



Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043
269.764.2000

Otto W. Gustafson
Licensing Manager

PNP 2013-027

April 10, 2013

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

SUBJECT: National Pollutant Discharge Elimination System (NPDES) Permit
Renewal Application

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

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 April 3, 2013.

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

Sincerely,

A handwritten signature in black ink, appearing to read "OWG" followed by a stylized flourish.

OWG/bed

Attachments: 1. NPDES Permit Renewal Application

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

COOI
NRR

ATTACHMENT 1

PALISADES NUCLEAR PLANT

NPDES Permit Renewal Application



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

April 3, 2013

Michigan Department of Environmental Quality
Cashiers Office
WRD-NP1
PO Box 30657
Lansing, Michigan 48909-8157

**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, 2013. The enclosed State of Michigan NPDES Permit Application Forms (Rev. 1/2013) is hereby submitted to support reissuance of NPDES Permit No. MI0001457.

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 requested water treatment additive approvals.

The Palisades Nuclear Plant is owned and operated by Entergy Services Inc. Enclosed application is signed by 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)(1)(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 blowdown from internal Outfalls 001A-001C, and combined miscellaneous low volume waste. Internal Outfalls 001D and 001F consist principally of radwaste water and turbine sump water. Monitoring at internal Outfalls 001A-001C were 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 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 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 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 parameters of (a) BOD 5, (b) COD, (c) TOC, (d) Ammonia Nitrogen (as N), (e) Total Suspended Solids, (f) pH, (g) Temperature summer, (h) Temperature winter.

WATER TREATMENT ADDITIVES

The enclosed Attachment 1 is a current list of water treatment additives currently approved for use at the plant. The additives listed were approved by the Department through previous NPDES renewals or by separate approval. The company request continued approval of the attached additives.

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 for review and/or inspection upon request.

Enclosed as Attachment 2 is a completed "No Exposure to Storm Water" Certification form requesting continued 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. Requested changes to the permit are:

1. Removal of the monitoring requirement for LL Hg. Data obtained show plant to be very low source of mercury. Sampling requirements have already been reduced to annually by approval letter from 5/25/2011. (Attachment 3)
2. Permit language to be consistent with new 316(b) rule from the EPA. Seek continued consideration that the Palisades Plant, with cooling towers, has reduced intake flow commensurate with a closed-cycle recirculating system. Request application of new rules be consistent with this perspective. (Attachment 4)

Steven M. Andrews

Environmental Coordinator
Palisades Nuclear Plant, Entergy
Office: 269-764-2568
Email: sandre3@entergy.com



Michigan Department of Environmental Quality – Water Resources Division
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 Resources Division Use <p style="text-align: center;">Only</p> Receipt #: _____ Permit ID #: _____	Cashier Use Only: 6000-42203-9512-481000-00
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PLEASE TYPE OR PRINT

1	NPDES PERMIT NUMBER MI 0001457		
2. APPLICANT	Applicant Name Entergy Services Inc, Palisades Nuclear Plant		
	Address 308 E. Pearl Street		Address 2 or P.O. Box
	City Jackson	State MS	ZIP Code 39201
	Telephone (with area code) (601) 969-2434	FAX (with area code) (601) 969-2696	Applicant Web Site Address sandre3@entergy.com
3. FACILITY	Facility Name 1 Entergy Nuclear Palisades, LLC		
	Facility Name 2		
	Facility Name 3		
	Street Address (Do not use a P.O. Box Number) 27780 Blue Star Memorial Highway		
	City Covert	State MI	ZIP Code 49043
	Telephone (with area code) (269) 764-2000	FAX (with area code) (269) 764-2078	Facility Web Site Address sandre3@entergy.com
4. CONTACTS	<input checked="" type="checkbox"/> Application Contact	First Name Steven	Last Name Andrews
	<input checked="" type="checkbox"/> Facility Contact	Title Environmental Coordinator	Business
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1 27780 Blue Star Memorial Highway	Address 2
	<input type="checkbox"/> Storm Water Billing	City Covert	State MI
	<input type="checkbox"/> Biosolids Billing		ZIP Code 49043
	<input checked="" type="checkbox"/> NPDES Annual Billing	Telephone (with area code) 269-764-2568	Fax Number
			e-mail address sandre3@entergy.com
	<input type="checkbox"/> Application Contact	First Name Joseph	Last Name Hager
	<input type="checkbox"/> Facility Contact	Title Chemistry Technical Supervisor	Business
	<input checked="" type="checkbox"/> Discharge Monitoring Reports	Address 1 27780 Blue Star Memorial Highway	Address 2
	<input checked="" type="checkbox"/> Storm Water Billing	City Covert	State MI
	<input type="checkbox"/> Biosolids Billing		ZIP Code 49043
	<input type="checkbox"/> NPDES Annual Billing	Telephone (with area code) 269-764-2536	Fax Number
			e-mail address jhager@entergy.com
	<input type="checkbox"/> Application Contact	First Name	Last Name
<input type="checkbox"/> Facility Contact	Title	Business	
<input type="checkbox"/> Discharge Monitoring Reports	Address 1	Address 2	
<input type="checkbox"/> Storm Water Billing	City	State	
<input type="checkbox"/> Biosolids Billing		ZIP Code	
<input type="checkbox"/> NPDES Annual Billing	Telephone (with area code)	Fax Number	
		e-mail address	

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I – General Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457
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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 on Pages 8-9 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 at a POTW if the increase is within the design flow of the facility, there is no increased loading of BCCs that are not specifically limited 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 DEQ-approved controls related to wet-weather conditions
 - Discharges authorized by Certificates of Coverage (COC) 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 Bioaccumulative Chemicals of Concern 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.

A	Local Unit of Government (LUG) South Haven	LUG e-mail address www.south-haven.com						
B	County Van Buren	Township Covert						
C.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Town 02S</td> <td style="width: 15%;">Range 17W</td> <td style="width: 15%;">Section 05</td> <td style="width: 15%;">¼ NW</td> <td style="width: 15%;">¼, ¼ SE</td> <td style="width: 20%;">Private (French) Land Claim</td> </tr> </table>	Town 02S	Range 17W	Section 05	¼ NW	¼, ¼ SE	Private (French) Land Claim	
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**

Does the facility have a DEQ-certified operator? Yes No Instructions for this item are on Page 2 of the Appendix.

First Name Steven	Last Name Andrews
Certification Number W 5589	Certification Classification(s) A-1h, B-2c
Address 1 27780 Blue Star Memorial Highway	Address 2
City Covert	State MI
Zip Code 49043	
Telephone Number 269-746-2568	Fax Number (269) 764-2078
e-mail address sandre3@entergy.com	

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I – General Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457
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9. OTHER ENVIRONMENTAL PERMITS
 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, 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
MDEQ, Air Quality	MI-ROP-B2934-2008	Renewable Operating Permi
Federal EPA RCRA	MID098644685	ID# Not a permit

10. WATER FLOW DIAGRAM AND NARRATIVE DESCRIPTION
 Provide a flow diagram (**using 8½" x 11" paper if possible**) and a narrative description that explains the diagram. The diagram should show the wastewater flow through the facility (from intake through discharge), including all processes, treatment units, including any lagoons or ponds (lagoon / pond construction and liner information should be included) used for wastewater treatment or storage (identify treatment units that operate intermittently), and bypass piping. 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. Provide black-and-white reproducible diagrams.**

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

Industrial and Commercial Facilities – The diagram shall include all operations contributing wastewater, including process and production areas, sanitary flows, cooling water, and storm water runoff. **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. Comments:

11. MAP OF FACILITY AND DISCHARGE LOCATION
 Provide a detailed black-and-white reproducible map on 8½" x 11" paper showing the location of the existing or proposed facility, wastewater and biosolids treatment system(s), water intakes, wastewater monitoring, and wastewater discharge points into receiving waters (including bypasses). Include the exact location of the water intakes, wastewater monitoring and discharge point(s) and, if applicable, all areas through which the discharge flows (e.g., wetlands, open drains, storm sewers) 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 be approximately one (1) mile beyond the property boundaries.**

ATTACH THIS INFORMATION TO THIS APPLICATION. Comments:

Palisades Nuclear Power Plant

NPDES Permit MI0001457: 4/3/13 Application

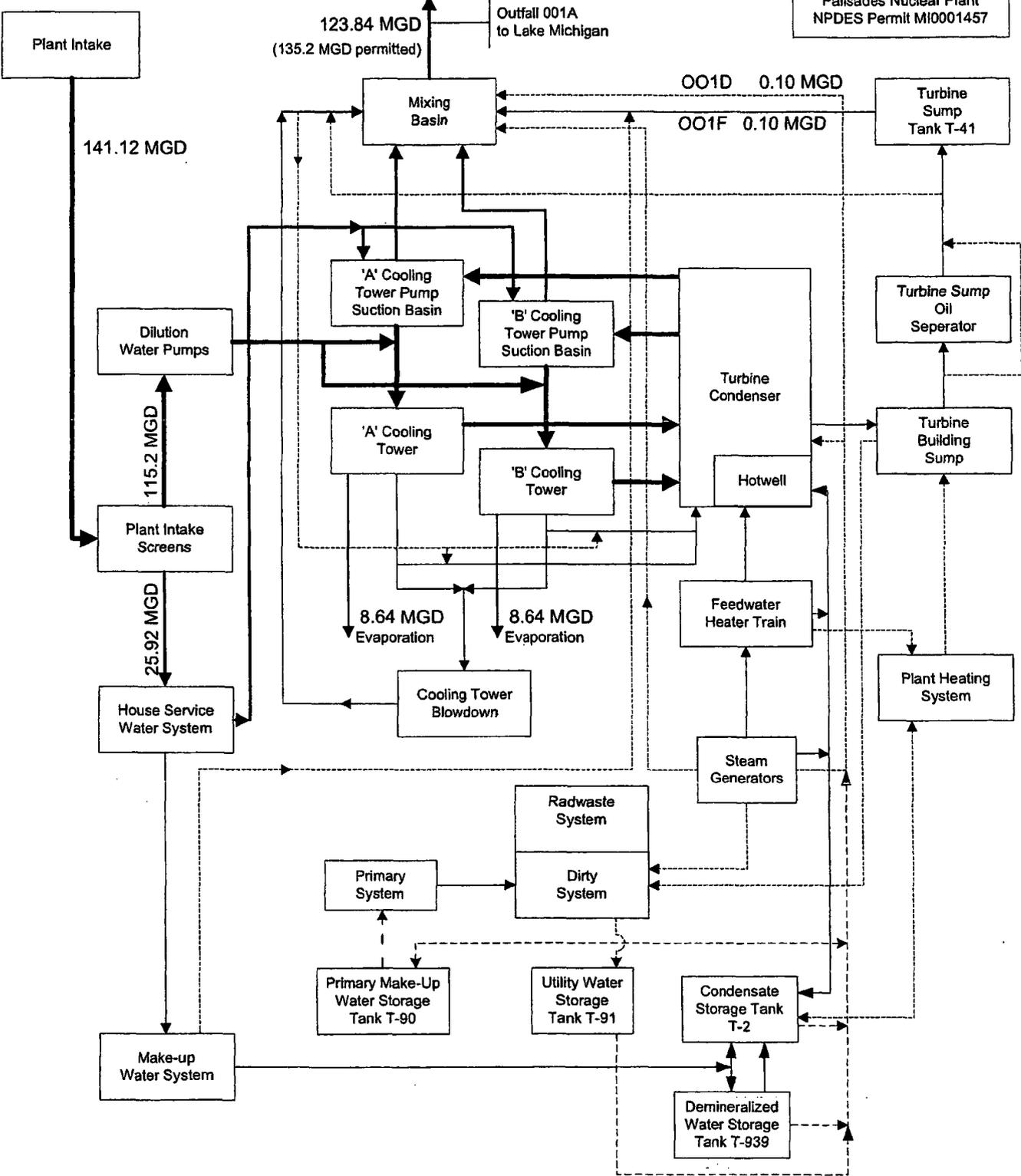
Section I – General Information

Item 10:

Narrative Description:

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

EXHIBIT I-10
Schematic of Water Flow
Entergy Services Inc
Palisades Nuclear Plant
NPDES Permit MI0001457

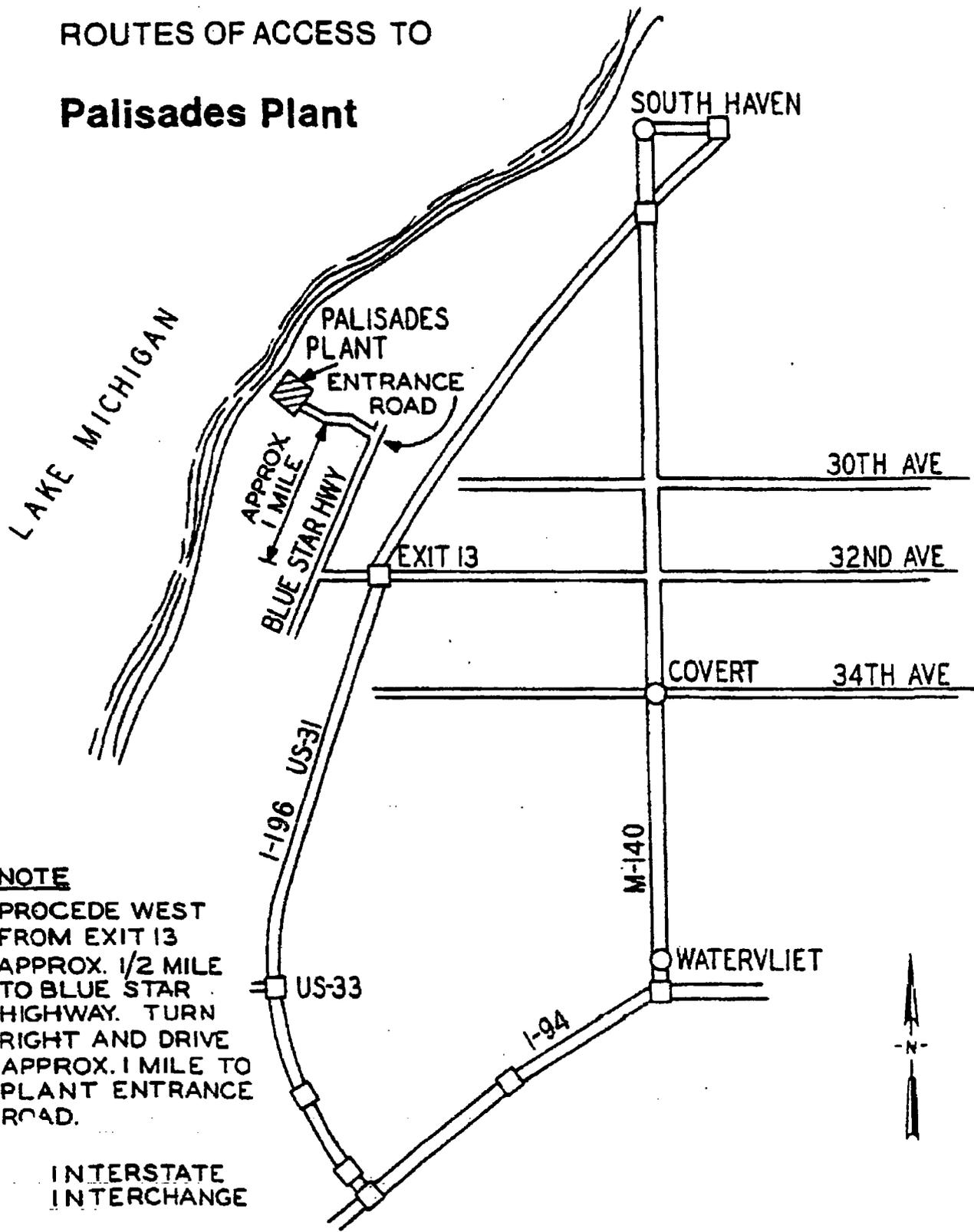


Continuous Flow —————>
 Intermittant Flow - - - - ->

Revised 3/18/08
 JMWoyehoski

ROUTES OF ACCESS TO

Palisades Plant



NOTE

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

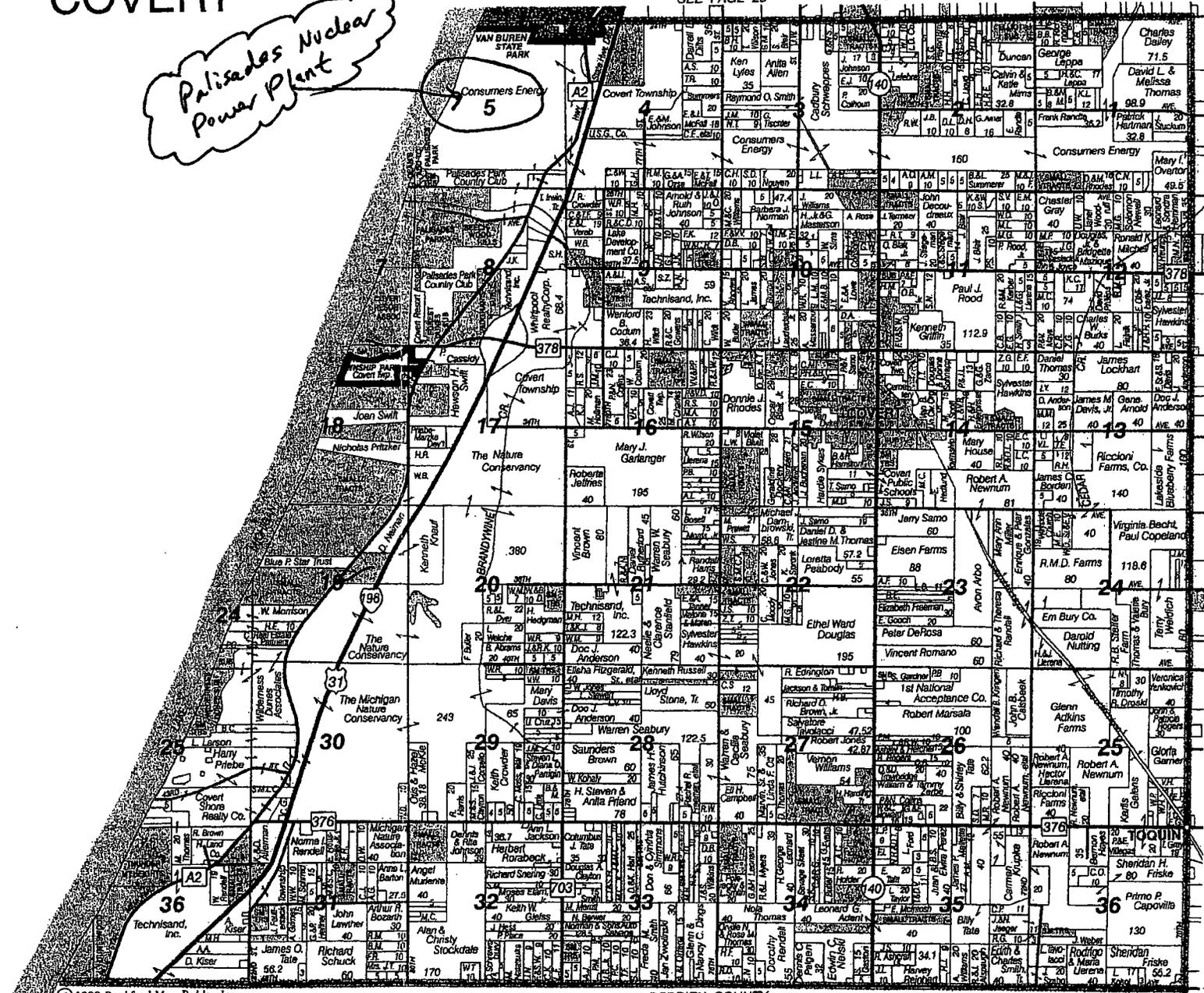
INTERSTATE INTERCHANGE

COVERT

SEE PAGE 25

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

24000
28000
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36000
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© 1999 Rockford Map Pubs., Inc. R.18 W. BERRIEN COUNTY Van Buren County, MI

84000 82000 80000 78000 76000 74000 72000 70000

SEE PAGE 19

Lake Mi

Palisades Nuclear Power Plant
NPDES Permit MI0001457
Section I - General Information
Item 11

Outfall 001
(MP 001A)

Outfalls 00D - 00F
(MP001D - 001F)



Lake Michigan

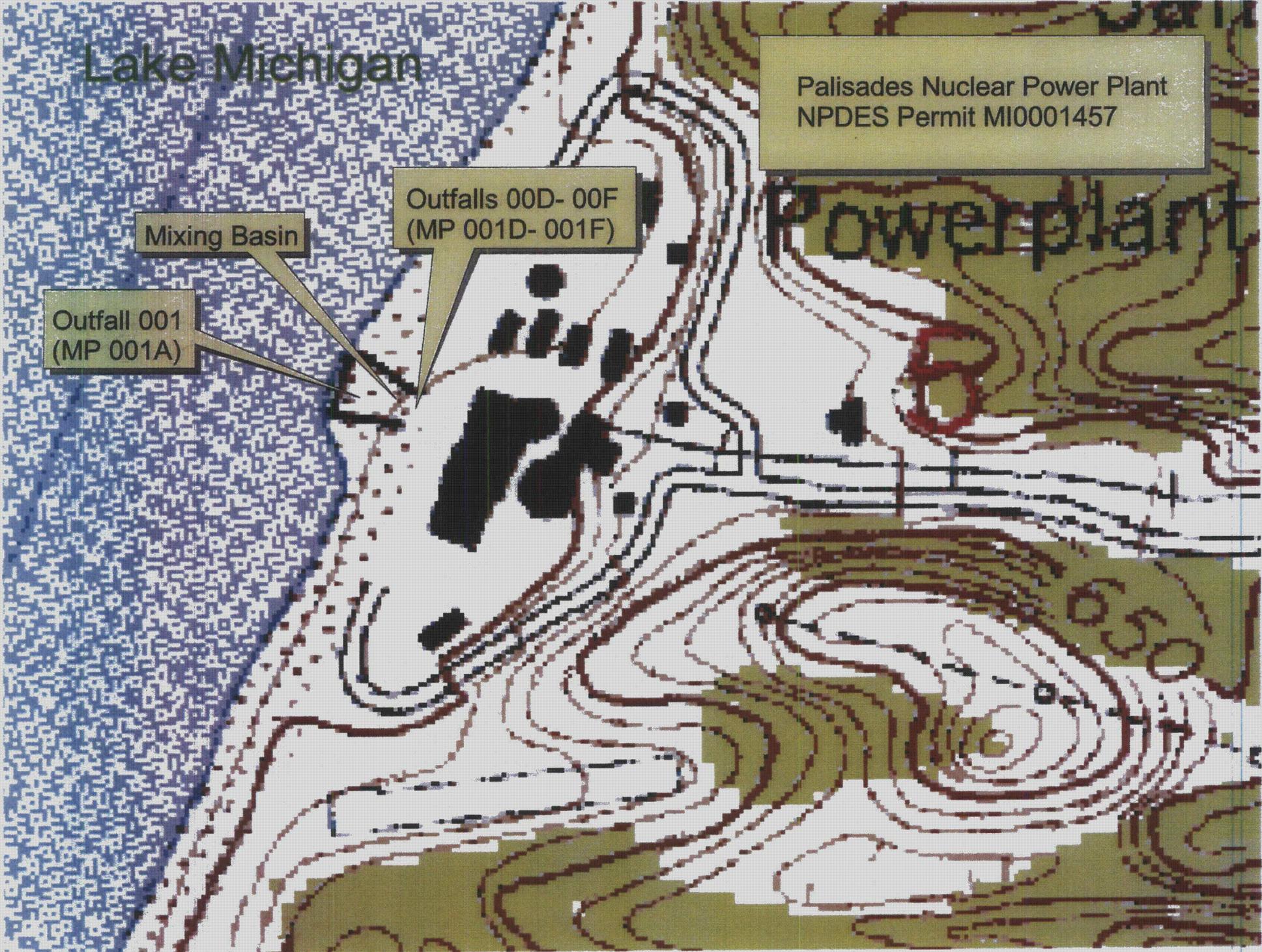
Palisades Nuclear Power Plant
NPDES Permit MI0001457

Powerplant

Outfalls 00D- 00F
(MP 001D- 001F)

Mixing Basin

Outfall 001
(MP 001A)



Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION I – General Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457
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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 (e.g., mayor, village president, city or village manager, or clerk)**

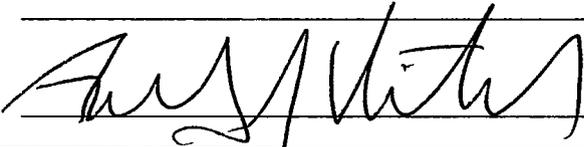
Note: If the signatory is not listed above, but is authorized to sign the Application, please provide documentation of that authorization.

"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: 3/28/2008

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.

MG MLYNAREK MG Mlynarek 4 Apr 13

Print Name	<u>Anthony J. Vitale</u>	Title	<u>Site Vice President</u>
Signature		Date	<u>4-5-13</u>

This completes Section I. Publicly-Owned Treatment Works 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, and Nursing Homes. 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:

- 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. Section V has been completed by any facility that is a Concentrated Animal Feeding Operation.
- 6. Section VI has been completed by any facility that has Cooling Water Intake Structures.
- 7. 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.
- 8. E-mail addresses have been provided.

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION II – Sanitary Wastewater

Section II is to be completed by Publicly-Owned Treatment Works (POTWs) discharging treated or untreated sanitary and industrial wastewater to the surface waters. Section II is also to be completed by all privately-owned treatment works discharging treated sanitary wastewater to the surface waters. The privately-owned treatment works include, but are not limited to, Mobile Home Parks, Campgrounds, Condominiums, Hotels and Motels, and Nursing Homes.

A. Facility Information

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA
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1. WATER SUPPLY INFORMATION

List the source(s) of the water supply in the area served by sewers. Identify groundwater wells and surface water intakes, as well as the name(s) of any surface water(s) from which intake water is drawn.

2. SERVICE AREA INFORMATION

POTWs are required to provide the following information: List the governmental jurisdictions (e.g., cities, townships, villages) that this facility serves (applicants should include themselves). What is the population in each jurisdiction? Is the jurisdiction's collection system separate, combined, or both? If the collection system is both separate and combined, what percentage is combined? To submit additional information, see Page ii, Item 3.

Municipality and E-Mail Address	Type of Collection System	Percent Combined	Population Served
_____	<input type="checkbox"/> Separate <input type="checkbox"/> Combined	_____	_____
_____	<input type="checkbox"/> Separate <input type="checkbox"/> Combined	_____	_____
_____	<input type="checkbox"/> Separate <input type="checkbox"/> Combined	_____	_____
_____	<input type="checkbox"/> Separate <input type="checkbox"/> Combined	_____	_____
_____	<input type="checkbox"/> Separate <input type="checkbox"/> Combined	_____	_____

Total population served by this facility: _____

Privately-Owned Treatment Works are required to provide the following information:

Describe the area served by this facility (e.g., mobile home park, condominium, nursing home).

Provide the number of residential units served by this facility: _____

3. BIOMONITORING FOR ACUTE AND CHRONIC TOXICITY

POTWs meeting one or more of the following criteria are required to submit with this Application the **results of four (4) Whole Effluent Toxicity (WET) tests** for each of the facility's discharge points, excluding combined sewer overflows: 1) POTWs with a design flow rate greater than or equal to one (1) million gallons per day (MGD); 2) POTWs with an approved Federal Industrial Pretreatment Program (FIPP); and/or 3) POTWs required to develop a FIPP.

The results of the tests shall be reported using the Acute Toxicity Test Report, *Ceriodaphnia dubia* Chronic Toxicity Test Report, and the Fathead Minnow Chronic Toxicity Test Report available in the Appendix. Please do not submit additional forms or paperwork pertaining to WET tests with this Application.

At a minimum, the applicant shall submit the results of quarterly WET testing for a 12-month period prior to this Application or the results of annual WET tests conducted during the five years prior to this Application. In addition, the applicant shall submit the results of any other WET tests from the past five years. If a WET test in the past 4½ years revealed toxicity, provide all the information on the cause of toxicity or the results of all toxicity reduction evaluations, if any were conducted. The applicant does not need to submit results for previously-submitted WET tests. **For assistance, see "Whole Effluent Toxicity Test Guidance and Requirements" on Page 17 of the Appendix. Comments:**

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION II – Sanitary Wastewater

B. Outfall Information

Complete a separate Section II.B. Outfall Information (Pages 7 – 12) for each outfall at the facility. Make copies of Section II.B. for each additional outfall that discharges treated wastewater.

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA	OUTFALL NUMBER
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1. **OUTFALL INFORMATION.** Instructions for this item are on Page 3 of the Appendix.

A.	Receiving Water	Hydrologic Unit Code (HUC)
B.	County	Township
C.	Town Range Section ¼	¼, ¼ Private (French) Land Claim
D.	Latitude	Longitude

E. Facility Annual Average Design Flow:

Seasonal Discharge: _____ MGY (Continue with Item F.) Continuous Discharge: _____ MGD (Continue with Item G.)

F. Seasonal Discharge:

List the discharge periods (by month) in the spaces provided below.

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

G. Continuous Discharge:

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

Provide the actual facility flows for the past three years. Three Years Ago Two Years Ago Last Year

	Three Years Ago	Two Years Ago	Last Year
Annual Average Daily Flow (MGD)			
Maximum Daily Flow in a Single Day (MGD)			

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)			

H. Inflow and Infiltration:

What is the current average daily volume of inflow and infiltration at this outfall? _____ Gallons/Day

What corrective actions are being taken to minimize this inflow and infiltration?

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION II – Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA	OUTFALL NUMBER
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2. EFFLUENT CHARACTERISTICS – CONVENTIONAL POLLUTANTS

Existing **Treatment Works Treating Domestic Sewage (TWTDS)** are required to report data from effluent sampled and analyzed by the permittee for the parameters listed below. (See the Definition Section on Page 8 in the Appendix for sampling definitions, including "maximum daily concentration" and "maximum monthly concentration.") Retention Treatment Basins are required to provide a summary of influent and effluent data for the last three years. **For analytical test requirements, or if alternate test procedures for any parameter listed below have been approved, see Page ii, Item 5.** If the data was previously submitted via DMRs, check the box and proceed to Item 3.

New TWTDS are required to provide **estimated** effluent concentrations for the parameters listed below.

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 the indicator that effluent has been disinfected. The DEQ 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 or e-DMRs	Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type
<input type="checkbox"/>	Biochemical Oxygen Demand – 5 day (BOD ₅)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	BOD ₅ , Lowest % Removed		Do Not Use	%		Calculation
<input type="checkbox"/>	Carbonaceous BOD ₅ (CBOD ₅)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Carbonaceous BOD ₅ , Lowest % Removed		Do Not Use	%		Calculation
<input type="checkbox"/>	Ammonia Nitrogen (as N)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Total Suspended Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Total Suspended Solids, Lowest % Removed		Do Not Use	%		Calculation
<input type="checkbox"/>	Total Dissolved Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Total Phosphorus (as P)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Fecal Coliform Bacteria (report geometric means)		Maximum 7-day	counts/100 ml		Grab
<input type="checkbox"/>	<i>Escherichia coli</i> (report geometric means)		Maximum 7-day	counts/100 ml		Grab
<input type="checkbox"/>	Total Residual Chlorine			<input type="checkbox"/> µg/l <input type="checkbox"/> mg/l		Grab
<input type="checkbox"/>	Dissolved Oxygen	Do Not Use	Minimum Daily	mg/l		Grab
<input type="checkbox"/>	pH	Minimum	Maximum	standard units		Grab
<input type="checkbox"/>	Temperature			<input type="checkbox"/> °F <input type="checkbox"/> °C		Grab
<input type="checkbox"/>						<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II – Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA	OUTFALL NUMBER
---------------------	---------------------------	----------------

3. EFFLUENT CHARACTERISTICS – TOXIC POLLUTANTS

Existing POTWs with (1) a design flow greater than or equal to 1.0 MGD; or (2) an approved Federal Industrial Pretreatment Program (FIPP); or (3) required to develop a FIPP or otherwise required by the permitting authority, shall provide the results of a minimum of three effluent analyses for each parameter listed below for each outfall through which effluent is discharged. Any effluent testing data for pollutants not specifically listed shall be submitted on separate pages. Do not include information on combined sewer overflows in this section.

All existing POTWs (unless already included above) are required to provide (1) the results of at least one effluent analysis (taken in the last three years) for any chemical that is known or believed to be present in facility effluent that is listed in Tables 2, 3, and 4 of the Appendix; (2) a measured or estimated effluent concentration for any chemical that is known or believed to be present that is listed in Table 5 of the Appendix; (3) a measured or estimated concentration for any toxic or otherwise injurious chemical known or believed to be present in facility effluent that is not previously identified in this Application; and (4) results of all other effluent analyses that have been performed within the past five years for any chemical listed in Tables 2, 3, 4, and 5 of the Appendix.

New POTWs are required to provide an estimated effluent concentration for any chemical expected to be present in facility effluent that is listed in Tables 2, 3, 4, and 5 of the Appendix, and an estimated effluent concentration for any toxic or otherwise injurious chemical known or believed to be present in facility effluent that has not been previously identified in this Application.

Note: If the effluent concentrations are estimated, place an E in the "Analytical Method" column. In accordance with Rule 323.1211(7), facilities whose supply water contains toxic pollutants that are withdrawn from and discharged to the same body of water may qualify for intake credits for those toxic pollutants. See Rule 1211(7) for qualification and demonstration requirements. Effluent data submitted in response to this part may be recorded on Pages 9 – 12, or by submission of sampling analytical reports. To submit additional information, see Page ii, Item 3. Report all sampling results in µg/l.

For analytical test requirements, or if alternate test procedures for any parameter listed below have been approved, see Page ii, Item 5 and Table 7 in the Appendix.

Submitted via DMRs or e-DMRs	SAMPLE DATE →							Sample Type	Analytical Method
	PARAMETER	CAS No.	Conc. (µg/l)						
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS									
<input type="checkbox"/>	Antimony	7440360							
<input type="checkbox"/>	Arsenic	7440382							
<input type="checkbox"/>	Barium	7440393							
<input type="checkbox"/>	Beryllium	7440417							
<input type="checkbox"/>	Boron	7440428							
<input type="checkbox"/>	Cadmium	7440439							
<input type="checkbox"/>	Chromium	7440473							
<input type="checkbox"/>	Copper	7440508							
<input type="checkbox"/>	Lead	7439921							
<input type="checkbox"/>	Mercury (USEPA Method 1631)	7439976							
<input type="checkbox"/>	Nickel	7440020							
<input type="checkbox"/>	Selenium	7782492							
<input type="checkbox"/>	Silver	7440224							
<input type="checkbox"/>	Thallium	7440280							
<input type="checkbox"/>	Zinc	7440666							
<input type="checkbox"/>	Available Cyanide (Method OIA 1677)	57125							
<input type="checkbox"/>	Total Phenolic Compounds	None							
<input type="checkbox"/>	Hardness (as CaCO ₃)	None							

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION II – Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME NA			NPDES PERMIT NUMBER NA				OUTFALL NUMBER	
Submitted via DMRs or e-DMRs	SAMPLE DATE →							
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
VOLATILE ORGANIC COMPOUNDS								
<input type="checkbox"/>	Acrolein	107028						
<input type="checkbox"/>	Acrylonitrile	107131						
<input type="checkbox"/>	Benzene	71432						
<input type="checkbox"/>	Bromoform	75252						
<input type="checkbox"/>	Carbon Tetrachloride	56235						
<input type="checkbox"/>	Chlorobenzene	108907						
<input type="checkbox"/>	Chlorodibromomethane	124481						
<input type="checkbox"/>	Chloroethane	75003						
<input type="checkbox"/>	2-chloro-ethylvinyl ether	110758						
<input type="checkbox"/>	Chloroform	67663						
<input type="checkbox"/>	Dichlorobromomethane	75274						
<input type="checkbox"/>	1,1-dichloroethane	75343						
<input type="checkbox"/>	1,2-dichloroethane	107062						
<input type="checkbox"/>	Trans-1,2-dichloroethylene	156605						
<input type="checkbox"/>	1,1-dichloroethylene	75354						
<input type="checkbox"/>	1,2-dichloropropane	78875						
<input type="checkbox"/>	1,3-dichloropropylene	542756						
<input type="checkbox"/>	Ethylbenzene	100414						
<input type="checkbox"/>	Methyl Bromide	74839						
<input type="checkbox"/>	Methyl Chloride	74873						
<input type="checkbox"/>	Methylene Chloride	75092						
<input type="checkbox"/>	1,1,2,2-tetrachloroethane	79345						
<input type="checkbox"/>	Tetrachloroethylene	127184						
<input type="checkbox"/>	Toluene	108883						
<input type="checkbox"/>	1,1,1-trichloroethane	71556						
<input type="checkbox"/>	1,1,2-trichloroethane	79005						
<input type="checkbox"/>	Trichloroethylene	79016						
<input type="checkbox"/>	Vinyl Chloride	75014						

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II – Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME NA			NPDES PERMIT NUMBER NA				OUTFALL NUMBER	
Submitted via DMRs or e-DMRs	SAMPLE DATE →		Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
	PARAMETER	CAS No.						
<input type="checkbox"/>	P-chloro-m-cresol	None						
<input type="checkbox"/>	2-chlorophenol	95578						
<input type="checkbox"/>	2,4-dichlorophenol	120832						
<input type="checkbox"/>	2,4-dimethylphenol	105679						
<input type="checkbox"/>	4,6-dinitro-o-cresol	534521						
<input type="checkbox"/>	2,4-dinitrophenol	51285						
<input type="checkbox"/>	2-nitrophenol	88755						
<input type="checkbox"/>	4-nitrophenol	100027						
<input type="checkbox"/>	Pentachlorophenol	87865						
<input type="checkbox"/>	Phenol	108952						
<input type="checkbox"/>	2,4,6-trichlorophenol	88062						
BASE-NEUTRAL COMPOUNDS								
<input type="checkbox"/>	Acenaphthene	83329						
<input type="checkbox"/>	Acenaphthylene	208968						
<input type="checkbox"/>	Anthracene	120127						
<input type="checkbox"/>	Benzdine	92875						
<input type="checkbox"/>	Benzo(a)anthracene	56553						
<input type="checkbox"/>	Benzo(a)pyrene	50328						
<input type="checkbox"/>	3,4 benzofluoranthene	205992						
<input type="checkbox"/>	Benzo(ghi) perylene	191242						
<input type="checkbox"/>	Benzo(k)fluoranthene	207089						
<input type="checkbox"/>	Bis (2-chloroethoxy) methane	111911						
<input type="checkbox"/>	Bis (2-chloroethyl) ether	111444						
<input type="checkbox"/>	Bis (2-chloroiso-propyl) ether	108601						
<input type="checkbox"/>	Bis (2-ethylhexyl) phthalate	117817						
<input type="checkbox"/>	4-bromophenyl phenyl ether	101553						
<input type="checkbox"/>	Butyl benzyl phthalate	85687						
<input type="checkbox"/>	2-chloronaphthalene	91587						
<input type="checkbox"/>	4-chlorophenylphenyl ether	7005723						

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION II – Sanitary Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME NA			NPDES PERMIT NUMBER NA				OUTFALL NUMBER	
Submitted via DMRs or e-DMRs	SAMPLE DATE →		Conc: (µg/l)	Conc: (µg/l)	Conc: (µg/l)	Conc: (µg/l)	Sample Type	Analytical Method
	PARAMETER	CASI No.						
<input type="checkbox"/>	Chrysene	218019						
<input type="checkbox"/>	Di-n-butyl phthalate	84742						
<input type="checkbox"/>	Di-n-octyl phthalate	117840						
<input type="checkbox"/>	Dibenzo(a,h) anthracene	53703						
<input type="checkbox"/>	1,2-dichlorobenzene	95501						
<input type="checkbox"/>	1,3-dichlorobenzene	541731						
<input type="checkbox"/>	1,4-dichlorobenzene	106467						
<input type="checkbox"/>	3,3-dichlorobenzidine	91941						
<input type="checkbox"/>	Diethyl Phthalate	84662						
<input type="checkbox"/>	Dimethyl Phthalate	131113						
<input type="checkbox"/>	2,4-dinitrotoluene	121142						
<input type="checkbox"/>	2,6-dinitrotoluene	606201						
<input type="checkbox"/>	1,2-diphenylhydrazine	122667						
<input type="checkbox"/>	Fluoranthene	206440						
<input type="checkbox"/>	Fluorene	86737						
<input type="checkbox"/>	Hexachlorobenzene	118741						
<input type="checkbox"/>	Hexachlorobutadiene	87683						
<input type="checkbox"/>	Hexachlorocyclopentadiene	77474						
<input type="checkbox"/>	Hexachloroethane	67721						
<input type="checkbox"/>	Indeno(1,2,3-cd) pyrene	193395						
<input type="checkbox"/>	Isophorone	78591						
<input type="checkbox"/>	Naphthalene	91203						
<input type="checkbox"/>	Nitrobenzene	98953						
<input type="checkbox"/>	N-nitrosodi-n-propylamine	None						
<input type="checkbox"/>	N-nitrosodimethylamine	62759						
<input type="checkbox"/>	N-nitrosodiphenylamine	86306						
<input type="checkbox"/>	Phenanthrene	85018						
<input type="checkbox"/>	Pyrene	129000						
<input type="checkbox"/>	1,2,4-trichlorobenzene	120821						

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II – Sanitary Wastewater

D. Nondomestic Wastewater Information

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA
---------------------	---------------------------

1. **SEPTAGE – Does this facility accept septage?**
 - Yes. On a separate sheet, describe the allocation of the Maximum Allowable Headworks Loading (MAHL) capacity to domestic wastewater, nondomestic wastewater, and septage. The MAHL should include the treatment plant's design and current loading and, at a minimum, the number of gallons and concentrations of the pollutants BOD, TSS, PO₄, and NH₃ that are attributable to each wastewater.
 - No. Continue with Item 2.

2. **RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) WASTEWATER**
 Does this facility receive, or has it in the last three (3) years received, RCRA hazardous waste by truck, rail, or dedicated pipe?
 - Yes. Provide the following information on a separate sheet: The method by which the waste is received (e.g., truck, rail, or dedicated pipe), the waste's "EPA Hazardous Waste Number," and the amount of waste received in either mass or volume.
 - No. Continue with Item 3.

3. **REMEDIATION WASTEWATER**
 Does this facility receive, or has it been notified that it will receive in the next five (5) years, wastes from remedial activities?
 - Yes. Provide a list on a separate sheet that contains the following information for each current and future remediation site:
 - 1) Describe the site and type of facility at which the CERCLA/RCRA or other remedial waste originates or will originate.
 - 2) List the hazardous constituents that are, or are expected to be, received at the POTW. Include data on volume and concentration, if known.
 - 3) Describe in detail any treatment the waste receives before being discharged to the POTW.
 - 4) Provide the schedule for when the remediation wastewater is discharged to the POTW.
 - No. Continue with Item 4.

4. **INDUSTRIAL AND COMMERCIAL SOURCES**
 - A. Does this facility receive any nondomestic wastewater from any industrial or commercial facilities? (Nondomestic wastewater refers to water that carries wastes other than human and household wastes.)
 - Yes. Continue with Item B.
 - No. Go to Part E. Biosolids Information.
 - B. Provide the following information:
 - 1) Estimate the average volume of nondomestic wastewater received by this facility: _____ MGD
 - 2) Describe the type of nondomestic wastewater(s) received by this facility in the space provided below.

Wastewater Type	Volume (MGD)	Wastewater Type	Volume (MGD)
<input type="checkbox"/> Industrial Process Wastewater	_____	<input type="checkbox"/> Landfill Leachate	_____
<input type="checkbox"/> Contact Cooling Water	_____	<input type="checkbox"/> Trucked Industrial Wastewater	_____
<input type="checkbox"/> Noncontact Cooling Water	_____	<input type="checkbox"/> Other: _____	_____

- C. Is an Industrial Pretreatment Program (IPP) currently required by the DEQ? **Note:** Applicants with an IPP are required to also complete Item 5 on Page 15.
 - Yes. Provide the most recent approval date for the following elements of the program:

Sewer Use Ordinance _____	Interjurisdictional Agreements _____	Procedures _____
Other Legal Authority _____	Enforcement Response Plan _____	Local Limits _____
 - No.

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II – Sanitary Wastewater

D. Nondomestic Wastewater Information

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA
---------------------	---------------------------

5. SIGNIFICANT INDUSTRIAL USER (SIU) INFORMATION

Supply the following information for **each** SIU that discharges to the treatment plant. Make additional copies of this page when necessary.

A. SIU location information

Company		
Facility Address		
City	State	ZIP Code

B. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

C. Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

D. Flow Rate. What are the average daily volume(s) of wastewater discharged to the collection system? Are the discharge(s) continuous or intermittent?

Type of Wastewater	Volume of Discharge (GPD)	Continuous or Intermittent
Process Wastewater		
Non-Process Wastewater		

E. Pretreatment Standards. Indicate whether the SIU is subject to one or both of the following:

Local Limits

Categorical Pretreatment Standards. Category _____ Subcategory _____

Category _____ Subcategory _____

Category _____ Subcategory _____

Category _____ Subcategory _____

F. Describe any problems at the treatment plant or in the collection system (e.g., upsets, pass through, interference, blockages) attributed to waste or wastewater discharged by this SIU during the last three years.

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II – Sanitary Wastewater

E. Biosolids Information

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA
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1. **BIOSOLIDS HANDLING** – All facilities that generate or propose to generate biosolids must complete Items 1. and 2.
Provide total English dry tons per 365-day period of residuals handled under the following practices:

Amount generated at the facility: _____ Amount sent to municipal solid waste landfill: _____

Amount received from off-site: _____ Amount sold or given away in a bag or other container for application to the land: _____

Amount treated on-site (including blending): _____ Amount transported to another POTW: _____

Amount used or disposed of by another practice: _____ Transport Company: _____

Amount applied to land in bulk form: _____ Receiving POTW: _____

Amount fired in incinerator: _____

BIOSOLIDS STORAGE
Enter the volume of residual storage capacity at this facility: _____ million gallons or cubic feet

2. **LAND APPLICATION** – Facilities that land apply must complete Items A. - D., or have submitted a Biosolids Annual Report as required in the facility's current Residual Monitoring Program. Latest Biosolids Annual Report submitted on _____

A. BIOSOLIDS CHARACTERISTICS – New Land Appliers Only

Report one year of residuals monitoring data and in no case less than three (3) sampling events for the following parameters. Provide the actual analytical data sheets as an attachment. Analytical methods shall be in accordance with Rule 323.2406 (2) "Methods for Biosolids."

Parameter	Average Monthly Concentration	Maximum Concentration	Units	Number of Analyses	Sample Type	Analytical Method	Quantification Level
Total Solids			%		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Arsenic			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Cadmium			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Copper			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Lead			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Mercury			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Molybdenum			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Nickel			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Selenium			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Zinc			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Kjeldahl Nitrogen			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Ammonium Nitrogen			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Phosphorus			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
Total Potassium			mg/kg		<input type="checkbox"/> Grab <input type="checkbox"/> Composite		

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION II – Sanitary Wastewater

E. Biosolids Information

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA
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B. POLLUTANTS OF CONCERN

Are there currently, or is there potential for, pollutants (other than the parameters listed on the previous page) to be present in the residuals at concentrations that would make them unsuitable for land application?

- Yes. On a separate sheet, provide representative analytical data for those pollutants.
 No. Continue with Item C.

C. ADDITIONAL BIOSOLIDS MONITORING DATA

Report any biosolids monitoring data from the last permit cycle for parameters not specifically listed on the previous page. Include the actual analytical data sheets as an attachment. Upon submittal review, additional monitoring may be required if the Water Resources Division has reason(s) to suspect that the information provided (or not provided) does not adequately characterize the residuals proposed to be land applied. For assistance with completing this item, contact the Permits Section. To submit additional information, see Page ii, Item 3.

Parameter	Average Monthly Concentration	Maximum Concentration	Units	Number of Analyses	Sample Type	Analytical Method	Quantification Level
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		
					<input type="checkbox"/> Grab <input type="checkbox"/> Composite		

D. LAND APPLICATION SITE LIST

Provide the following information for every new or existing site that may be used in the next five years (biosolids permit cycle). Each listed site should have been submitted to the DEQ on a Site Identification Form (with attachments) since January 1, 1998, or the required information should be included with this form. Additional sites may be added to the Land Application Site List during the biosolids permit cycle by submitting a completed Site Identification Form with the appropriate attachments and waiting the required ten-day notification period. To submit additional information, see Page ii, Item 3.

Site Identification Number	Latitude	Longitude	Acres	Owner's Last Name	New Site	CPLR Site
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>

This completes Section II. Return the completed Application (Sections I, II, 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 Resources Division

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 Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457
--	--

1. BUSINESS INFORMATION

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 Power
- No. This facility is not a primary industry.

2. WATER SUPPLY AND DISCHARGE TYPE

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 Municipal	0.018	MGD
Surface Water Intake	Lake Michigan	141.12	MGD
Private Well			
Other: _____			

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 the amounts are different, provide an explanation.

	Average Flow Rate	Units		Average Flow Rate	Units
Process Wastewater	0.062	MGD	Sanitary Wastewater	0.018	MGD
Contact Cooling Water	NA		Regulated Storm Water	unspecified	MGD
Noncontact Cooling Water	116.77	MGD	High Pressure Test Water	NA	
Groundwater Cleanup	NA		Other: _____	NA	

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.

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

Complete a separate Section III.B. – Outfall Information (Pages 19 – 24) 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 Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 000-intake
---	-----------------------------------	------------------------------

1. OUTFALL INFORMATION. Instructions for this item are on Page 3 of the Appendix.

A.	Receiving Water Lake Michigan			Hydrologic Unit Code 0405002		
B.	County Van Buren			Township Covert		
C.	Town 02S	Range 17W	Section 05	1/4 NW	1/4, 1/4 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):

- 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): _____
 Others (see Table 8 – Other Common Types of Wastewater on Page 17 in the Appendix) Plant Intake

F. The Maximum Design Flow Rate for this outfall is: NA-intake MGD

G. What is the Maximum Authorized Daily Discharge Flow for this outfall for the next five years?
 Seasonal Dischargers NA MGY (Continue with Item H.)
 Continuous Dischargers NA 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)? NA Hours/Day _____ 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)	NA		
Batch Duration (minutes)			

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 000-intake
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2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

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 on Page 11 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 (5) 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: _____
- 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:

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 000-intake
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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 DEQ 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 or e-DMRs	Waiver Request and the Rationale Behind the Request	Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type
<input type="checkbox"/>	NA-intake	Biochemical Oxygen Demand – five day (BOD ₅)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	NA-intake	Chemical Oxygen Demand (COD)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	NA-intake	Total Organic Carbon (TOC)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	NA-intake	Ammonia Nitrogen (as N)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	NA-intake	Total Suspended Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Total Dissolved Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Total Phosphorus (as P)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Fecal Coliform Bacteria (report geometric means)		Maximum 7-day	counts/100ml		Grab
<input type="checkbox"/>	Waiver Request Not Required	<i>Escherichia coli</i> (report geometric means)		Maximum 7-day	counts/100 ml		Grab
<input type="checkbox"/>	Waiver Request Not Required	Total Residual Chlorine			<input type="checkbox"/> mg/l <input type="checkbox"/> µg/l		Grab
<input type="checkbox"/>	Waiver Request Not Required	Dissolved Oxygen	Do Not Use	Minimum Daily	mg/l		Grab
<input type="checkbox"/>	NA-intake	pH (report maximum and minimum of individual samples)	Minimum	Maximum	standard units		Grab
<input type="checkbox"/>		Temperature, Summer	70.4	78.1	<input checked="" type="checkbox"/> °F <input type="checkbox"/> °C	276	Grab
<input checked="" type="checkbox"/>		Temperature, Winter	43.0	47.2	<input checked="" type="checkbox"/> °F <input type="checkbox"/> °C	360	Grab

Waiver Request Not Required

Oil & Grease

ma/l

Grab

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 000-intake
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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 23. 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. Tables 1, 2, and 3 can be found in the Appendix.

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 Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 000-Intake	
Submitted via DMRs or e-DMRs	SAMPLE DATE →		03/25/13					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
<input type="checkbox"/>	Total Antimony	07440-36-0	nd				grab	EPA200.8
<input type="checkbox"/>	Total Arsenic	07440-38-2	nd				grab	EPA200.8
<input type="checkbox"/>	Total Beryllium	07440-41-7	nd				grab	EPA200.8
<input type="checkbox"/>	Total Cadmium	07440-47-3	nd				grab	EPA200.8
<input type="checkbox"/>	Total Chromium	07440-47-3	1				grab	EPA200.8
<input type="checkbox"/>	Total Copper	07550-50-8	1				grab	EPA200.8
<input type="checkbox"/>	Total Lead	07439-92-1	nd				grab	EPA200.8
<input type="checkbox"/>	Total Mercury	07439-97-6	0.000517				grab	EPA1631E
<input type="checkbox"/>	Total Nickel	07440-02-0	2				grab	EPA200.8
<input type="checkbox"/>	Total Selenium	07782-49-2	nd				grab	EPA200.8
<input type="checkbox"/>	Total Silver	07440-22-4	nd				grab	EPA200.8
<input type="checkbox"/>	Total Thallium	07440-28-0	nd				grab	EPA200.8
<input type="checkbox"/>	Total Zinc	07440-66-6	nd				grab	EPA200.8
<input type="checkbox"/>	Total Cyanide	00057-112-5	nd				grab	OIA1677
<input type="checkbox"/>	Total Phenols		nd				grab	EPA420.1
<input type="checkbox"/>								
<input type="checkbox"/>								
<input type="checkbox"/>								
<input type="checkbox"/>								
<input type="checkbox"/>								
<input type="checkbox"/>								
<input type="checkbox"/>								
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Michigan Department of Environmental Quality – Water Resources Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 000-Intake		
Submitted via DMRs or e-DMRs	PARAMETER	SAMPLE DATE →		Conc (µg/l)	Conc (µg/l)	Conc (µg/l)	Conc (µg/l)	Sample Type	Analytical Method
		CAS No.	03/25/13						
<input type="checkbox"/>	2-Chlorophenol	00095-57-8	nd					grab	EPA 625
<input type="checkbox"/>	Phenol	00108-95-2	nd					grab	EPA 625
<input type="checkbox"/>	2-nitrophenol	00088-75-5	nd					grab	EPA 625
<input type="checkbox"/>	2,4-dimethylphenol	000105-67-9	nd					grab	EPA 625
<input type="checkbox"/>	2,4-dichlorophenol	00120-83-2	nd					grab	EPA 625
<input type="checkbox"/>	2,4,6-trichlorophenol	00088-06-2	nd					grab	EPA 625
<input type="checkbox"/>	4-nitrophenol	00100-02-7	nd					grab	EPA 625
<input type="checkbox"/>	2,4-dinitrophenol	00051-28-5	nd					grab	EPA 625
<input type="checkbox"/>	Pentachlorophenol	00087-86-5	nd					grab	EPA 625
<input type="checkbox"/>	4,6-Dinitro-O-Cresol	00534-52-1	nd					grab	EPA 625
<input type="checkbox"/>	p-Chloro-m-Cresol	00059-50-7	nd					grab	EPA 625
<input type="checkbox"/>	3,4-Benzofluoranthene	00205-99-2	nd					grab	EPA 625
<input type="checkbox"/>	Chlorodibromomethane	00124-48-1	nd					grab	EPA 624
<input type="checkbox"/>	Methyl Bromide	00074-83-9	nd					grab	EPA 624
<input type="checkbox"/>	Methyl Chloride	00074-87-3	nd					grab	EPA 624
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
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Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 000	
Submitted via DMRs or e-DMRs	PARAMETER	SAMPLE DATE → CAS No.	03/25/13				Sample Type	Analytical Method
			Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)		
<input type="checkbox"/>	Acenaphthene	00083-32-9	nd				grab	EPA 625
<input type="checkbox"/>	Acenaphthylene	00208-96-8	nd				grab	EPA 625
<input type="checkbox"/>	Anthracene	00120-12-7	nd				grab	EPA 625
<input type="checkbox"/>	Benzidine	00092-87-5	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(a)anthracene	00056-55-3	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(a)pyrene	00050-32-8	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(ghi)perylene	00191-24-2	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(k)fluoranthene	00207-08-9	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-chloroethoxy)methane	00111-91-1	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-chloroethyl)ether	00111-44-4	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-ethylhexyl)phthalate	00117-81-7	nd				grab	EPA 625
<input type="checkbox"/>	4-Bromophenyl phenyl ether	00101-55-3	nd				grab	EPA 625
<input type="checkbox"/>	Butyl benzyl phthalate	00085-68-7	nd				grab	EPA 625
<input type="checkbox"/>	2-Chloronaphthalene	00091-58-7	nd				grab	EPA 625
<input type="checkbox"/>	4-Chlorophenyl phenyl ether	07005-72-3	nd				grab	EPA 625
<input type="checkbox"/>	Chrysene	00218-01-9	nd				grab	EPA 625
<input type="checkbox"/>	Dibenzo(a,h)anthracene	00053-70-3	nd				grab	EPA 625
<input type="checkbox"/>	3,3-Dichlorobenzidine	00091-94-4	nd				grab	EPA 625
<input type="checkbox"/>	1,4-Dichlorobenzene	00106-46-7	nd				grab	EPA 625
<input type="checkbox"/>	Diethyl phthalate	00084-74-2	nd				grab	EPA 625
<input type="checkbox"/>	Dimethyl phthalate	00113-11-3	nd				grab	EPA 625
<input type="checkbox"/>	Di-n-butyl phthalate	00084-74-2	nd				grab	EPA 625
<input type="checkbox"/>	2,4-Dinitrotoluene	00121-14-2	nd				grab	EPA 625
<input type="checkbox"/>	2,6-Dinitrotoluene	00606-20-2	nd				grab	EPA 625
<input type="checkbox"/>	Di-n-octyl phthalate	00117-84-0	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-chloroisopropyl)ether	39638-32-9	nd				grab	EPA 625
<input type="checkbox"/>								

Michigan Department of Environmental Quality – Water Resources Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 000-intake	
Submitted via DMRs or e-DMRs	PARAMETER	SAMPLE DATE → CAS No.	03/25/13				Sample Type	Analytical Method
			Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)		
<input type="checkbox"/>	Azobenzene	00122-66-7	nd				grab	EPA 625
<input type="checkbox"/>	Fluoranthene	00206-44-0	nd				grab	EPA 625
<input type="checkbox"/>	Fluorene	00086-73-7	nd				grab	EPA 625
<input type="checkbox"/>	Hexachlorobenzene	00118-71-1	nd				grab	EPA 625
<input type="checkbox"/>	Hexachlorobutadiene	00087-68-3	nd				grab	EPA 625
<input type="checkbox"/>	Hexachlorocyclopentadiene	00077-47-4	nd				grab	EPA 625
<input type="checkbox"/>	Hexachloroethane	00067-72-1	nd				grab	EPA 625
<input type="checkbox"/>	Indeno(1,2,3-cd)pyrene	00193-39-5	nd				grab	EPA 625
<input type="checkbox"/>	Isophorone	00078-59-1	nd				grab	EPA 625
<input type="checkbox"/>	Nitrobenzene	00098-95-3	nd				grab	EPA 625
<input type="checkbox"/>	N-nitrosodimethylamine	00062-75-9	nd				grab	EPA 625
<input type="checkbox"/>	N-nitrosodi-n-propylamine	00621-64-7	nd				grab	EPA 625
<input type="checkbox"/>	N-nitrosodiphenylamine	00086-30-6	nd				grab	EPA 625
<input type="checkbox"/>	Phenanthrene	00085-01-8	nd				grab	EPA 625
<input type="checkbox"/>	Pyrene	00129-00-0	nd				grab	EPA 625
<input type="checkbox"/>	Naphthalene	00091-20-3	nd				grab	EPA 625
<input type="checkbox"/>	1,2,4-Trichlorobenzene	00120-82-1	nd				grab	EPA 625
<input type="checkbox"/>	1,2-Dichlorobenzene	00095-50-1	nd				grab	EPA 625
<input type="checkbox"/>	1,3-Dichlorobenzene	00541-73-1	nd				grab	EPA 625
<input type="checkbox"/>								
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WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 000-intake
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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 DEQ 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)
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., microbicide, flocculant)
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 Resource Division's files for the water treatment additives listed on the DEQ'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 Resources Division. **Note:** The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive. Comments:

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 (3) years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the DEQ in the last three (3) years. For assistance with WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" on Page 17 in the Appendix. Comments:

This completes Section III. Return the completed Application (Sections I, III, IV, VI [if applicable], 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.

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

Complete a separate Section III.B. – Outfall Information (Pages 19 – 24) 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 Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001A
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1. OUTFALL INFORMATION. Instructions for this item are on Page 3 of the Appendix.

A.	Receiving Water Lake Michigan			Hydrologic Unit Code 0405002		
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):

- 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): _____
 Others (see Table 8 – Other Common Types of Wastewater on Page 17 in the Appendix) _____

F. The Maximum Design Flow Rate for this outfall is: 135.2 MGD

G. What is the Maximum Authorized Daily Discharge Flow for this outfall for the next five years?
 Seasonal Dischargers NA 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)	NA		
Batch Duration (minutes)			

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC			NPDES PERMIT NUMBER MI 0001457				OUTFALL NUMBER 000 INTAKE	
Submitted via DMRs or e-DMRs	PARAMETER	SAMPLE DATE →	03/25/13				Sample Type	Analytical Method
		CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)		
<input type="checkbox"/>	Acrolein	00107-02-8	nd				grab	EPA 624
<input type="checkbox"/>	Acrylonitrile	00107-13-1	nd				grab	EPA 624
<input type="checkbox"/>	Benzene	00107-43-2	nd				grab	EPA 624
<input type="checkbox"/>	Bromoform	00075-25-2	nd				grab	EPA 624
<input type="checkbox"/>	Carbon tetrachloride	00056-23-5	nd				grab	EPA 624
<input type="checkbox"/>	Chlorobenzene	00108-90-7	nd				grab	EPA 624
<input type="checkbox"/>	Chloroethane	00075-00-3	nd				grab	EPA 624
<input type="checkbox"/>	2-chloro-ethylvinyl ether	00110-75-8	nd				grab	EPA 624
<input type="checkbox"/>	Chloroform	00067-66-3	nd				grab	EPA 624
<input type="checkbox"/>	Dichlorobromomethane	00075-27-4	nd				grab	EPA 624
<input type="checkbox"/>	1,1-dichloroethane	00075-34-3	nd				grab	EPA 624
<input type="checkbox"/>	1,2-dichloroethane	00107-06-2	nd				grab	EPA 624
<input type="checkbox"/>	Trans-1,2-dichloroethene	00156-60-5	nd				grab	EPA 624
<input type="checkbox"/>	1,1-dichloroethene	00075-35-4	nd				grab	EPA 624
<input type="checkbox"/>	1,2-dichloropropane	00078-87-5	nd				grab	EPA 624
<input type="checkbox"/>	1,3-dichloropropene	00542-75-6	nd				grab	EPA 624
<input type="checkbox"/>	Ethylbenzene	00100-41-4	nd				grab	EPA 624
<input type="checkbox"/>	Methylene chloride	00075-09-2	nd				grab	EPA 624
<input type="checkbox"/>	1,1,2,2-tetrachloroethane	00079-34-5	nd				grab	EPA 624
<input type="checkbox"/>	Tetrachloroethene	00127-18-4	nd				grab	EPA 624
<input type="checkbox"/>	Toluene	00108-88-3	nd				grab	EPA 624
<input type="checkbox"/>	1,1,1-trichloroethane	00071-55-6	nd				grab	EPA 624
<input type="checkbox"/>	1,1,2-trichloroethane	00079-00-5	nd				grab	EPA 624
<input type="checkbox"/>	Trichloroethene	00079-01-6	nd				grab	EPA 624
<input type="checkbox"/>	Vinyl chloride	00075-01-4	nd				grab	EPA 624
<input type="checkbox"/>								
<input type="checkbox"/>								

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001A
<p>2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE</p> <p>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 on Page 11 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 (5) 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.</p>		
<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: <u>Cooling Tower Blowdown</u></p> <p>B. SIC or NAICS code: <u>4911</u></p> <p>C. Describe the process and provide measures of production: The cooling towers typically provide cooled water to the condenser. A portion of the noncontact cooling water flow rate is discharged directly to the mixing basin where flow is recorded and reported during discharge.</p>		
<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: <u>Treated Misc Low Volume Wastewater</u></p> <p>B. SIC or NAICS code: <u>4911</u></p> <p>C. Describe the process and provide measures of production: Waste consist of steam generator blowdown, demineralizer backwash, reverse osmosis filter backwash, turbine sump drainage, floor drains, laboratory waste, and radwaste wastewater.</p>		
<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: <u>Radwaste Wastewater (Outfall 001D)</u></p> <p>B. SIC or NAICS code: <u>4911</u></p> <p>C. Describe the process and provide measures of production: This process removes suspended solids and radioactivity by collection and then processing through a demineralizer prior to discharge at outfall 001D. See flow diagram.</p>		
<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: <u>Turbine Sump Drainage (Outfall 001F)</u></p> <p>B. SIC or NAICS code: <u>4911</u></p> <p>C. Describe the process and provide measures of production: The turbine sump collects filtered floor drainage from the turbine building which is treated by a oil/water sereerator prior to discharge to outfall 001F. See flow diagram.</p>		
<p>PROCESS INFORMATION</p> <p>A. Name of the process contributing to the discharge: <u>Floor Drainage</u></p> <p>B. SIC or NAICS code: <u>4911</u></p> <p>C. Describe the process and provide measures of production: Floor drainage from plant secondary systems is drained to the turbine sump. Auxiliary building floor drains are processed through the radwaste system eventually discharging to outfall 001D. See flow diagram.</p>		

Michigan Department of Environmental Quality – Water Resources Division
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 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

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FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001A
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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 DEQ 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 or e-DMRs	Waiver Request and the Rationale Behind the Request	Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type
<input type="checkbox"/>	Request Waiver, no source addition	Biochemical Oxygen Demand – five day (BOD ₅)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Request Waiver, no source addition	Chemical Oxygen Demand (COD)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Request Waiver, no source addition	Total Organic Carbon (TOC)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Request Waiver, no source addition	Ammonia Nitrogen (as N)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Request Waiver, applied internally at source as treatment technology	Total Suspended Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Total Dissolved Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Total Phosphorus (as P)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Fecal Coliform Bacteria (report geometric means)		Maximum 7-day	counts/100ml		Grab
<input type="checkbox"/>	Waiver Request Not Required	<i>Escherichia coli</i> (report geometric means)		Maximum 7-day	counts/100 ml		Grab
<input checked="" type="checkbox"/>	Waiver Request Not Required	Total Residual Chlorine	177	177	<input type="checkbox"/> mg/l <input checked="" type="checkbox"/> µg/l	1199	Grab
<input type="checkbox"/>	Waiver Request Not Required	Dissolved Oxygen	Do Not Use	Minimum Daily	mg/l		Grab
<input checked="" type="checkbox"/>		pH (report maximum and minimum of individual samples)	Minimum 7.35	Maximum 8.88	standard units		Grab
<input checked="" type="checkbox"/>		Temperature, Summer	105.1	110.4	<input type="checkbox"/> °F <input type="checkbox"/> °C		Grab
<input checked="" type="checkbox"/>		Temperature, Winter	86.2	91.9	<input type="checkbox"/> °F <input type="checkbox"/> °C		Grab

Waiver Request Not Required

Oil & Grease

mg/l

Grab

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001A
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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 23. 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. Tables 1, 2, and 3 can be found in the Appendix.

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 Resources Division

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 001A		
Submitted via DMRs or e-DMRs	PARAMETER	SAMPLE DATE →		Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
		CAS No.	03/25/13						
<input type="checkbox"/>	Total Antimony	07440-36-0	nd					grab	EPA200.8
<input type="checkbox"/>	Total Arsenic	07440-38-2	nd					grab	EPA200.8
<input type="checkbox"/>	Total Beryllium	07440-41-7	nd					grab	EPA200.8
<input type="checkbox"/>	Total Cadmium	07440-47-3	nd					grab	EPA200.8
<input type="checkbox"/>	Total Chromium	07440-47-3	2					grab	EPA200.8
<input type="checkbox"/>	Total Copper	07550-50-8	2					grab	EPA200.8
<input type="checkbox"/>	Total Lead	07439-92-1	nd					grab	EPA200.8
<input type="checkbox"/>	Total Mercury	07439-97-6	0.00056					grab	EPA1631E
<input type="checkbox"/>	Total Nickel	07440-02-0	3					grab	EPA200.8
<input type="checkbox"/>	Total Selenium	07782-49-2	nd					grab	EPA200.8
<input type="checkbox"/>	Total Silver	07440-22-4	nd					grab	EPA200.8
<input type="checkbox"/>	Total Thallium	07440-28-0	nd					grab	EPA200.8
<input type="checkbox"/>	Total Zinc	07440-66-6	nd					grab	EPA200.8
<input type="checkbox"/>	Total Cyanide	00057-112-5	nd					grab	OIA1677
<input type="checkbox"/>	Total Phenols		nd					grab	EPA420.1
<input type="checkbox"/>									
<input type="checkbox"/>									
<input type="checkbox"/>									
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WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 001A	
Submitted via DMRs or e-DMRs	SAMPLE DATE →		03/25/13					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
<input type="checkbox"/>	2-Chlorophenol	00095-57-8	nd				grab	EPA 625
<input type="checkbox"/>	Phenol	00108-95-2	nd				grab	EPA 625
<input type="checkbox"/>	2-nitrophenol	00088-75-5	nd				grab	EPA 625
<input type="checkbox"/>	2,4-dimethylphenol	000105-67-9	nd				grab	EPA 625
<input type="checkbox"/>	2,4-dichlorophenol	00120-83-2	nd				grab	EPA 625
<input type="checkbox"/>	2,4,6-trichlorophenol	00088-06-2	nd				grab	EPA 625
<input type="checkbox"/>	4-nitrophenol	00100-02-7	nd				grab	EPA 625
<input type="checkbox"/>	2,4-dinitrophenol	00051-28-5	nd				grab	EPA 625
<input type="checkbox"/>	Pentachlorophenol	00087-86-5	nd				grab	EPA 625
<input type="checkbox"/>	4,6-Dinitro-O-Cresol	00534-52-1	nd				grab	EPA 625
<input type="checkbox"/>	p-Chloro-m-Cresol	00059-50-7	nd				grab	EPA 625
<input type="checkbox"/>	3,4-Benzofluoranthene	00205-99-2	nd				grab	EPA 625
<input type="checkbox"/>	Chlorodibromomethane	00124-48-1	nd				grab	EPA 624
<input type="checkbox"/>	Methyl Bromide	00074-83-9	nd				grab	EPA 624
<input type="checkbox"/>	Methyl Chloride	00074-87-3	nd				grab	EPA 624
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Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater
 B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 001A	
Submitted via DMRs or e-DMRs	PARAMETER	CAS No.	SAMPLE DATE → 03/25/13				Sample Type	Analytical Method
			Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)		
<input type="checkbox"/>	Acenaphthene	00083-32-9	nd				grab	EPA 625
<input type="checkbox"/>	Acenaphthylene	00208-96-8	nd				grab	EPA 625
<input type="checkbox"/>	Anthracene	00120-12-7	nd				grab	EPA 625
<input type="checkbox"/>	Benzidine	00092-87-5	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(a)anthracene	00056-55-3	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(a)pyrene	00050-32-8	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(ghi)perylene	00191-24-2	nd				grab	EPA 625
<input type="checkbox"/>	Benzo(k)fluoranthene	00207-08-9	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-chloroethoxy)methane	00111-91-1	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-chloroethyl)ether	00111-44-4	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-ethylhexyl)phthalate	00117-81-7	nd				grab	EPA 625
<input type="checkbox"/>	4-Bromophenyyl phenyl ether	00101-55-3	nd				grab	EPA 625
<input type="checkbox"/>	Butyl benzyl phthalate	00085-68-7	nd				grab	EPA 625
<input type="checkbox"/>	2-Chloronaphthalene	00091-58-7	nd				grab	EPA 625
<input type="checkbox"/>	4-Chlorophenyl phenyl ether	07005-72-3	nd				grab	EPA 625
<input type="checkbox"/>	Chrysene	00218-01-9	nd				grab	EPA 625
<input type="checkbox"/>	Dibenzo(a,h)anthracene	00053-70-3	nd				grab	EPA 625
<input type="checkbox"/>	3,3-Dichlorobenzidine	00091-94-4	nd				grab	EPA 625
<input type="checkbox"/>	1,4-Dichlorobenzene	00106-46-7	nd				grab	EPA 625
<input type="checkbox"/>	Diethyl phthalate	00084-74-2	nd				grab	EPA 625
<input type="checkbox"/>	Dimethyl phthalate	00113-11-3	nd				grab	EPA 625
<input type="checkbox"/>	Di-n-butyl phthalate	00084-74-2	nd				grab	EPA 625
<input type="checkbox"/>	2,4-Dinitrotoluene	00121-14-2	nd				grab	EPA 625
<input type="checkbox"/>	2,6-Dinitrotoluene	00606-20-2	nd				grab	EPA 625
<input type="checkbox"/>	Di-n-octyl phthalate	00117-84-0	nd				grab	EPA 625
<input type="checkbox"/>	Bis(2-chloroisopropyl)ether	39638-32-9	nd				grab	EPA 625
<input type="checkbox"/>								

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Palisades Nuclear Power Plant			NPDES PERMIT NUMBER MI0001457				OUTFALL NUMBER 001A	
Submitted via DMRs or e-DMRs	SAMPLE DATE →		03/25/13					
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Sample Type	Analytical Method
<input type="checkbox"/>	Azobenzene	00122-66-7	nd				grab	EPA 625
<input type="checkbox"/>	Fluoranthene	00206-44-0	nd				grab	EPA 625
<input type="checkbox"/>	Fluorene	00086-73-7	nd				grab	EPA 625
<input type="checkbox"/>	Hexachlorobenzene	00118-71-1	nd				grab	EPA 625
<input type="checkbox"/>	Hexachlorobutadiene	00087-68-3	nd				grab	EPA 625
<input type="checkbox"/>	Hexachlorocyclopentadiene	00077-47-4	nd				grab	EPA 625
<input type="checkbox"/>	Hexachloroethane	00067-72-1	nd				grab	EPA 625
<input type="checkbox"/>	Indeno(1,2,3-cd)pyrene	00193-39-5	nd				grab	EPA 625
<input type="checkbox"/>	Isophorone	00078-59-1	nd				grab	EPA 625
<input type="checkbox"/>	Nitrobenzene	00098-95-3	nd				grab	EPA 625
<input type="checkbox"/>	N-nitrosodimethylamine	00062-75-9	nd				grab	EPA 625
<input type="checkbox"/>	N-nitrosodi-n-propylamine	00621-64-7	nd				grab	EPA 625
<input type="checkbox"/>	N-nitrosodiphenylamine	00086-30-6	nd				grab	EPA 625
<input type="checkbox"/>	Phenanthrene	00085-01-8	nd				grab	EPA 625
<input type="checkbox"/>	Pyrene	00129-00-0	nd				grab	EPA 625
<input type="checkbox"/>	Naphthalene	00091-20-3	nd				grab	EPA 625
<input type="checkbox"/>	1,2,4-Trichlorobenzene	00120-82-1	nd				grab	EPA 625
<input type="checkbox"/>	1,2-Dichlorobenzene	00095-50-1	nd				grab	EPA 625
<input type="checkbox"/>	1,3-Dichlorobenzene	00541-73-1	nd				grab	EPA 625
<input type="checkbox"/>								
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B. Outfall Information

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FACILITY NAME Entergy Nuclear Palisades, LLC			NPDES PERMIT NUMBER MI 0001457				OUTFALL NUMBER 001A	
Submitted via DMRs or e-DMRs	SAMPLE DATE →		03/25/13				Sample Type	Analytical Method
	PARAMETER	CAS No.	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)	Conc. (µg/l)		
<input type="checkbox"/>	Acrolein	00107-02-8	nd				grab	EPA 624
<input type="checkbox"/>	Acrylonitrile	00107-13-1	nd				grab	EPA 624
<input type="checkbox"/>	Benzene	00107-43-2	nd				grab	EPA 624
<input type="checkbox"/>	Bromoform	00075-25-2	nd				grab	EPA 624
<input type="checkbox"/>	Carbon tetrachloride	00056-23-5	nd				grab	EPA 624
<input type="checkbox"/>	Chlorobenzene	00108-90-7	nd				grab	EPA 624
<input type="checkbox"/>	Chloroethane	00075-00-3	nd				grab	EPA 624
<input type="checkbox"/>	2-chloro-ethylvinyl ether	00110-75-8	nd				grab	EPA 624
<input type="checkbox"/>	Chloroform	00067-66-3	nd				grab	EPA 624
<input type="checkbox"/>	Dichlorobromomethane	00075-27-4	nd				grab	EPA 624
<input type="checkbox"/>	1,1-dichloroethane	00075-34-3	nd				grab	EPA 624
<input type="checkbox"/>	1,2-dichloroethane	00107-06-2	nd				grab	EPA 624
<input type="checkbox"/>	Trans-1,2-dichloroethene	00156-60-5	nd				grab	EPA 624
<input type="checkbox"/>	1,1-dichloroethene	00075-35-4	nd				grab	EPA 624
<input type="checkbox"/>	1,2-dichloropropane	00078-87-5	nd				grab	EPA 624
<input type="checkbox"/>	1,3-dichloropropene	00542-75-6	nd				grab	EPA 624
<input type="checkbox"/>	Ethylbenzene	00100-41-4	nd				grab	EPA 624
<input type="checkbox"/>	Methylene chloride	00075-09-2	nd				grab	EPA 624
<input type="checkbox"/>	1,1,1,2-tetrachloroethane	00079-34-5	nd				grab	EPA 624
<input type="checkbox"/>	Tetrachloroethene	00127-18-4	nd				grab	EPA 624
<input type="checkbox"/>	Toluene	00108-88-3	nd				grab	EPA 624
<input type="checkbox"/>	1,1,1-trichloroethane	00071-55-6	nd				grab	EPA 624
<input type="checkbox"/>	1,1,2-trichloroethane	00079-00-5	nd				grab	EPA 624
<input type="checkbox"/>	Trichloroethene	00079-01-6	nd				grab	EPA 624
<input type="checkbox"/>	Vinyl chloride	00075-01-4	nd				grab	EPA 624
<input type="checkbox"/>								
<input type="checkbox"/>								

WASTEWATER DISCHARGE PERMIT APPLICATION

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B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001A
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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 DEQ 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)
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)
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 Resource Division's files for the water treatment additives listed on the DEQ'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 Resources Division. **Note:** The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive. Comments:

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 (3) years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the DEQ in the last three (3) years. For assistance with WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" on Page 17 in the Appendix. Comments:

This completes Section III. Return the completed Application (Sections I, III, IV, VI [if applicable], 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 Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

Complete a separate Section III.B. – Outfall Information (Pages 19 – 24) 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 Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001D
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1. OUTFALL INFORMATION. Instructions for this item are on Page 3 of the Appendix.

A.	Receiving Water NA-Internal Discharge to mixing basin	Hydrologic Unit Code 0405002				
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):

- 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): _____
 Others (see Table 8 – Other Common Types of Wastewater on Page 17 in the Appendix) _____

F. The Maximum Design Flow Rate for this outfall is: 0.1 MGD

G. What is the Maximum Authorized Daily Discharge Flow for this outfall for the next five years?
 Seasonal Dischargers NA MGY (Continue with Item H.)
 Continuous Dischargers 0.1 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		
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 12 Days/Year

Batch dischargers are required to provide the following additional information:

Is there effluent flow equalization? Yes No

Batch Peak Flow Rate: 80gpm Number of batches discharged per day: 1

	Minimum	Average	Maximum
Batch Volume (gallons)	4,000	35,000	60,000
Batch Duration (minutes)			

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001D
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2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

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 on Page 11 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 (5) 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: Radwaste Wastewater

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production:

This process removes suspended solids and radioactivity by collection and then processing through a demineralizer prior to discharge at outfall 001D. See flow diagram.

PROCESS INFORMATION

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

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:

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001D
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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 DEQ 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 or e-DMRs	Waiver Request and the Rationale Behind the Request	Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type	
<input type="checkbox"/>	Request waiver	Biochemical Oxygen Demand – five day (BOD ₅)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp	
<input type="checkbox"/>	Request waiver	Chemical Oxygen Demand (COD)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp	
<input type="checkbox"/>	Request waiver	Total Organic Carbon (TOC)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp	
<input type="checkbox"/>	Request waiver	Ammonia Nitrogen (as N)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp	
<input checked="" type="checkbox"/>		Total Suspended Solids	<4	<4	mg/l	100	<input checked="" type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp	
<input type="checkbox"/>	Waiver Request Not Required	Total Dissolved Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp	
<input type="checkbox"/>	Waiver Request Not Required	Total Phosphorus (as P)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp	
<input type="checkbox"/>	Waiver Request Not Required	Fecal Coliform Bacteria (report geometric means)		Maximum 7-day	counts/100ml		Grab	
<input type="checkbox"/>	Waiver Request Not Required	<i>Escherichia coli</i> (report geometric means)		Maximum 7-day	counts/100 ml		Grab	
<input type="checkbox"/>	Waiver Request Not Required	Total Residual Chlorine			<input type="checkbox"/> mg/l <input type="checkbox"/> µg/l		Grab	
<input type="checkbox"/>	Waiver Request Not Required	Dissolved Oxygen	Do Not Use			Minimum Daily	mg/l	Grab
<input type="checkbox"/>	Request waiver	pH (report maximum and minimum of individual samples)	Minimum	Maximum	standard units		Grab	
<input type="checkbox"/>	Request waiver	Temperature, Summer			<input type="checkbox"/> °F <input type="checkbox"/> °C		Grab	
<input type="checkbox"/>	Request waiver	Temperature, Winter			<input type="checkbox"/> °F <input type="checkbox"/> °C		Grab	

Waiver Request Not Required

Oil & Grease

mg/l

Grab

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001D
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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 23. 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. Tables 1, 2, and 3 can be found in the Appendix.

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

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001D
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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 DEQ 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)
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)
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 Resource Division's files for the water treatment additives listed on the DEQ'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 Resources Division. **Note:** The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive. Comments:

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 (3) years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the DEQ in the last three (3) years. For assistance with WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" on Page 17 in the Appendix. Comments:

This completes Section III. Return the completed Application (Sections I, III, IV, VI [if applicable], 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 Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

Complete a separate Section III.B. – Outfall Information (Pages 19 – 24) 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 Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001F
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1. OUTFALL INFORMATION. Instructions for this item are on Page 3 of the Appendix.

A. Receiving Water NA- Internal discharge to mixing basin	Hydrologic Unit Code 0405002				
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):

- 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): _____
 Others (see Table 8 – Other Common Types of Wastewater on Page 17 in the Appendix) _____

F. The Maximum Design Flow Rate for this outfall is: 0.1 MGD.

G. What is the Maximum Authorized Daily Discharge Flow for this outfall for the next five years?
 Seasonal Dischargers NA MGY (Continue with Item H.)
 Continuous Dischargers 0.1 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 Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001F
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2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

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 on Page 11 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 (5) 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: Turbine Building Sump
- B. SIC or NAICS code: 4911
- C. Describe the process and provide measures of production:

The turbine sump collects filtered floor drainage from the turbine building which is treated by a oil/water separator prior to discharge to outfall 001F. See flow diagram.

PROCESS INFORMATION

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

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001F
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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 DEQ 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 or e-DMRs	Waiver Request and the Rationale Behind the Request	Parameter	Maximum Monthly Concentration	Maximum Daily Concentration	Units	Number of Analyses	Sample Type
<input type="checkbox"/>	waiver requested	Biochemical Oxygen Demand – five day (BOD ₅)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	waiver requested	Chemical Oxygen Demand (COD)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	waiver requested	Total Organic Carbon (TOC)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	waiver requested	Ammonia Nitrogen (as N)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	waiver requested	Total Suspended Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Total Dissolved Solids			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Total Phosphorus (as P)			mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24-Hr Comp
<input type="checkbox"/>	Waiver Request Not Required	Fecal Coliform Bacteria (report geometric means)		Maximum 7-day	counts/100ml		Grab
<input type="checkbox"/>	Waiver Request Not Required	<i>Escherichia coli</i> (report geometric means)		Maximum 7-day	counts/100 ml		Grab
<input type="checkbox"/>	Waiver Request Not Required	Total Residual Chlorine			<input type="checkbox"/> mg/l <input type="checkbox"/> µg/l		Grab
<input type="checkbox"/>	Waiver Request Not Required	Dissolved Oxygen	Do Not Use	Minimum Daily	mg/l		Grab
<input type="checkbox"/>	waiver requested	pH (report maximum and minimum of individual samples)	Minimum	Maximum	standard units		Grab
<input type="checkbox"/>	waiver requested	Temperature, Summer			<input type="checkbox"/> °F <input type="checkbox"/> °C		Grab
<input type="checkbox"/>	waiver requested	Temperature, Winter			<input type="checkbox"/> °F <input type="checkbox"/> °C		Grab

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
 SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001F
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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 23. 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. Tables 1, 2, and 3 can be found in the Appendix.

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

WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III – Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457	OUTFALL NUMBER 001F
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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 DEQ 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)
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)
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 Resource Division's files for the water treatment additives listed on the DEQ'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 Resources Division. **Note:** The availability of toxicity information for a water treatment additive does not constitute approval to discharge the water treatment additive. Comments:

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 (3) years? If yes, identify the tests and summarize the results on a separate sheet, unless the test has been submitted to the DEQ in the last three (3) years. For assistance with WET testing, see "Whole Effluent Toxicity Test Guidance and Requirements" on Page 17 in the Appendix. Comments:

This completes Section III. Return the completed Application (Sections I, III, IV, VI [if applicable], 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 Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION IV – Storm Water

PLEASE TYPE OR PRINT

FACILITY NAME Entergy Nuclear Palisades, LLC	NPDES PERMIT NUMBER MI 0001457
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1. STORM WATER DISCHARGES

Facilities must complete Section IV if they are engaged in a regulated "industrial activity" as defined in 40 CFR 122.26(b)(14). See the DEQ Industrial Storm Water website (<http://www.michigan.gov/deqstormwater> then click on Industrial Program) for a complete list of regulated industrial activities. **Complete the following questions:**

A. Is the storm water runoff from this facility discharged to the surface waters of the state either directly or through another conveyance (ie. municipal separate storm sewer system)? Note: If storm water is discharged to a municipal combined storm sewer system, a municipal wastewater treatment system, or a privately-owned activated sludge treatment system, check the "No" box.

- Yes. Continue to next question.
- No. **STOP: The rest of Section IV does not need to be completed. No storm water authorization required.**

B. Are there any industrial activities or materials exposed to storm water runoff at this facility? Storm water discharge requirements may be excluded from an NPDES Permit if there are no industrial activities or materials exposed to storm water runoff. To qualify, the applicant shall certify that the facility has met all the eligibility requirements to claim a condition of "no exposure." These requirements are found in the No Exposure Certification (NEC) Form in the Appendix or on the DEQ Industrial Storm Water website.

- Yes. Complete the remainder of Section IV.
- No. **STOP: The rest of Section IV does not need to be completed. Complete the NEC Form and submit it with this Application.**

C. Has the facility developed a SWPPP according to the requirements of the NPDES permit?

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

D. Has the facility performed an investigation to ensure there are no unauthorized discharges to the storm sewer system or the surface waters of the state?

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

E. Has the facility implemented the non-structural controls described in the SWPPP?

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

F. Have all the structural controls described in the SWPPP been constructed and put into operation?

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

G. Does this facility have a certified industrial storm water operator who has supervision over the facility's storm water treatment and control measures described in the SWPPP?

- Yes.

<u>Joe Hager</u>	<u>I-09755</u>
Storm Water Operator Name	Certification Number
- No. **Note: The applicant must complete this program element to receive storm water discharge authorization.**

H. Is storm water discharged to the surface waters of the state or a municipal separate storm sewer system from (SKIP to next question if none 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 Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, Part 201 (formerly 307).
- A facility that the DEQ has determined that the storm water discharge is a significant contributor of pollutants to surface waters of the state.

I. The storm water from this facility discharges to the following receiving water(s): Lake Michigan

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

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION V – Concentrated Animal Feeding Operations

PLEASE TYPE OR PRINT

FACILITY NAME NA	NPDES PERMIT NUMBER NA
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A. CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) INFORMATION. To be completed by CAFOs only

"CAFO waste" includes, but is not limited to, process wastewater, manure, production area waste, silage leachate and runoff, and contaminated runoff.

Applicants are required to submit all of the information requested below:

1. The number of animals expected on-site during the five-year permit period: Average: _____ Maximum: _____
2. The type of animals: _____
NOTE: Animals include, but are not limited to, beef cattle, dairy cows or heifers, veal calves, swine less than or greater than 55 lbs, broilers, layers, and turkeys.
3. The type of housing (e.g., open confinement, under roof): _____
4. The type of CAFO waste storage: _____
NOTE: CAFO waste storage includes, but is not limited to, roofed storage sheds, storage ponds, under-floor pits, above- or below-ground storage tanks, and concrete pads.
5. The total capacity of all waste storage structures in both **Volume:** _____ gallons/ cu. ft., and **Time:** _____ months
6. The CAFO waste storage structure design.
NOTE: All new CAFO waste storage structures shall, at a minimum, be constructed in accordance with Natural Resource Conservation Service Standard No. 313, Waste Storage Facility. Applicants with existing storage structures at existing CAFOs must submit an evaluation conducted by a licensed engineer. Guidance for the Evaluation of Existing Storage Structures can be found on the DEQ's Web site or is available in print. See the CAFO General Permit for actual requirements.
7. Estimated amounts of CAFO waste generated **per year** (annual average over the life of the permit): _____ tons/ gallons/ cu. ft.
8. The total number of acres owned, leased, or otherwise available for land application of CAFO wastes: _____ acres
NOTE: Do not include the land application sites of CAFO waste that have been sold or transferred to another party. Please include an estimate of any proposed land acquisitions that are in process at the time of this Application.
9. Estimate the amount of CAFO waste sold or transferred to other parties annually: _____ tons/ gallons/ cu. ft.
NOTE: Land application of this waste is **not** under the applicant's control.
10. A list and map(s) showing the location of all applicant-controlled land application sites.
NOTE: Each land application site should be identified by a unique name and/or number and include the field size in acres. Maps could be plat maps, aerial maps, or soil maps with each land application site highlighted or colored in and labeled with the appropriate name or number that corresponds to the list, or FSA Form #578 and associated maps. Crop type, soil type, and soil analysis information does not need to be provided until after the permit or Certificate of Coverage is issued.
11. A list of all potential receiving waters for both the production and land application areas.
NOTE: This list should include rivers, creeks, and major drains where runoff would flow overland or through tiles. Consider slope and tile outlet locations to determine flow pathways. Include maps, if possible, with the waterways highlighted. Provide the name of the receiving water when possible. The map required in Item 10. (above) may be used for highlighting the receiving streams.
12. SIC Code: _____

To access the DEQ CAFO Web site, go to <http://www.michigan.gov/deq>. In the left column click on WATER, click on Surface Water, click on NPDES Permits, and in the middle column under the Information banner, click on Concentrated Animal Feeding Operation.

Michigan Department of Environmental Quality – Water Resources Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION VI – Cooling Water Intake Structures

PLEASE TYPE OR PRINT

FACILITY NAME

Entergy Nuclear Palisades, LLC

NPDES PERMIT NUMBER

MI 0001457

A. COOLING WATER INTAKE STRUCTURE

Section 316(b) of the Federal Act requires that the location, design, construction, and capacity of cooling water intake structures (CWIS) reflect the best technology available (BTA) for minimizing adverse environmental impacts [impingement mortality (IM) and entrainment (E)]. Any new or existing facility utilizing a cooling water intake structure shall submit information on the CWIS for review if (1) the design intake flow rate is greater than two million gallons per day and (2) the facility uses at least twenty-five percent of water withdrawn for cooling purposes.

For facilities meeting these conditions, the information that is required to be submitted depends on the facility. Indicate the status of the facility:

New Facility. In accordance with the Final Rules promulgated by USEPA under 316(b), new facilities meeting these requirements shall submit information as specified in 40 CFR 122.21(r) and 40 CFR 125.86. Applicants for new facilities shall compile and submit this information as an attachment to this application form.

Existing Facility. Although Final Rules have yet to be promulgated by USEPA for existing facilities that employ CWIS, these facilities still shall meet requirements under Section 316(b) of the Federal Act determined by the DEQ on a case-by-case, best professional judgment basis.

For existing facilities, the following is a partial list of technologies and control measures which, when used singularly or in combination, will be considered BTA and would meet the performance standards for minimization of IM and entrainment E. Whether a particular BTA meets the performance standards for IM, E, or both, is indicated in parenthesis for each BTA below.

- A closed-cycle recirculating system or a CWIS withdrawing intake water at a rate commensurate with a closed-cycle recirculating system (both IM and E).
- A maximum through-screen design intake velocity at the cooling water intake structure of 0.5 feet per second or less (IM only).
- Submerged cylindrical wedge-wire screens if the following conditions are met: the CWIS is located in a river or stream, sufficient ambient counter-currents exist to promote cleaning of the screen face, maximum through-screen design intake velocity is 0.5 feet/second or less, and the slot size is appropriate for the size of eggs, larvae, and juveniles of all fish and shellfish to be protected at the site (both IM and E).
- An industrial or commercial facility that has the CWIS located in a river or stream and the CWIS has a design intake flow equal to 5 percent or less of the mean annual flow of the river or stream (E only).
- Rotating screens with an automatic fish return system or similar system to increase the likelihood that fish impinged will be returned to the source water with minimal stress (IM only).
- Fish exclusion devices (IM only).

Applicants for existing facilities shall compile and submit all of the information requested below as an attachment to this application form:

1. Latitude and longitude in degrees, minutes, and seconds for each CWIS
2. The capacity utilization rate and explanation of the rate (if the facility is a power plant)
3. A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, discharges, and flow rates
4. The mean annual flow of the river or stream if the CWIS is located in a river or stream
5. A diagram and narrative description of the configuration and location of each of the CWIS in the waterbody (include trash rack and screen locations and sizes, debris removal systems {e.g., traveling screens and spray wash systems}, and other fish exclusion devices)
6. A narrative description of the operation of each of the CWIS (include intake flows {design and actual}, daily hours of operation, days of operation per year, seasonal changes in operation, debris removal system operations, and any changes in operation the facility has implemented to reduce intake flows or IM and E)
7. A narrative description of the operation of the cooling water system (describe its relationship to the CWIS, the proportion of the design intake flow that is used in the system, the number of days of the year the cooling water system is in operation, seasonal changes in the operation of the system, and any anticipated changes)
8. The calculation of the maximum design through-screen intake velocity (the applicant may also submit the maximum actual through-screen velocity)
9. A summary of any available data for IM and E (include data, estimates, or descriptions on the volume or number of fish removed by trash removal systems)

Note: If Final Rules are promulgated under 316(b) or the DEQ determines that existing technology and control measures are either insufficient to comply with BTA requirements or requires more evaluation, the applicant may be required to provide further information and/or conduct additional studies. This application may be considered administratively incomplete until that additional information is received. To submit additional information, see Page ii, Item 3. Comments: See Attachment 4

Attachment 1

Palisades Nuclear Power Plant

NPDES Permit MI0001457: 4/3/13 Application

Water Treatment Additive List

Palisades WTA Approval List			
Location	Additive	Usage	Status
Outfall 001	Sodium Hypochlorite	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 DT1400 (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 6/15 - 10/31/01	MDEQ approval letter 6/15/01
	Nalco THRU GUARD 404	Scale prevention and control	MDEQ approval letter 2/1/07
Steam Generators	Hydrazine	Corrosion control	Grandfathered through NPDES Permits
	Nalco 1250 Plus (Carbohydrazide)	Corrosion control	MDEQ approval 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	Thru guard 700 (Calgon PCL-1)	Scale Inhibitor	MDEQ approval letter 5/6/86
	Depositrol BL5301 (Betz Pal02)	Organic Scale Inhibitor (to replace Calgon Thru guard 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

Palisades Nuclear Power Plant

NPDES Permit MI0001457: 4/3/13 Application

Storm Water No Exposure Certification Form



DEQ only do not write in this space

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

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 (DEQ) 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 DEQ once every five years to continue to be excluded from the permitting requirements.

FACILITY INFORMATION (where discharge occurs)			OWNER/PERMITEE INFORMATION		
SITE/FACILITY NAME Palisades Nuclear Power Plant			COMPANY NAME Entergy Services, Inc		
ADDRESS 1 27780 Blue Star Memorial Highway			ADDRESS 1 308 E. Pearl Stret		
ADDRESS 2			ADDRESS 2		
CITY Covert	STATE MI	ZIP CODE 49043	CITY Jackson	STATE MS	ZIP CODE 39201
COUNTY Van Buren	TOWNSHIP Covert		CONTACT PERSON Steven Andrews		
LATITUDE (to nearest 15 seconds) 42 19' 23"	LONGITUDE (to nearest 15 seconds) 86 18' 56"		CONTACT PERSON TELEPHONE (269) 764-2568		

NW ¼ of SE ¼ Section: 05, Town: T02S _____, Range: R17W _____

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:

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
 WATER RESOURCES DIVISION
 525 WEST ALLEGAN STREET, 2nd FLOOR NORTH
 P.O. BOX 30458
 LANSING MI 48909

If you have any questions regarding the completion of this form, please contact the appropriate district office. Please find district contact information at www.michigan.gov/deqstormwater

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

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.

- 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

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.

PALISADES CHEMISTRY MANAGER MGLYNAREK MGLynarek 4 APR 13

Printed name ANTHONY J. VITALE	Title PALISADES SITE VICE PRESIDENT
Signature 	Date 4-5-13

Attachment 3

Palisades Nuclear Power Plant

NPDES Permit MI0001457: 4/3/13 Application

Reduced Monitoring Approval for Low Level Mercury



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF ENVIRONMENTAL QUALITY
LANSING



DAN WYANT
DIRECTOR

May 25, 2011

Mr. Joe Hager, Senior Health Physics/Chemistry Specialist
Entergy Nuclear Palisades, LLC
27780 Blue Star Memorial Highway
Covert, Michigan 49043

Dear Mr. Hager:

SUBJECT: Reduced Monitoring Approval
National Pollutant Discharge Elimination System (NPDES) Permit No. MI0001457
Designated Name: Entergy-Palisades Power Plt, Van Buren County

The Department of Environmental Quality (DEQ), Water Resources Division, (WRD) staff have evaluated Entergy Nuclear Palisades, LLC's reduced monitoring request received on April 5, 2011. Discharge Monitoring Report (DMR) data, file information, and other site-specific information were considered during this review.

Based on this evaluation, the WRD agrees to reduce the monitoring frequencies of Mercury in accordance with the following:

- The Mercury monitoring frequency for intake and outfall 001 are reduced from monthly to annually.
- The Mercury Pollutant Minimization Program monitoring requirements are reduced from semi-annual monitoring of potential sources to annual monitoring and quarterly monitoring of the influent is reduced to annual monitoring.

The new monitoring frequencies are effective as of **July 1, 2011**. Be advised, however, that this monitoring reduction approval may be revoked or modified at any time upon notification by the Kalamazoo District Supervisor.

All other provisions of NPDES Permit MI0001457 remain unaffected. If you have any questions regarding this authorization, please contact Ken Leanin of this office at 269-567-3572.

Sincerely,


Kameron Jordan, District Supervisor
Field Operations Section
Kalamazoo District Office
Water Resources Division
269-567-3565

JK:KL:DMM

cc: Mr. Mike Bitondo, DEQ
Mr. Al Lam, DEQ
Mr. Jeffery Jones, DEQ

Palisades Nuclear Power Plant

NPDES Permit MI0001457: 4/3/13 Application

Section VI. – Cooling Water Intake Structure

Applicants for existing facilities shall compile and submit all of the information requested below as an attachment to this application form:

1. Latitude and longitude in degrees, minutes, and seconds for each CWIS
2. The capacity utilization rate and explanation of the rate (if the facility is a power plant)
3. A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, discharges, and flow rates
4. The mean annual flow of the river or stream if the CWIS is located in a river or stream
5. A diagram and narrative description of the configuration and location of each of the CWIS in the waterbody (include trash rack and screen locations and sizes, debris removal systems (e.g., traveling screens and spray wash systems), and other fish exclusion devices)
6. A narrative description of the operation of each of the CWIS (include intake flows (design and actual), daily hours of operation, days of operation per year, seasonal changes in operation, debris removal system operations, and any changes in operation the facility has implemented to reduce intake flows or IM and E)
7. A narrative description of the operation of the cooling water system (describe its relationship to the CWIS, the proportion of the design intake flow that is used in the system, the number of days of the year the cooling water system is in operation, seasonal changes in the operation of the system, and any anticipated changes)
8. The calculation of the maximum design through-screen intake velocity (the applicant may also submit the maximum actual through-screen velocity)
9. A summary of any available data for IM and E (include data, estimates, or descriptions on the volume or number of fish removed by trash removal systems)

Note: If Final Rules are promulgated under 316(b) or the DEQ determines that existing technology and control measures are either insufficient to comply with BTA requirements or requires more evaluation, the applicant may be required to provide further information and/or conduct additional studies. This application may be considered administratively incomplete until that additional information is received. To submit additional information, see Page ii, Item 3. Comments:

Section VI. – COOLING WATER INTAKE STRUCTURE

Above information has already been compiled in previous submissions and will be resupplied as requested if the need for it is requested. In regards to the upcoming issuance of Final Rules under 316(b) the following short summary covers Palisades history and present position.

The Palisades Nuclear Plant began operation in 1971, utilizing once-through cooling at a maximum design intake flow rate of 486,380 gpm. In 1974, the plant converted to a closed-cycle recirculating wet system that decreased intake flow to 78,000 gpm. The cooling tower system is comprised of two towers, each with 18 mechanical draft cells. In 1999, the Plant obtained approval from the Michigan Department of Environmental Quality (MDEQ) to increase flow rate to 96,000 gpm. The biological assessment of the flow increase was completed in 2001 and approved by the Department. In 2006, the Department again confirmed the closed-cycle recirculating system as fulfilling the Permit requirement in Part I.A.7.a and the cooling water intake structures final rule for Phase II facilities in 40 CFR 125.94(a)(1)(i).

The revised final 316(b) rule for existing facilities is expected to be reissued in June of this year and we anticipate working with the Department to fulfill the submittal requirements according to a schedule developed by the Department. Should additional information be required for this application, please let us know.