least one effluent analysis for any chemical listed in Tables 2 and 3 known or believed to be present in the facility's effluent.

In addition, submit the results of all other effluent analyses performed within the last three years for any chemical listed in Tables 2 and 3.

New secondary industries, or new primary industries that propose to discharge nonprocess wastewater, are required to provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in the facility's effluent.

7. ADDITIONAL TOXIC AND OTHER POLLUTANT INFORMATION

All existing industries, regardless of discharge type, are required to provide the results of at least one analysis for any chemical listed in Table 4 known or believed to be present in the facility's effluent, and a measured or estimated effluent concentration for any chemical listed in Table 5 known or believed to be present in the facility's effluent. In addition, submit the results of any effluent analysis performed within the last three years for any chemical listed in Tables 4 and 5.

New industries, regardless of discharge type, are required to provide an estimated effluent concentration for any chemical listed in Tables 4 and 5 expected to be present in the facility's effluent.

8. INJURIOUS CHEMICALS NOT PREVIOUSLY REPORTED

New or existing industries, regardless of discharge type, are required to provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in the facility's effluent that have not been previously identified in this Application. Quantitative effluent data for these chemicals that is less than five years old shall be reported.

NOTE: All effluent data submitted in response to questions 4, 5, 6, 7, and 8 above should be recorded on Page 24. To submit additional information, see Page ii, Item 3. If the effluent concentrations are estimated, place an "E in the "Analytical Method" column. The following fields shall be completed for each data row: Parameter, CAS No., Concentration(s), Sample Type, and Analytical Method. For analytical test requirements, see Page ii, Item 5.

If Alternate Test Procedures have been approved for any parameter listed above (Items 4 through 8), see Page ii, Item 5 for additional instructions.

Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	001

Submitted via DMR's	SAMPLE DATE →		2/25/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	Acrolein	00107-02-8	nd				grab	EPA 624
☐	Acrylonitrile	00107-13-1	nd				grab	EPA 624
☐	Benzene	00107-43-2	nd				grab	EPA 624
☐	Bromoform	00075-25-2	nd				grab	EPA 624
☐	Carbon tetrachloride	00056-23-5	nd				grab	EPA 624
☐	Chlorobenzene	00108-90-7	nd				grab	EPA 624
☐	Chloroethane	00075-00-3	nd				grab	EPA 624
☐	2-chloro-ethylvinyl ether	00110-75-8	nd				grab	EPA 624
☐	Chloroform	00067-66-3	nd				grab	EPA 624
☐	Dichlorobromomethane	00075-27-4	nd				grab	EPA 624
☐	1,1-dichloroethane	00075-34-3	nd				grab	EPA 624
☐	1,2-dichloroethane	00107-06-2	nd				grab	EPA 624
☐	Trans-1,2-dichloroethene	00156-60-5	nd				grab	EPA 624
☐	1,1-dichloroethene	00075-35-4	nd				grab	EPA 624
☐	1,2-dichloropropane	00078-87-5	nd				grab	EPA 624
☐	1,3-dichloropropene	00542-75-6	nd				grab	EPA 624
☐	Ethylbenzene	00100-41-4	nd				grab	EPA 624
☐	Bromomethane	00074-83-9	nd				grab	EPA 624
☐	Chloromethane	00074-87-3	nd				grab	EPA 624
☐	Methylene chloride	00075-09-2	nd				grab	EPA 624
☐	1,1,2,2-tetrachloroethane	00079-34-5	nd				grab	EPA 624
☐	Tetrachloroethene	00127-18-4	nd				grab	EPA 624
☐	Toluene	00108-88-3	nd				grab	EPA 624
☐	1,1,1-trichloroethane	00071-55-6	nd				grab	EPA 624
☐	1,1,2-trichloroethane	00079-00-5	nd				grab	EPA 624
☐	Trichloroethene	00079-01-6	nd				grab	EPA 624
☐	Vinyl chloride	00075-01-4	nd				grab	EPA 624

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	001

Submitted via DMR's								
		SAMPLE DATE ➔	2/14/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	1,2-Diphenylhydrazine	00122-66-7	nd				grab	EPA 625
☐	Fluoranthene	00206-44-0	nd				grab	EPA 625
☐	Hexachlorobenzene	00118-71-1	nd				grab	EPA 625
☐	Hexachlorobutadiene	00087-68-3	nd				grab	EPA 625
☐	Hexachloropentadiene	00077-47-4	nd				grab	EPA 625
☐	Hexachloroethane	00067-72-1	nd				grab	EPA 625
☐	Indeno(1,2,3-cd)pyrene	00193-39-5	nd				grab	EPA 625
☐	Isophorone	00078-59-1	nd				grab	EPA 625
☐	Nitrobenzene	00098-95-3	nd				grab	EPA 625
☐	N-nitrosodimethylamine	00062-75-9	nd				grab	EPA 625
☐	N-nitrosodi-n-proplyamine	00621-64-7	nd				grab	EPA 625
☐	N-nitrosodiphenylamine	00086-30-6	nd				grab	EPA 625
☐	Phenanthrene	00085-01-8	nd				grab	EPA 625
☐	Pyrene	00129-00-0	nd				grab	EPA 625
☐	Naphthalene	00091-20-3	nd				grab	EPA 624
☐	1,2,4-Trichlorobenzene	00120-82-1	nd				grab	EPA 624
☐	1,2-Dichlorobenzene	00095-50-1	nd				grab	EPA 624
☐	1,3 Dichlorobenzene	00541-73-1	nd				grab	EPA 624
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Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	001

9. WATER TREATMENT ADDITIVES

Water treatment additives include any material that is added to water used at the facility or to wastewater generated by the facility to condition or treat the water.

Approvals of water treatment additives are authorized by the MDEQ under separate correspondence. The issuance of an NPDES permit does not constitute approval of the water treatment additives that are included in this Application.

A. Are there water treatment additives in the discharge from this facility?

☒ Yes.

☐ No. Proceed to Item 10.

B. Have these water treatment additives been previously approved?

☒ Yes. Submit a list of the previously-approved water treatment additives and the date on which they were approved. The information listed in Item C., Items 1-8 shall be updated if it has changed since the previous approval.

☐ No. Continue with Item C.

C. Submit a list of water treatment additives that are or may be discharged from the facility. Applicants are required to submit the information listed below for each additive.

1. The water treatment additive Material Safety Data Sheet.
2. The proposed water treatment additive discharge concentration.
3. The discharge frequency (i.e., number of hours per day, week, etc.).
4. The outfall from which the water treatment additive is to be discharged.
5. The type of removal treatment, if any, that the water treatment additive receives prior to discharge.
6. The water treatment additive function (i.e., microbiocide, flocculant, etc.).
7. A 48-hour LC50 or EC50 for a North American freshwater planktonic crustacean (either *Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.).
8. The results of a toxicity test for one other North American freshwater aquatic species (other than a planktonic crustacean) that meets a minimum requirement of Rule 323.1057(2)(a) of the Water Quality Standards. Examples of tests that would meet this requirement include a 96-hour LC50 for rainbow trout, bluegill, or fathead minnow.

The required toxicity information (described in Items 7 and 8 above) is currently available in the Water Bureau files for the water treatment additives listed on the MDEQ's Internet page. To access that information, go to http://www.michigan.gov/deq, click on "Site Map," at the bottom of the right column under **Water Quality Monitoring,** click on "Assessment of Michigan Waters." Under the **Information** heading, click on the "Water Treatment Additive List." If you intend to use one of the water treatment additives on this list, only the information in Items 1 through 6 above needs to be submitted to the Water Bureau.

Note: The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive.

10. WHOLE EFFLUENT TOXICITY (WET) TESTS

Have any acute or chronic WET tests been conducted on any discharges or receiving water(s) in relation to facility discharges within the last three years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the MDEQ in the last three years. For assistance with WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" in the Appendix.

11. CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) INFORMATION. *To be completed by CAFOs only*

The applicant shall provide: Specific information about the number and type of animals, and type of housing; the type of containment and storage, and the total capacity for CAFO waste storage; CAFO waste storage structure design; the total number of acres under the control of the applicant that is available for land application of CAFO waste; the estimated amounts of CAFO waste generated per year; the estimated amounts of CAFO waste that is transferred to other persons per year; a list and map(s) showing the location of all land application fields; and all potential receiving waters for both the production and all land application areas. For additional information, see "CAFO Guidance and Requirements" in the Appendix.

This completes Section III. Return the completed Application (Sections I, III, and IV and any attachments) to one of the addresses on Page ii of this Application. If assistance is needed to complete this Application, contact the Permits Section.

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	001

Submitted via DMR's	SAMPLE DATE →		2/14/08					
	PARAMETER	CAS No.	Conc (µg/l)	Conc (µg/l)	Conc (µg/l)	Conc (µg/l)	Sample Type	Analytical Method
☐	2-Chlorophenol	00095-57-8	nd				grab	EPA 625
☐	Phenol	00108-95-2	nd				grab	EPA 625
☐	2-methylphenol (o-cresol)	0095-48-7	nd				grab	EPA 625
☐	3,4-methylphenol (m,p cresol)	84989-04-8	nd				grab	EPA 625
☐	2-nitrophenol	00088-75-5	nd				grab	EPA 625
☐	2,4-dimethylphenol	00105-67-9	nd				grab	EPA 625
☐	2,4-dichlorophenol	00120-83-2	nd				grab	EPA 625
☐	4-chloro-3-methylphenol	00059-50-7	nd				grab	EPA 625
☐	2,4,6-trichlorophenol	00088-06-2	nd				grab	EPA 625
☐	4-nitrophenol	00100-02-7	nd				grab	EPA 625
☐	2,4-dinitrophenol	00051-28-5	nd				grab	EPA 625
☐	4,6-dinitro-2-methylphenol	00534-52-1	nd				grab	EPA 625
☐	Pentachlorophenol	00087-86-5	nd				grab	EPA 625
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FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	001

Submitted via DMR's								
		SAMPLE DATE →	2/14/08					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	Acenaphthene	00083-32-9	nd				grab	EPA 625
☐	Acenaphthylene	00208-96-8	nd				grab	EPA 625
☐	Anthracene	00120-12-7	nd				grab	EPA 625
☐	Benzidine	00092-87-5	nd				grab	EPA 625
☐	Benzo(a)anthracene	00056-55-3	nd				grab	EPA 625
☐	Benzo(a)pyrene	00050-32-8	nd				grab	EPA 625
☐	Benzo(b)fluoranthene	00205-99-2	nd				grab	EPA 625
☐	Benzo(ghi)perylene	00191-24-2	nd				grab	EPA 625
☐	Benzo(k)fluoranthene	00207-08-9	nd				grab	EPA 625
☐	Bis(2-chloroethoxy)methane	00111-91-1	nd				grab	EPA 625
☐	Bis(2-chloroethyl)ether	00111-44-4	nd				grab	EPA 625
☐	Bis(2-chloroisopropyl)ether	39638-32-9	nd				grab	EPA 625
☐	Bis(2-ethylhexyl)phthalate	00117-81-7	nd				grab	EPA 625
☐	4-Bromophenyl phenyl ether	00101-55-3	nd				grab	EPA 625
☐	Butyl benzyl phthalate	00085-68-7	nd				grab	EPA 625
☐	2-Chloronaphthalene	00091-58-7	nd				grab	EPA 625
☐	4-Chlorophenyl phenyl ether	07005-72-3	nd				grab	EPA 625
☐	Chrysene	00218-01-9	nd				grab	EPA 625
☐	Dibenzo(a,h)anthracene	00053-70-3	nd				grab	EPA 625
☐	3,3-Dichlorobenzidine	00091-94-1	nd				grab	EPA 625
☐	1,4-Dichlorobenzene	00106-46-7	nd				grab	EPA 624
☐	Diethyl phthalate	00084-74-2	nd				grab	EPA 625
☐	Dimethyl phthalate	00113-11-3	nd				grab	EPA 625
☐	Di-n-butyl phthalate	00084-74-2	nd				grab	EPA 625
☐	2,4-Dinitrotoluene	00121-14-2	nd				grab	EPA 625
☐	2,6-Dinitrotoluene	00606-20-2	nd				grab	EPA 625
☐	Di-n-octyl phthalate	00117-84-0	nd				grab	EPA 625

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Palisades Nuclear Power Plant	MI0001457	001

Submitted via DMR's								
		SAMPLE DATE →	2/14/08	2/14/08				
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
☐	Total Antimony	07440-36-0	nd	nd			grab	EPA200.8
☐	Total Arsenic	07440-38-2	1	1			grab	EPA200.8
☐	Total Beryllium	07440-41-7	nd	nd			grab	EPA200.8
☐	Total Cadmium	07440-47-3	nd	nd			grab	EPA200.8
☐	Total Chromium	07440-47-3	nd	nd			grab	EPA200.8
☐	Total Copper	07550-50-8	2	2			grab	EPA200.8
☐	Total Lead	07439-92-1	nd	nd			grab	EPA200.8
☐	Total Mercury	07439-97-6	0.00078	0.000695			grab	EPA1631E
☐	Total Nickel	07440-02-0	nd	nd			grab	EPA200.8
☐	Total Selenium	07782-49-2	nd	nd			grab	EPA200.8
☐	Total Silver	07440-22-4	nd	nd			grab	EPA200.8
☐	Total Thallium	07440-28-0	nd	nd			grab	EPA200.8
☐	Total Zinc	07440-66-6	nd	nd			grab	EPA200.8
☐	Total Cyanide	00057-112-5	nd	nd			grab	OIA1677
☐	Total Phenols		nd	nd			grab	EPA420.1
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Michigan Department of Environmental Quality- Water Bureau

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION IV – Storm Water

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
Palisades Nuclear Power Plant	MI0001457

1. STORM WATER DISCHARGES

Facilities that discharge storm water must provide the following information. (Please Note: The following discharges are also covered by storm water authorization, provided they are addressed in the facility's Storm Water Pollution Prevention Plan [SWPPP]): Discharges from fire hydrant flushing; potable water sources, including water line flushing; fire system test water; irrigation drainage; lawn watering; routine building wash down which does not use detergents or other compounds; pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used; air conditioning condensate; springs; uncontaminated ground water; and foundation or footing drains where flows are not contaminated with process materials such as solvents.

A. Does this facility have a certified industrial storm water operator who supervises the facility's storm water treatment and control measures included in the SWPP?

☒ Yes. Eric R Dehn — Storm Water Operator Name; IO02379 — Certification Number

☐ No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

B. Is any of the storm water discharged from (check all that apply):

☐ Secondary containment structures that are required by state or federal law. On a separate page, provide a list of the materials that are stored in this area.

☐ Areas identified on Michigan's list of Sites of Environmental Contamination, pursuant to the Michigan Act, Part 201 (formerly 307).

C. The storm water from this facility discharges to the following receiving water(s): Mixing basin, Lake Michigan

Please note that applicants should provide any sample data taken of the storm water discharge as an attachment. To submit additional information, see Page ii, Item 3.

STORM WATER CERTIFICATON

Rule 323.2114(1-4), promulgated under the Michigan Act, requires that **this Application must be signed as follows:**

A. For an organization, company, corporation, or authority, by a principal executive office, vice president or higher.
B. For a partnership, by a general partner.
C. For a sole proprietor, by the proprietor.
D. For a municipal, state, or other public facility, by a principal executive officer or ranking elected official (such as the mayor, village president, city or village manager, or clerk).

Note: If the signatory is not listed above, but is authorized to sign the Application, please provide documentation of that authorization.

I certify that my facility has developed a SWPPP according to the requirements of the Storm Water General Permit.

I certify that my facility has no unauthorized discharges.

I certify that my facility has implemented the nonstructural controls as described in the SWPPP. New facilities shall fulfill this requirement when industrial activity begins.

I certify my facility has completed construction and will put into operation all structural controls as described in the SWPPP. If necessary, new facilities shall fulfill this requirement when industrial activity begins.

I certify, under penalty of law, that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I understand that my signature constitutes a legal agreement to comply with the requirements of the appropriate NPDES General Storm Water Permit. I certify under penalty of law that I possess full authority on behalf of the legal owner/permittee to sign and submit this Notice of Intent.

Print Name: NA- storm water is authorized in MI0001457 Title: _____

Signature: _____ Date: _____

Attachment 1

ENTERGY SERVICES, INC

PALISADES NUCLEAR PLANT

WATER TREATMENT ADDITIVE LIST

Palisades WTA Approval List			
Location	**Additive**	**Usage**	**Status**
Outfall 001	Sodium Hypochorite	Chlorinate condenser cooling water	Grandfathered through NPDES Permits
	Nalco Actibrom	Biological growth control	Grandfathered through NPDES Permits
	Spectrus DT 1403 (Sodium Bisulfite or other dehalogenation reagents)	Dehalogenate cooling water	Grandfathered through NPDES Permits
	Spectrus 1300 (Betz CT-2)	Zebra mussel & asiatic clam control	Grandfathered through NPDES Permits
	Betz CT-4	Zebra mussel & asiatic clam control	Grandfathered through NPDES Permits
	Spectrus DT 1400 (Betz DT-S)	Detoxify Betz CT-1, CT-2, Ct-4	MDEQ approval letter 7/17/91
	Dynacool 1383	Scale & corrosion inhibitor	MDEQ approval letter 8/23/01
	Nalco 1336	Scale & corrosion inhibitor	MDEQ approval letter 8/23/01
	EVAC	Zebra mussel control from 6/15 - 10/31/01	MDEQ approval letter 6/15/01
	Nalco THRUGUARD 404	Scale prevention and control	MDEQ apporval letter 2/1/07
Steam Generators	Hydrazine	Corrosion control	Grandfathered through NPDES Permits
	Nalco 1250 Plus (Carbohydrazide)	Corrosion control	MDEQ apporval letter 10/31/96
	Steammate PWR0240 (Morpholine)	Control ph	Grandfathered through NPDES Permits
	Boric Acid	Corrosion control	MDEQ approval letter 8/25/88
Cooling Towers	Thruguard 700 (Calgon PCL-1)	Scale inhibitor	MDEQ approval letter 5/6/86
	Depositrol BL5301 (Betz Pal02)	Organic scale inhibitor (to replace Calgon Thruguard 700)	MDEQ approval letter 5/20/93
Component Cooling System	Sodium Nitrite (Calgon LCS-60)	Corrosion inhibitor	MDEQ approval letter 6/7/93
	Betz Inhibitor AZ8100 (TTA)	Biological control	MDEQ approval letter 8/29/00
Reverse Osmosis Unit	Aluminum Sulfate	Scale control	MDEQ approval letter 3/18/90
Makeup Demineralizer	Sulfuric Acid	Demineralizer resin regenerate	Grandfathered through NPDES Permits
	Sodium Hydroxide	Demineralizer resin regenerate	Grandfathered through NPDES Permits
Decon Agents	Alconox 8 Detergent	Decontamination agent	MDEQ approval letter 5/18/98
	Spectrus NX 1100	Decontamination agent	MDEQ approval letter 6/29/98

Attachment 1 - Exhibit 2

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING

JENNIFER M. GRANHOLM
GOVERNOR

STEVEN E. CHESTER
DIRECTOR

February 1, 2007

Mr. Eric R. Dehn, Enviromental Coordinator
NMC - Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, Michigan 49043

Dear Mr. Dehn:

SUBJECT: Water Treatment Additive (WTA) Discharge – CECO – Palisades Power Plant
National Pollutant Discharge Elimination System Permit #MI0001457

We have reviewed your request dated January 12, 2007, to discharge the WTA, THRUGUARD 404 (THR404), from the Palisades Nuclear Plant near Covert, Michigan. The WTA is a product of the Nalco Company. The discharge from the facility is to Lake Michigan in Van Buren County.

Approval for the use of THR404 for scale prevention at Palisades Nuclear Plant, under the specific conditions outlined in the January 12, 2007, request, is hereby granted.

If you have any questions or concerns or would like to discuss specific numeric limitations and their derivation, please feel free to contact Mr. Mike Walterhouse, Surface Water Assessment Section, Water Bureau, at 517-335-4186.

Sincerely,

Brenda Sayles

Brenda Sayles, Chief
Lake Michigan Unit
Surface Water Assessment Section
Water Bureau
517-335-4198

bs:mw:dp
cc: Mr. Greg Danneffel, Kalamazoo District Supervisor, WB, DEQ
Mr. Mike Walterhouse/Facility File, WB, DEQ

Attachment 2

ENTERGY SERVICES, INC

PALISADES NUCLEAR PLANT

STORM WATER NO EXPOSURE CERTIFICATION FORM

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU
http://michigan.gov/deq

NO EXPOSURE CERTIFICATION

FOR EXCLUSION OF COVERAGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY
By Authority of Act 451, PA 1994, Part 31

DEQ only do not write in this space

Submission of this No Exposure Certification constitutes certification the Facility identified below does not require permit authorization for storm water discharges associated with industrial activity in Michigan based on 40CFR 122. The Michigan Department of Environmental Quality may deny an exclusion at any time it determines that conditions at the facility do not meet the exclusion requirements. If the exclusion is denied, the owner must obtain authorization to discharge prior to any point source discharge of storm water from the facility.

Be advised that facilities excluded from permit requirements due to "no exposure" are required to submit a no exposure certification form to the Michigan Department of Environmental Quality once every five years to continue to be excluded from the permitting requirements.

SECTION I

FACILITY INFORMATION (where discharge occurs)			OWNER/PERMITEE INFORMATION		
SITE/FACILITY NAME			COMPANY NAME Entergy Services, Inc		
ADDRESS 1 27780 Blue Star Memorial Highway			ADDRESS 1 308 E. Pearl Street		
ADDRESS 2			ADDRESS 2		
CITY Covert	STATE MI	ZIP CODE 49043	CITY Jackson	STATE MS	ZIP CODE 39201
RECEIVING WATERS Lake Michigan			CONTACT PERSON Eric R. Dehn		
LATITUTE (to nearest 15 seconds) 42 19' 23"	LONGITUDE (to nearest 15 seconds) 86 18' 56"		CONTACT PERSON TELEPHONE) (269) 764-2464		

NW ¼ of SE ¼ Section: 05, Town: T02S, Range: R17W, Township: Covert, County: Van Buren.

PRIMARY STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE **4911 - 40 CFR 423**

TO DETERMINE THE PRIMARY INDUSTRIAL ACTIVITY, USE THE VALUE OF NET REVENUES. IF SUCH INFORMATION IS NOT AVAILABLE FOR A PARTICULAR FACILITY, THE NUMBER OF EMPLOYEES OR PRODUCTION RATE FOR EACH PROCESS MAY BE COMPARED. THE OPERATION THAT GENERATES THE MOST NET REVENUE OR EMPLOYS THE MOST PERSONNEL IS THE OPERATION IN WHICH THE FACILITY IS PRIMARILY ENGAGED.

THIS FACILITY HOLDS EXISTING NPDES PERMIT: **MI0001457**
Please list any other NPDES number(s):

PLEASE RETURN THIS COMPLETED FORM (Page 1 & 2), AND ANY ATTACHMENTS, TO THE FOLLOWING ADDRESS:

KELLY PLOEHN
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WATER BUREAU
2nd FLOOR NORTH
525 WEST ALLEGAN STREET
P.O. BOX 30273
LANSING MI 48909

If you have any questions regarding the completion of this form, please call (517) 335-4137.

NOTE: There are TWO pages to a complete no exposure exclusion request. Please make sure that both pages have been completed prior to submitting

SECTION II

PLEASE COMPLETE ALL OF THE FOLLOWING INFORMATION

EXPOSURE CHECK LIST

Are any of the following materials or activities exposed to storm water, now or in the foreseeable future?

1.	Using, storing, or cleaning of industrial machinery or equipment, or residuals from such practices.	Yes	No
2.	Materials or residuals on the ground or in storm water inlets from spills or leaks.	Yes	No
3.	Materials or products from past industrial activities.	Yes	No
4.	Material handling equipment (except adequately maintained vehicles).	Yes	No
5.	Materials or products during loading, unloading or transporting activities.	Yes	No
6.	Materials or products stored outdoors (except final product intended to be used outside where exposure to storm water does not result in a discharge of pollutants).	Yes	No
7.	Materials contained in open, unsealed, deteriorated, leaking, or improperly managed drums, barrels, tanks, etc.	Yes	No
8.	Materials or products handled or stored on roads or railways owned or maintained by the facility.	Yes	No
9.	Waste materials (except general office trash).	Yes	No
10.	Application or disposal of process wastewater (unless otherwise permitted).	Yes	No
11.	Particulate matter or visible deposits of residuals from roof stacks and/or vents not otherwise regulated (i.e. under an air quality control permit).	Yes	No
NOTE:	If you answered yes to any of the above questions (1-11), you are not eligible for the no exposure exclusion	Yes	No
12.	Facility has conducted an investigation to locate any illicit connections to the storm sewer system.	Yes	No
13.	Based on the above investigation, the facility has concluded that there are no illicit connections to the storm water system.	Yes	No

SECTION III

CERTIFICATION

State of Michigan regulations require this form be signed as follows:

Corporation: by the principal executive officer or vice-president or higher, or his/her designated representative if the representative is responsible for the overall operation of the facility from which the discharge described originates.
Partnership: by a general partner
Sole proprietorship: by the proprietor
Municipal, state, or other public facility: by a principal executive officer, the mayor, village president, city or village manager, or other duly authorized employee.

I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from storm water permitting.

I certify under penalty of law that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under 40 CFR 122.26(g)(2))

I understand that I am obligated to submit a no exposure certification form to the Michigan Department of Environmental Quality once every 5 years. I understand that I must allow the Michigan Department of Environmental Quality to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain discharge authorization under an NPDES permit prior to any point source discharge of storm water associated with industrial activity from the facility.

I certify, under penalty of law, that this document and all attachments were prepared by me, or under my direction or supervision in accordance with a system to assure qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I certify under penalty of law that I possess full authority on behalf of the legal owner/permittee to sign and submit this No Exposure Certification.

Printed name:	Title:
Christopher J. Schwarz	Site Vice President
Signature:	Date:
	03/26/08