

April 14, 2003

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

PALISADES NUCLEAR PLANT
DOCKET 50-255
LICENSE No. DPR-20
RENEWAL OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT NUMBER MI0001457

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, 2003.

SUMMARY OF COMMITMENTS

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



Douglas E. Cooper
Site Vice-President, Palisades

CC Regional Administrator, USNRC, Region III
Project Manager, USNRC, NRR
NRC Resident Inspector – Palisades

Enclosure

ENCLOSURE

**NUCLEAR MANAGEMENT COMPANY, LLC
PALISADES NUCLEAR PLANT
DOCKET 50-255**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
RENEWAL APPLICATION FOR PERMIT NUMBER MI0001457**

51 Pages Follow

A CMS Energy Company

Environmental & Lab Services
1945 West Parnall Road
Jackson, MI 49201-8643

Fax 517 788 2329
www.consumersenergy.com

April 3, 2003

Michigan Department of Environmental Quality
Kalamazoo District Office
Water Division Supervisor
Attn: Mr. Greg Danneffel
7953 Adobe Rd
Kalamazoo, MI 49009-5026

**CONSUMERS ENERGY COMPANY, PALISADES NUCLEAR PLANT
NPDES PERMIT NO. MI0001457**

PERMIT APPLICATION RENEWAL

The NPDES Permit for the Consumers Energy Company's Palisades Nuclear Plant expires October 1, 2003. The enclosed State of Michigan NPDES Permit Application Forms (Rev. 01/03) are hereby submitted to support reissuance of the NPDES Permit No. MI0001457 issued on September 24, 1999.

The Palisades Nuclear Plant is owned and operated by Consumers Energy Company. However, it is managed by staff hired by the Nuclear Management Company (NMC). The person signing the enclosed application is the site director of the Palisades Plant who is employed by NMC. The site director 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) (i) (ii).

The enclosed application includes a revised flow diagram reflecting current operations. Wastewater discharges from this facility have been well characterized through the duration of the current and previous NPDES permits. Outfall 001A (mixing basin discharge) consists principally of noncontact cooling water, cooling tower blow down from internal outfalls 00A- 00C, and combined miscellaneous low volume waste. Internal Outfalls 001D and 001F consists principally of radwaste water and turbine sump water. Monitoring at internal Outfalls 00A-00C was previously eliminated from the current NPDES permit during permit renewal 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 an undetectable loading to the effluent as a result of plant operations through previous NPDES permits characterization. The Company request waivers from certain data reporting requirements in the application according to 40 CFR 122.53 (d)(7)(i)(B), subpart D for:

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

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

STORM WATER

Compliance with all storm water monitoring requirements is maintained as specified in the current permit. A copy of the Plant Storm Water Pollution Prevention Plan is retained and available at the site for review and/or inspection upon request.

WATER TREATMENT ADDITIVES

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

A new additive, Nalco/Calgon EVAC was requested for use in 2001 to control zebra mussels in plant cooling water systems, however, it was never used at the plant. Instead, the plant will continue to use and apply Betz Clamtrol CT-2 (otherwise known as Spectrus CT 1300) and Betz Clamtrol CT-4 for zebra mussel control under the specified current permit terms and conditions (see page 4 of 23). The Plant does not intend to pursue approval to use EVAC at this time, therefore a MSDS is not included.

SUGGESTED RENEWED PERMIT CHANGES

Enclosed as Attachment 2 are marked-up pages of the current permit showing proposed permit language changes to be made to the permit prior to renewal. Below are compliance updates of the two demonstrations required in the current permit. The cooling water intake demonstration has been completed therefore propose it be deleted from the permit prior to renewal.

Cooling Water Intake Demonstration

The cooling water intake system demonstration was completed where reports were filed accordingly. Assessment of the cooling water flow increase at the plant demonstrated that the potential fish impingement and entrainment losses resulting from plant operation were very minimal, and that the intake system still minimizes adverse environmental impact in accordance with Section 316(b) or Public Law 92-500. New cooling water intake rules for existing facilities may be in effect, or come into effect during the upcoming NPDES permit renewal process. The proposed rules are essentially requiring impingement and entrainment standards that would be proportional with that of cooling tower technology. Since the Palisades Plant already has cooling tower technology and a demonstrated minimal adverse environmental impact, we anticipate the plant offshore intake and cooling tower system to continue to reflect best

technology available for minimizing adverse environmental impact under the new intake rules as well. Demonstration reports were filed accordingly and are available upon request.

Thermal Plume Study

Seasonal thermal plume surveys were performed at the Palisades Plant to determine the aerial extent of the thermal plume at 3 degree F with the plant operating at the increased cooling water flow rate. Draft survey results are being reviewed by MDEQ, Water Division Assessment Section and MDNR, Fisheries Division. A draft final report of the thermal plume study will be prepared by April 30, 2003. Another survey will be performed by MDEQ Water Division this spring for observation or plume measurement methodology on Lake Michigan. For security purposes, due to potential terrorists threats at nuclear facilities, the discharge area in Lake Michigan is a security exclusion area. Prior arrangements with plant security and the US Coast Guard will be required to allow the thermal plume survey. The MDEQ Water Division staff is to work with Company staff to ensure accommodation.

We would appreciate the opportunity to review the plant's Pre-Public Notice draft NPDES permit prior to placing it on Public Notice. If you have any questions or need additional information please do not hesitate to contact me at (517) 788-1469 or by e:mail at jacrawfo@cmsenergy.com.

Sincerely,



Jennifer A. Crawford
Sr. Environmental Planner
Consumers Energy Company, General Office
1945 W. Parnall Road
Jackson, MI 49201

CC: Eric Dehn, NMC, Palisades
John Vollmer, MDEQ, Kalamazoo District Office, WD w/o attachments
Joel McElrath, NMC, Palisades



WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION I - General Information

This information is required by the Part 21 Rules of Michigan Act 451, Public Acts of 1994, as amended, Part 31. A municipality, business, or industry which violates the Part 21 Rules may be enjoined by action commenced by the Attorney General in a court of competent jurisdiction. See the facing page for instructions on completing pages 1 and 2. To submit additional information see page ii, item 8.

PLEASE TYPE OR PRINT

1	NPDES PERMIT NUMBER MI0001457		DEQ USE ONLY Permit ID #: _____		
2. APPLICANT	Applicant Name Consumers Energy Company, Palisades Nuclear Plant				
	Address One Energy Plaza		Address 2 or P.O. Box		
	City Jackson	State MI	ZIP Code 49201		
	Telephone (with area code) 517-788-1469		FAX (with area code) 517-788-2329		
3. FACILITY	Facility Name 1 Palisades Nuclear Plant				
	Facility Name 2				
	Facility Name 3				
	Street Address (do not use a P.O. Box Number) 27780 Blue Star Memorial Highway				
	City Covert	State MI	ZIP Code 49043		
Telephone (with area code) 269-764-2000		FAX (with area code) 269-764-2078			
4. CONTACTS	<input checked="" type="checkbox"/> Application Contact	First Name Jennifer		Last Name Crawford	
	<input type="checkbox"/> Facility Contact	Title Senior Environmental Planner		Business	
	<input type="checkbox"/> Discharge Monitoring Reports	Address 1 1945 W Parnall Rd		Address 2 P22-524	
	<input type="checkbox"/> Storm Water Billing	City Jackson		State MI	Zip Code 49201
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code) 517-788-1469	FAX (with area code) 517-788-2329		e-mail address jacrawfo@cmsenergy.com
	<input type="checkbox"/> Application Contact	First Name Eric		Last Name Dehn	
	<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	Zip Code 49043
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code) 269-764-2464	FAX (with area code) 269-764-2078		e-mail address Eric.Dehn@nmcco.com
	<input type="checkbox"/> Application Contact	First Name Kenneth		Last Name Bleszke	
	<input type="checkbox"/> Facility Contact	Title General Engineer		Business	
	<input checked="" type="checkbox"/> Discharge Monitoring Reports	Address 1 1945 W Parnall Rd		Address 2 P22-534	
	<input checked="" type="checkbox"/> Storm Water Billing	City Jackson		State MI	Zip Code 49201
	<input type="checkbox"/> Biosolids Billing	Telephone (with area code) 517-788-0722	FAX (with area code) 517-788-2329		e-mail address kfbleszk@cmsenergy.com

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

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457
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5 PERMIT ACTION REQUESTED (Check one box only) (see instructions page iv, item 5)

☐ NEW USE a proposed discharge OR an 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 and applications for either Reissuance or Modification that include an increased loading of pollutants to the receiving water must submit a Rule 98 Demonstration with the application. See Item 6 below.

6. RULE 98 - ANTIDEGRADATION DEMONSTRATION (see instructions page iv, item 6)

In accordance with Rule 323.1098 of the Michigan Water Quality Standards, the permittee must submit an antidegradation demonstration for any new or increased loading of pollutants to the surface waters of the state. For assistance completing this item call the Permits Section.

Will this discharge be an increased loading of pollutants to the surface waters of the state?

☐ Yes, submit an antidegradation demonstration (refer to Rule 323.1098 on page 4 of the appendix for instructions).

☒ No, Continue with Item 7.

7 ADDITIONAL FACILITY INFORMATION (see instructions on page iv, item 7)

A. Is the treatment facility within municipal boundaries? ☐ Yes ☒ No

B. County Van Buren	Township Covert			
C. $\frac{1}{4}$, $\frac{1}{4}$ SE	$\frac{1}{4}$ NW	Section 05	Town 02S	Range 17W
D. Latitude 42 19' 23"	Longitude 86 18' 56"			

8. CERTIFIED OPERATOR Does the facility have a properly certified operator? ☒ Yes ☐ No (see instructions on page iv)

Operator's Name: Eric Dehn	Operator's Telephone : 269-764-2464
Certification Number: W003010	Certification Classification(s): A1b, A1h, A2d

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 form, including, but not limited to, permits issued under any of the following programs: Air Pollution Control, Hazardous Waste Management, Wetlands Protection, Soil Erosion and Sedimentation Control, and other NPDES permits. To submit additional information see page ii, item 8.

Issuing Agency	Permit or COC Number	Permit Type
MDEQ, Air Quality	199600476	ROP
Federal EPA, RCRA	MI098644685	Harardous Waste

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

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457
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10. WATER FLOW DIAGRAM AND NARRATIVE DESCRIPTION

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

Do the treatment facility processes described above, include any lagoons or ponds used for wastewater treatment or storage? ☐ Yes ☒ No
 If yes, include the ponds or lagoons in the flow diagram.

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

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

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

11. MAP OF FACILITY AND DISCHARGE LOCATION

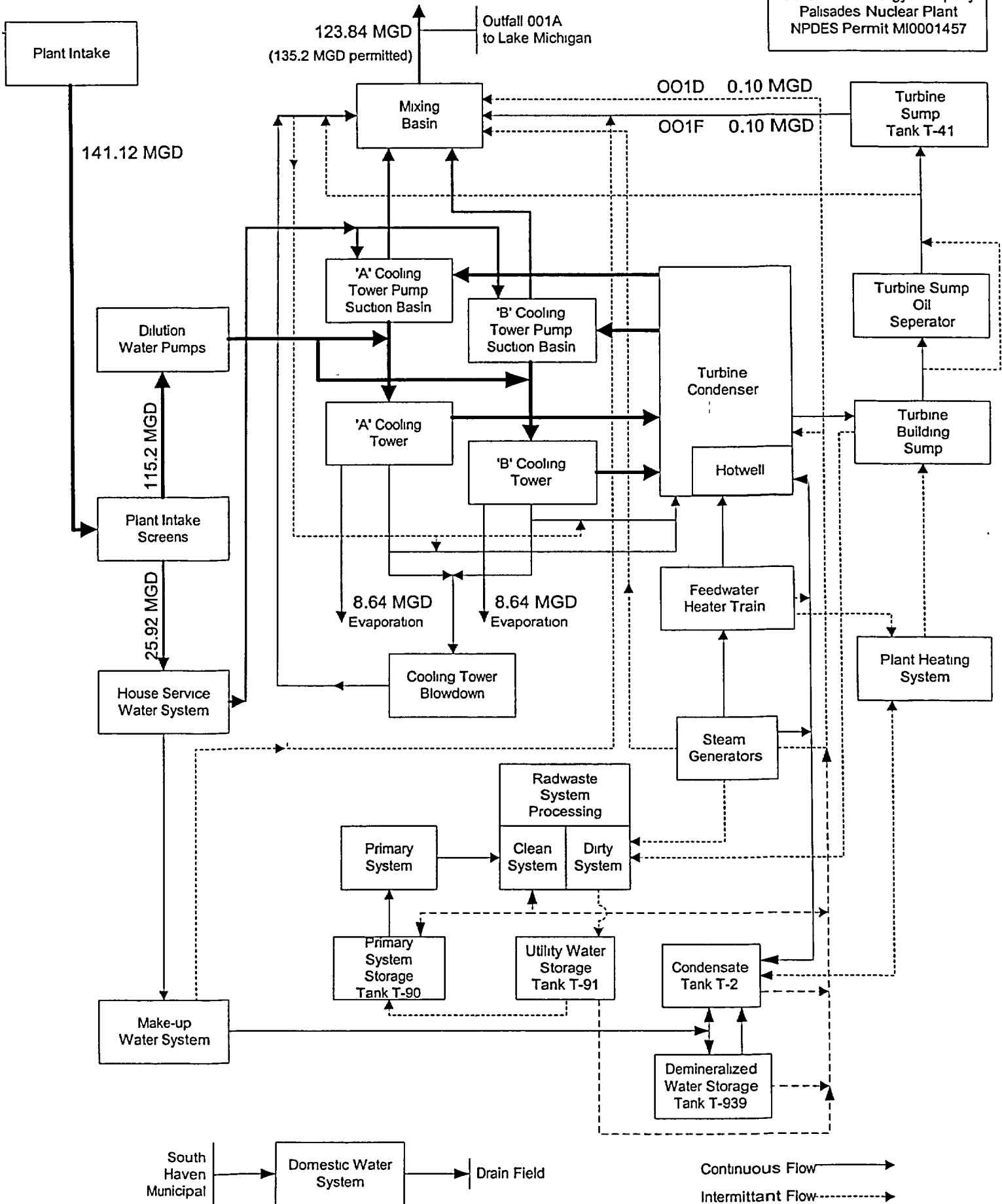
Provide a detailed map on 8½" x 11" paper showing the location of the existing or proposed facility, wastewater and biosolid treatment system(s), and wastewater monitoring and discharge points into receiving waters (including bypasses). Include the exact location of the wastewater monitoring and discharge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

ATTACH THIS INFORMATION TO THIS APPLICATION.

12. CONTRACT LABORATORY THAT PROVIDE ANALYTICAL SUPPORT

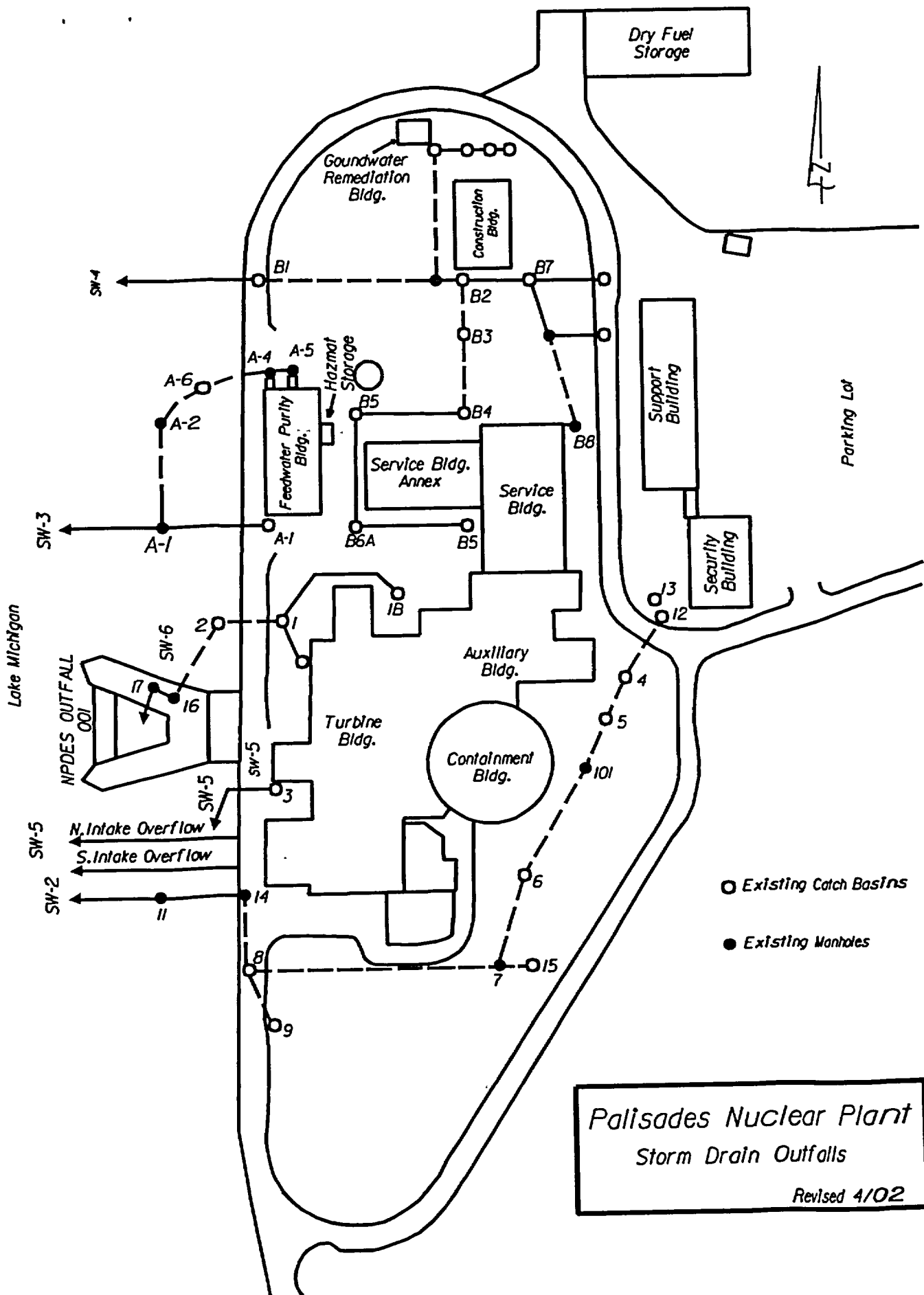
Provide the name and address of each contract laboratory or consulting firm that performed any analyses submitted as part of this application. To submit additional information see page II, Item 8.

Laboratory Name KAR Laboratories, Inc		Laboratory Name Brighton Analytical LLC	
Street Address 4425 Manchester Road		Street Address 2105 Pless Drive	
City Kalamazoo, MI 49001		City Brighton, MI 48116	
Telephone (with area code) 269-381-9666	Fax (with area code) 269-381-9698	Telephone (with area code) 810-229-7575	Fax (with area code) 810-299-8650
Analysis Performed low level mercury		Analysis Performed metals, acids, base neutrals, volatiles	
Laboratory Name		Laboratory Name	
Street Address		Street Address	
City		City	
Telephone (with area code)	Fax (with area code)	Telephone (with area code)	Fax (with area code)
Analysis Performed		Analysis Performed	









Palisades Nuclear Plant
Storm Drain Outfalls
Revised 4/02

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

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER
Consumers Energy Company, Palisades Nuclear Plant	MI0001457

13. LIST ADJACENT PROPERTY OWNERS

List the names and addresses of all property owners adjacent to the facility, treatment systems, and discharge locations. To submit additional information see page ii, item 8.

[illegible]

14. STORM WATER DISCHARGES

A. Is the storm water from this facility discharged to the waters of the state either directly or through a separate storm water drainage system?

☒ Yes ☐ No

B Is the discharge (see definitions on page iii of the application)

☐ Non-Regulated Storm Water☒ Regulated Storm Water

C. Is any of the storm water discharged from:

☐ Secondary containment structures that are required by state or federal law

☐ Areas identified on Michigan's list of Sites of Environmental Contamination, pursuant to the Natural Resources and Environmental Protection Act, PA 451 of 1994, Part 201 (formerly 307)

This completes Section I. TWTDS requesting authorization for domestic wastewaters or biosolids should complete Section II. All other applicants should complete Section III.

If assistance is needed completing this application, contact the Permits Section, telephone number: 517-373-8088.

Michigan Department of Environmental Quality- Water 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 Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457
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1. BUSINESS INFORMATION

A. Provide up to four (4), 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.
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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, continue with Item C.

C. Is this facility a concentrated animal feeding operation or an aquatic animal production facility?

- ☐ Yes, contact the Permits Section, telephone number: 517-373-8088.
- ☒ No, continue below.

2. WATER SUPPLY AND DISCHARGE TYPE

A. Identify all water sources entering the facility and treatment system 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 li, item 8.

	Name and Location of Source	Average Volume or Flow Rate	Indicate Units
Municipal Supply	South Haven Municipal	0.018	MGD
Surface Water Intake	Lake Michigan	141.12	MGD
Private Well			
Other (specify)			

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

	Average Flow Rate	Indicate Units		Average Flow Rate	Indicate 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 Clean Up	NA		Other (Specify)	NA	

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

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

B. Outfall Information

Complete a separate Section III.B. - Outfall Information (pages 26-31) for each outfall at the facility. Make copies of this blank section of the application for additional outfalls as necessary.

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 000 - intake
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1. OUTFALL INFORMATION (see page 25 for instruction on completion of this page)

A.	Watershed Lake Michigan					
B.	Receiving Water Lake Michigan					
C.	<table style="width: 100%;"> <tr> <td style="width: 50%;">County Van Buren</td> <td style="width: 50%;">Township Covert</td> </tr> </table>	County Van Buren	Township Covert			
County Van Buren	Township Covert					
D.	<table style="width: 100%;"> <tr> <td style="width: 20%;">1/4, 1/4 SE</td> <td style="width: 20%;">1/4 NW</td> <td style="width: 20%;">Section 05</td> <td style="width: 20%;">Town 02S</td> <td style="width: 20%;">Range 17W</td> </tr> </table>	1/4, 1/4 SE	1/4 NW	Section 05	Town 02S	Range 17W
1/4, 1/4 SE	1/4 NW	Section 05	Town 02S	Range 17W		
E.	<table style="width: 100%;"> <tr> <td style="width: 50%;">Latitude 42 19' 31"</td> <td style="width: 50%;">Longitude 86 19' 41"</td> </tr> </table>	Latitude 42 19' 31"	Longitude 86 19' 41"			
Latitude 42 19' 31"	Longitude 86 19' 41"					

F. Type of Wastewater Discharged (Check all that apply to this outfall).

- | | | | |
|--|--|--|--|
| <input type="checkbox"/> Contact Cooling | <input type="checkbox"/> Sanitary Wastewater | <input type="checkbox"/> Groundwater Cleanup | <input type="checkbox"/> Storm Water (regulated) |
| <input type="checkbox"/> Noncontact Cooling | <input type="checkbox"/> Process Wastewater | <input type="checkbox"/> Hydrostatic Pressure Test | <input type="checkbox"/> Storm Water (not regulated) |
| <input type="checkbox"/> Storm water subject to effluent guidelines (Indicate under which category) _____ | | | |
| <input checked="" type="checkbox"/> Other - specify (see "Table 8 - Other Common Types of Wastewater" in appendix) <u>Plant Intake</u> | | | |

J. What is the maximum Facility Design Flow Rate: NA - intake MGD

G. What is the maximum discharge flow authorized for this outfall. 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	Discharge Volume	Annual Total
NA	NA	NA	
From	Through	Discharge Volume	
From	Through	Discharge Volume	
From	Through	Discharge Volume	

I. Continuous Discharge

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

Batch dischargers must 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- Surface Water Quality Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 000 - Intake
2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE This information is used to determine the applicable federal regulations for this discharge. The information required to be reported is dependent on the type of facility. Page 7 of the appendix contains an abbreviated list of various industries and the types of information each shall report in this application. For assistance call the Permits Section. All industries shall provide the name of each process and the SIC or the NAICS code for the process. If the wastestream is not regulated under federal categorical standards, the applicant shall report all pollutants which have the reasonable potential to be present in the discharge. To submit additional information see page ii, item 8.		
PROCESS INFORMATION A. Name of the process contributing to the discharge: <u>NA - intake</u> B. SIC or NAICS code: _____ C. Describe the process and provide measures of production (see the instructions to determine the appropriate information to be reported):		
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 (see the instructions to determine the appropriate information to be reported):		
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 (see the instructions to determine the appropriate information to be reported):		
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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 (see the instructions to determine the appropriate information to be reported):		

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

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 000 - Intake
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3. WASTEWATER CHARACTERISTICS - CONVENTIONAL POLLUTANTS - Instructions for completing this page are on the facing page.

☐ Check this box if additional information is included as an attachment. To submit additional information see page ii, item 8

Parameter	Maximum Daily Concentration	Maximum Monthly Concentration	Units	Number of Analyses	Sample Type
Biochemical Oxygen Demand - five day (BOD ₅)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
COD (Chemical oxygen demand)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
TOC (Total organic carbon)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Ammonia Nitrogen (as N)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Suspended Solids	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Dissolved Solids	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Phosphorus (as P)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Fecal Coliform Bacteria (report geometric means)	maximum-7day NA		counts/100ml		Grab
Total Residual Chlorine	NA		<input type="checkbox"/> mg/l <input type="checkbox"/> µg/l		Grab
Dissolved Oxygen	minimum daily NA	Do Not Use	mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
pH (report maximum and minimum of individual samples)	minimum NA	maximum	standard units		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Summer	78	78	<input checked="" type="checkbox"/> °F <input type="checkbox"/> °C	183	<input checked="" type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Winter	68.2	68.2	<input checked="" type="checkbox"/> °F <input type="checkbox"/> °C	182	<input checked="" type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Oil & Grease	NA		mg/l		Grab
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
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* The Company is requesting a waiver from this reporting requirement

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

B. Outfall Information
PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 000 - intake
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4. PRIMARY INDUSTRY PRIORITY POLLUTANT INFORMATION

Existing primary industries that discharge process wastewater must submit the results of at least one 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 the pollutants identified in Table 3. Existing primary industries must also provide the results of at least one effluent analysis for any other chemical listed in Table 2 known or believed to be present in facility effluent.

In addition, submit the results of all other effluent analyses performed within the last 5 years for any chemical listed in Tables 2 and 3.

New primary industries that propose to discharge process wastewater must provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in facility 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 facility effluent, must 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 must be conducted using EPA Method 1613.

In addition, submit the results of all other effluent analyses performed within the last 5 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 facility effluent must 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 non-process wastewater, must 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 facility effluent.

In addition, submit the results of all other effluent analyses performed within the last 5 years for any chemical listed in Tables 2 and 3.

New secondary industries, or new primary industries that propose to discharge non-process wastewater, must provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in facility effluent.

7. ADDITIONAL TOXIC AND OTHER POLLUTANT INFORMATION

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

New Industries, regardless of discharge type, must provide an estimated effluent concentration for any chemical listed in Tables 4 and 5 expected to be in facility effluent.

8. INJURIOUS CHEMICALS NOT PREVIOUSLY REPORTED

New or existing industries, regardless of discharge type, must provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in facility effluent that have not been previously identified in this application. Quantitative effluent data that are less than 5 years old for these chemicals must be reported

NOTE: All effluent data submitted in response to questions 4, 5, 6, 7, and 8 above should be recorded on page 31. To submit additional information see page ii, item 8.. If the effluent concentrations are estimated, place an E in the "Analytical Method" column. The following fields must be completed for each data row: Parameter, CAS No., Concentration(s), Sample Type, Analytical Method, Quantification Level and Detection Level. See page ii, number 5 for analytical test requirements.



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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
METALS (TOTAL RECOVERABLE), AND CYANIDE, PHENOLS															
Total Antimony	07440-36-0	nd										Grab	EPA 200.8		1 ug/l
Total Arsenic	07440-38-2	nd										Grab	EPA 200.8		1 ug/l
Total Beryllium	07440-41-7	nd										Grab	EPA 200.8		1 ug/l
Total Cadmium	07440-47-3	nd										Grab	EPA 200.8		0.2 ug/l
Total Chromium	07440-47-3	nd										Grab	EPA 200.8		5 ug/l
Total Copper	07550-50-8	4										Grab	EPA 200.8		1 ug/l
Total Lead	07439-92-1	nd										Grab	EPA 200.8		1 ug/l
Total Mercury	07439-97-6	nd										Grab	EPA 1631B		0.5 ng/l
Total Nickel	07440-02-0	nd										Grab	EPA 200.8		5 ug/l
Total Selenium	07782-49-2	nd										Grab	EPA 200.8		1 ug/l
Total Silver	07440-22-4	nd										Grab	EPA 200.8		0.2 ug/l
Total Thallium	07440-28-0	nd										Grab	EPA 200.8		1 ug/l
Total Zinc	07440-66-6	6										Grab	EPA 200.8		10 ug/l
Total Cyanide	00057-12-5	11										Grab	EPA 335.4		5 ug/l
Total Phenols		20										Grab	EPA 420.2		10 ug/l



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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
ACID-EXTRACTABLE COMPOUNDS															
P-chloro-m-creso	00059-50-7	nd										grab	EPA 625		5 ug/l
2-chlorophenol	00095-57-8	nd										grab	EPA 625		5 ug/l
2,4-dichlorophenol	00120-83-2	nd										grab	EPA 625		5 ug/l
2,4-dimethylphenol	00105-67-9	nd										grab	EPA 625		5 ug/l
4,6-dinitro-o-cresol	00534-52-1	nd										grab	EPA 625		20 ug/l
2,4-dinitrophenol	00051-28-5	nd										grab	EPA 625		20 ug/l
2-nitrophenol	00088-75-5	nd										grab	EPA 625		5 ug/l
4-nitrophenol	00100-02-7	nd										grab	EPA 625		20 ug/l
Pentachlorophenol	00087-86-5	nd										grab	EPA 625		20 ug/l
Phenol	00108-95-2	nd										grab	EPA 625		5 ug/l
2,4,6-trichlorophenol	00088-06-2	nd										grab	EPA 625		5 ug/l



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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
BASE-NEUTRAL COMPOUNDS															
Acenaphthene	00083-32-9	nd										grab	EPA 625		5 ug/l
Acenaphthylene	00208-96-8	nd										grab	EPA 625		5 ug/l
Anthracene	00120-12-7	nd										grab	EPA 625		5 ug/l
Benzidine	00092-87-5	nd										grab	EPA 625		10 ug/l
Benzo(a) anthracene	00056-55-3	nd										grab	EPA 625		1 ug/l
Benzo(a)pyrene	00050-32-8	nd										grab	EPA 625		2 ug/l
3,4 benzo-fluoranthene	00205-99-2	nd										grab	EPA 625		2 ug/l
Benzo(ghi)perylene	00191-24-2	nd										grab	EPA 625		5 ug/l
Benzo(k) fluoranthene	00207-08-9	nd										grab	EPA 625		5 ug/l
Bis (2-chloroethoxy) methane	00111-91-1	nd										grab	EPA 625		5 ug/l
Bis (2-chloroethyl)-ether	00111-44-4	nd										grab	EPA 625		1 ug/l
Bis (2-chloroisopropyl) ether	39638-32-9	nd										grab	EPA 625		5 ug/l
Bis (2-ethylhexyl) phthalate	00117-81-7	nd										grab	EPA 625		5 ug/l
4-bromophenyl phenyl ether	00101-55-3	nd										grab	EPA 625		5 ug/l
Butyl benzyl phthalate	00085-68-7	nd										grab	EPA 625		5 ug/l
2-chloronaphthalene	00091-58-7	nd										grab	EPA 625		5 ug/l
4-chlorophenyl phenyl ether	07005-72-3	nd										grab	EPA 625		5 ug/l
Chrysene	00218-01-9	nd										grab	EPA 625		5 ug/l
Di-n-butyl phthalate	00084-74-2	nd										grab	EPA 625		5 ug/l

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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
DI-n-octyl phthalate	00117-84-0	nd										grab	EPA 625		5 ug/l
Dibenzo(a,h) anthracene	00053-70-3	nd										grab	EPA 625		2 ug/l
1,2-dichlorobenzene	00095-50-1	nd										grab	SW846 8260		5 ug/l
1,3-dichlorobenzene	00541-73-1	nd										grab	SW846 8260		5 ug/l
1,4-dichlorobenzene	00106-46-7	nd										grab	SW846 8260		5 ug/l
3,3-dichlorobenzidine	00091-94-1	nd										grab	EPA 625		10 ug/l
Diethyl phthalate	00084-74-2	nd										grab	EPA 625		5 ug/l
Dimethyl phthalate	00131-11-3	nd										grab	EPA 625		5 ug/l
2,4-dinitrotoluene	00121-14-2	nd										grab	EPA 625		5 ug/l
2,6-dinitrotoluene	00606-20-2	nd										grab	EPA 625		5 ug/l
1,2-diphenylhydrazine	00122-66-7	nd										grab	EPA 625		5 ug/l
Fluoranthene	00206-44-0	nd										grab	EPA 625		5 ug/l
Fluorene	00086-73-7	nd										grab	EPA 625		5 ug/l
Hexachlorobenzene	00118-71-1	nd										grab	EPA 625		5 ug/l
Hexachlorobutadiene	00087-68-3	nd										grab	EPA 625		5 ug/l
Hexachlorocyclopentadiene	00077-47-4	nd										grab	EPA 625		2 ug/l
Hexachloroethane	00067-72-1	nd										grab	EPA 625		5 ug/l
Indeno(1,2,3-cd) pyrene	00193-39-5	nd										grab	EPA 625		2 ug/l
Isophorone	00078-59-1	nd										grab	EPA 625		5 ug/l
Naphthalene	00091-20-3	nd										grab	EPA 625		5 ug/l

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Base/Neutral-2



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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
Nitrobenzene	00098-95-3	nd										grab	EPA 625		2 ug/l
N-nitrosodi-n-propylamine	00621-64-7	nd										grab	EPA 625		5 ug/l
N-nitrosodimethylamine	00062-75-9	nd										grab	EPA 625		5 ug/l
N-nitrosodiphenylamine	00086-30-6	nd										grab	EPA 625		5 ug/l
Phenanthrene	00085-01-8	nd										grab	EPA 625		5 ug/l
Pyrene	00129-00-0	nd										grab	EPA 625		5 ug/l
1,2,4-trichlorobenzene	00120-82-1	nd										grab	EPA 625		5 ug/l



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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
VOLATILE ORGANIC COMPOUNDS															
Acrolein	00107-02-8	nd										grab	EPA 624		5 ug/l
Acrylonitrile	00107-13-1	nd										grab	EPA 624		1 ug/l
Benzene	00071-43-2	nd										grab	EPA 624		1 ug/l
Bromoform	00075-25-2	nd										grab	EPA 624		1 ug/l
Carbon tetrachloride	00056-23-5	nd										grab	EPA 624		1 ug/l
Chlorobenzene	00108-90-7	nd										grab	EPA 624		1 ug/l
Chlorodibromo-methane	00124-48-1	nd										grab	EPA 624		1 ug/l
Chloroethane	00075-00-3	nd										grab	EPA 624		1 ug/l
2-chloro-ethylvinyl ether	00110-75-8	nd										grab	EPA 624		10 ug/l
Chloroform	00067-66-3	nd										grab	EPA 624		1 ug/l
Dichlorobromo-methane	00075-27-4	nd										grab	EPA 624		1 ug/l
1,1-dichloroethane	00075-34-3	nd										grab	EPA 624		1 ug/l
1,2-dichloroethane	00107-06-2	nd										grab	EPA 624		1 ug/l
Trans-1,2-dichloro-ethylene	00156-60-5	nd										grab	EPA 624		1 ug/l
1,1-dichloroethylene	00075-35-4	nd										grab	EPA 624		1 ug/l
1,2-dichloropropane	00078-87-5	nd										grab	EPA 624		1 ug/l
1,3-dichloro-propylene	00542-75-6	nd										grab	EPA 624		1 ug/l
Ethylbenzene	00100-41-4	nd										grab	EPA 624		1 ug/l



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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
Methyl bromide	00074-83-9	nd										grab	EPA 624		1 ug/l
Methyl chloride	00074-87-3	nd										grab	EPA 624		1 ug/l
Methylene chloride	00075-09-2	nd										grab	EPA 624		5 ug/l
1,1,2,2-tetrachloroethane	00079-34-5	nd										grab	EPA 624		1 ug/l
Tetrachloroethylene	00127-18-4	nd										grab	EPA 624		1 ug/l
Toluene	00108-88-3	nd										grab	EPA 624		1 ug/l
1,1,1-trichloroethane	00071-55-6	nd										grab	EPA 624		1 ug/l
1,1,2-trichloroethane	00079-00-5	nd										grab	EPA 624		1 ug/l
Trichloroethylene	00079-01-6	nd										grab	EPA 624		1 ug/l
Vinyl chloride	00075-01-4	nd										grab	EPA 624		1 ug/l



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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Sample Type	Analytical Method	QL	DL
METALS (TOTAL RECOVERABLE), AND CYANIDE, PHENOLS															
Total Antimony	07440-36-0	nd										Grab	EPA 200.8		1 ug/l
Total Arsenic	07440-38-2	nd										Grab	EPA 200.8		1 ug/l
Total Beryllium	07440-41-7	nd										Grab	EPA 200.8		1 ug/l
Total Cadmium	07440-47-3	nd										Grab	EPA 200.8		0.2 ug/l
Total Chromium	07440-47-3	nd										Grab	EPA 200.8		5 ug/l
Total Copper	07550-50-8	2										Grab	EPA 200.8		1 ug/l
Total Lead	07439-92-1	nd										Grab	EPA 200.8		1 ug/l
Total Mercury	07439-97-6	nd										Grab	EPA 1631B		0.5 ng/l
Total Nickel	07440-02-0	nd										Grab	EPA 200.8		5 ug/l
Total Selenium	07782-49-2	nd										Grab	EPA 200.8		1 ug/l
Total Silver	07440-22-4	nd										Grab	EPA 200.8		0.2 ug/l
Total Thallium	07440-28-0	nd										Grab	EPA 200.8		1 ug/l
Total Zinc	07440-66-6	7										Grab	EPA 200.8		10 ug/l
Total Cyanide	00057-12-5	nd										Grab	EPA 335.4		5 ug/l
Total Phenols		10										Grab	EPA 420.2		10 ug/l



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PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
ACID-EXTRACTABLE COMPOUNDS															
P-chloro-m-creso	00059-50-7	nd										grab	EPA 625		5 ug/l
2-chlorophenol	00095-57-8	nd										grab	EPA 625		5 ug/l
2,4-dichlorophenol	00120-83-2	nd										grab	EPA 625		5 ug/l
2,4-dimethylphenol	00105-67-9	nd										grab	EPA 625		5 ug/l
4,6-dinitro-o-cresol	00534-52-1	nd										grab	EPA 625		20 ug/l
2,4-dinitrophenol	00051-28-5	nd										grab	EPA 625		20 ug/l
2-nitrophenol	00088-75-5	nd										grab	EPA 625		5 ug/l
4-nitrophenol	00100-02-7	nd										grab	EPA 625		20 ug/l
Pentachlorophenol	00087-86-5	nd										grab	EPA 625		20 ug/l
Phenol	00108-95-2	nd										grab	EPA 625		5 ug/l
2,4,6-trichlorophenol	00088-06-2	nd										grab	EPA 625		5 ug/l

Acids

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SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
BASE-NEUTRAL COMPOUNDS															
Acenaphthene	00083-32-9	nd										grab	EPA 625		5 ug/l
Acenaphthylene	00208-96-8	nd										grab	EPA 625		5 ug/l
Anthracene	00120-12-7	nd										grab	EPA 625		5 ug/l
Benzidine	00092-87-5	nd										grab	EPA 625		10 ug/l
Benzo(a) anthracene	00056-55-3	nd										grab	EPA 625		1 ug/l
Benzo(a)pyrene	00050-32-8	nd										grab	EPA 625		2 ug/l
3,4 benzo-fluoranthene	00205-99-2	nd										grab	EPA 625		2 ug/l
Benzo(ghi)perylene	00191-24-2	nd										grab	EPA 625		5 ug/l
Benzo(k) fluoranthene	00207-08-9	nd										grab	EPA 625		5 ug/l
Bis (2-chloroethoxy) methane	00111-91-1	nd										grab	EPA 625		5 ug/l
Bis (2-chloroethyl)- ether	00111-44-4	nd										grab	EPA 625		1 ug/l
Bis (2-chloroisopropyl) ether	39638-32-9	nd										grab	EPA 625		5 ug/l
Bis (2-ethylhexyl) phthalate	00117-81-7	nd										grab	EPA 625		5 ug/l
4-bromophenyl phenyl ether	00101-55-3	nd										grab	EPA 625		5 ug/l
Butyl benzyl phthalate	00085-68-7	nd										grab	EPA 625		5 ug/l
2-chloronaphthalene	00091-58-7	nd										grab	EPA 625		5 ug/l
4-chlorophenyl phenyl ether	07005-72-3	nd										grab	EPA 625		5 ug/l
Chrysene	00218-01-9	nd										grab	EPA 625		5 ug/l
Di-n-butyl phthalate	00084-74-2	nd										grab	EPA 625		5 ug/l

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WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant					NPDES PERMIT or COC NUMBER MI0001457					OUTFALL NUMBER 001A					
SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
Di-n-octyl phthalate	00117-84-0	nd										grab	EPA 625		5 ug/l
Dibenzo(a,h) anthracene	00053-70-3	nd										grab	EPA 625		2 ug/l
1,2-dichlorobenzene	00095-50-1	nd										grab	SW846 8260		5 ug/l
1,3-dichlorobenzene	00541-73-1	nd										grab	SW846 8260		5 ug/l
1,4-dichlorobenzene	00106-46-7	nd										grab	SW846 8260		5 ug/l
3,3-dichlorobenzidine	00091-94-1	nd										grab	EPA 625		10 ug/l
Diethyl phthalate	00084-74-2	nd										grab	EPA 625		5 ug/l
Dimethyl phthalate	00131-11-3	nd										grab	EPA 625		5 ug/l
2,4-dinitrotoluene	00121-14-2	nd										grab	EPA 625		5 ug/l
2,6-dinitrotoluene	00606-20-2	nd										grab	EPA 625		5 ug/l
1,2-diphenylhydrazine	00122-66-7	nd										grab	EPA 625		5 ug/l
Fluoranthene	00206-44-0	nd										grab	EPA 625		5 ug/l
Fluorene	00086-73-7	nd										grab	EPA 625		5 ug/l
Hexachlorobenzene	00118-71-1	nd										grab	EPA 625		5 ug/l
Hexachlorobutadiene	00087-68-3	nd										grab	EPA 625		5 ug/l
Hexachlorocyclopentadiene	00077-47-4	nd										grab	EPA 625		2 ug/l
Hexachloroethane	00067-72-1	nd										grab	EPA 625		5 ug/l
Indeno(1,2,3-cd) pyrene	00193-39-5	nd										grab	EPA 625		2 ug/l
Isophorone	00078-59-1	nd										grab	EPA 625		5 ug/l
Naphthalene	00091-20-3	nd										grab	EPA 625		5 ug/l

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Base/Neutral-2



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PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant					NPDES PERMIT or COC NUMBER MI0001457					OUTFALL NUMBER 001A					
SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
Nitrobenzene	00098-95-3	nd										grab	EPA 625		2 ug/l
N-nitrosodi-n-propylamine	00621-64-7	nd										grab	EPA 625		5 ug/l
N-nitrosodimethylamine	00062-75-9	nd										grab	EPA 625		5 ug/l
N-nitrosodiphenylamine	00086-30-6	nd										grab	EPA 625		5 ug/l
Phenanthrene	00085-01-8	nd										grab	EPA 625		5 ug/l
Pyrene	00129-00-0	nd										grab	EPA 625		5 ug/l
1,2,4-trichlorobenzene	00120-82-1	nd										grab	EPA 625		5 ug/l



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PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant						NPDES PERMIT or COC NUMBER MI0001457						OUTFALL NUMBER 001A			
SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Conc. (ua/l)	Sample Type	Analytical Method	QL	DL
VOLATILE ORGANIC COMPOUNDS															
Acrolein	00107-02-8	nd										grab	EPA 624		5 ug/l
Acrylonitrile	00107-13-1	nd										grab	EPA 624		1 ug/l
Benzene	00071-43-2	nd										grab	EPA 624		1 ug/l
Bromoform	00075-25-2	nd										grab	EPA 624		1 ug/l
Carbon tetrachloride	00056-23-5	nd										grab	EPA 624		1 ug/l
Chlorobenzene	00108-90-7	nd										grab	EPA 624		1 ug/l
Chlorodibromo-methane	00124-48-1	nd										grab	EPA 624		1 ug/l
Chloroethane	00075-00-3	nd										grab	EPA 624		1 ug/l
2-chloro-ethylvinyl ether	00110-75-8	nd										grab	EPA 624		10 ug/l
Chloroform	00067-66-3	nd										grab	EPA 624		1 ug/l
Dichlorobromo-methane	00075-27-4	nd										grab	EPA 624		1 ug/l
1,1-dichloroethane	00075-34-3	nd										grab	EPA 624		1 ug/l
1,2-dichloroethane	00107-06-2	nd										grab	EPA 624		1 ug/l
Trans-1,2-dichloro-ethylene	00156-60-5	nd										grab	EPA 624		1 ug/l
1,1-dichloroethylene	00075-35-4	nd										grab	EPA 624		1 ug/l
1,2-dichloropropane	00078-87-5	nd										grab	EPA 624		1 ug/l
1,3-dichloro-propylene	00542-75-6	nd										grab	EPA 624		1 ug/l
Ethylbenzene	00100-41-4	nd										grab	EPA 624		1 ug/l

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Volatile-1



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PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant					NPDES PERMIT or COC NUMBER MI0001457					OUTFALL NUMBER 001A					
SAMPLE DATE		1/22/03													
PARAMETER	CAS No.	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Conc. (ug/l)	Sample Type	Analytical Method	QL	DL
Methyl bromide	00074-83-9	nd										grab	EPA 624		1 ug/l
Methyl chloride	00074-87-3	nd										grab	EPA 624		1 ug/l
Methylene chloride	00075-09-2	nd										grab	EPA 624		5 ug/l
1,1,2,2-tetrachloroethane	00079-34-5	nd										grab	EPA 624		1 ug/l
Tetrachloroethylene	00127-18-4	nd										grab	EPA 624		1 ug/l
Toluene	00108-88-3	nd										grab	EPA 624		1 ug/l
1,1,1-trichloroethane	00071-55-6	nd										grab	EPA 624		1 ug/l
1,1,2-trichloroethane	00079-00-5	nd										grab	EPA 624		1 ug/l
Trichloroethylene	00079-01-6	nd										grab	EPA 624		1 ug/l
Vinyl chloride	00075-01-4	nd										grab	EPA 624		1 ug/l

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

B. Outfall Information

Complete a separate Section III.B. - Outfall Information (pages 26-31) for each outfall at the facility. Make copies of this blank section of the application for additional outfalls as necessary.

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001A
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1. OUTFALL INFORMATION (see page 25 for instruction on completion of this page)

A.	Watershed Lake Michigan				
B.	Receiving Water Lake Michigan				
C.	County Van Buren		Township Covert		
D.	1/4, 1/4 SE	1/4 NW	Section 05	Town 02S	Range 17W
E.	Latitude 42 19' 23"		Longitude 86 18' 56"		

F. Type of Wastewater Discharged (Check all that apply to this outfall):

- ☒ Contact Cooling ☐ Sanitary Wastewater ☐ Groundwater Cleanup ☒ Storm Water (regulated)
☒ Noncontact Cooling ☒ Process Wastewater ☐ Hydrostatic Pressure Test ☐ Storm Water (not regulated)
☐ Storm water subject to effluent guidelines (indicate under which category) _____
☐ Other - specify (see "Table 8 - Other Common Types of Wastewater" in appendix) _____

J. What is the maximum Facility Design Flow Rate: 135.2 MGD

G. What is the maximum discharge flow authorized for this outfall. 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	Discharge Volume	Annual Total
NA	NA	NA	
From	Through	Discharge Volume	
From	Through	Discharge Volume	
From	Through	Discharge Volume	

I. Continuous Discharge

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

Batch dischargers must 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- Surface Water Quality Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001A
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2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

This information is used to determine the applicable federal regulations for this discharge. The information required to be reported is dependent on the type of facility. Page 7 of the appendix contains an abbreviated list of various industries and the types of information each shall report in this application. For assistance call the Permits Section. All industries shall provide the name of each process and the SIC or the NAICS code for the process. If the wastestream is not regulated under federal categorical standards, the applicant shall report all pollutants which have the reasonable potential to be present in the discharge. To submit additional information see page ii, item 8.

PROCESS INFORMATION

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

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production (see the instructions to determine the appropriate information to be reported): The cooling towers typically provide cooled water to the condensor. A portion of the noncontact cooling tower flow rate is discharged directly to the mixing basin where flow is recorded and reported during discharge.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: Treated Misc Low Volume wastewater

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production (see the instructions to determine the appropriate information to be reported): TMLV waste consists of steam generator blowdown, demineralizer backwash and regeneration waste, reverse osmosis filter backwash, turbine sump drainage, floor drain, lab waste, and radwaste wastewater.

PROCESS INFORMATION

A. Name of the process contributing to the discharge: Radwaste wastewater (Outfall 001D)

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production (see the instructions to determine the appropriate information to be reported): This process removes suspended solids and radioactivity by collection, evaporation, distillation, and demineralizer prior to discharging at Outfall 001D. See Section I, Exhibit-10 for detailed flow information.

PROCESS INFORMATION

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

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production (see the instructions to determine the appropriate information to be reported): The turbine building sump collects filtered floor drainage from the turbine building which is treated by the oil/water separator prior to discharging to Outfall 001F. See Section I, Exhibit-10 for detailed flow information.

PROCESS INFORMATION

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

B. SIC or NAICS code: 4911

C. Describe the process and provide measures of production (see the instructions to determine the appropriate information to be reported): Floor drainage from Plant secondary systems is drained to the turbine sump. Auxiliary building floor drainage is processed through the radwaste system eventually to Outfall 001D. See Section I, Exhibit-10 for detailed flow information

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 SECTION III - Industrial and Commercial Wastewater

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3. WASTEWATER CHARACTERISTICS - CONVENTIONAL POLLUTANTS - Instructions for completing this page are on the facing page.
☐ Check this box if additional information is included as an attachment. To submit additional information see page li, Item 8.

Parameter	Maximum Daily Concentration	Maximum Monthly Concentration	Units	Number of Analyses	Sample Type
Biochemical Oxygen Demand - five day (BOD ₅)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
COD (Chemical oxygen demand)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
TOC (Total organic carbon)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Ammonia Nitrogen (as N)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Suspended Solids	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Dissolved Solids	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Phosphorus (as P)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Fecal Coliform Bacteria (report geometric means)	maximum-7day NA		counts/100ml		Grab
Total Residual Chlorine	177		<input type="checkbox"/> mg/l <input checked="" type="checkbox"/> µg/l	359	Grab
Dissolved Oxygen	minimum daily NA	Do Not Use	mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
pH (report maximum and minimum of individual samples)	minimum 8.03	maximum 8.80	standard units	365	<input checked="" type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Summer	111.7	111.7	<input checked="" type="checkbox"/> °F <input type="checkbox"/> °C	185	<input checked="" type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Winter	103.4	103.4	<input checked="" type="checkbox"/> °F <input type="checkbox"/> °C	182	<input checked="" type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Oil & Grease	NA		mg/l		Grab
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp

* The Company is requesting a waiver from this reporting requirement

Michigan Department of Environmental Quality- Surface Water Quality Division
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B. Outfall Information
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4. PRIMARY INDUSTRY PRIORITY POLLUTANT INFORMATION

Existing primary industries that discharge process wastewater must submit the results of at least one 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 the pollutants identified in Table 3. Existing primary industries must also provide the results of at least one effluent analysis for any other chemical listed in Table 2 known or believed to be present in facility effluent.

In addition, submit the results of all other effluent analyses performed within the last 5 years for any chemical listed in Tables 2 and 3.

New primary industries that propose to discharge process wastewater must provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in facility 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 facility effluent, must 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 must be conducted using EPA Method 1613.

In addition, submit the results of all other effluent analyses performed within the last 5 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 facility effluent must 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 non-process wastewater, must 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 facility effluent.

In addition, submit the results of all other effluent analyses performed within the last 5 years for any chemical listed in Tables 2 and 3.

New secondary industries, or new primary industries that propose to discharge non-process wastewater, must provide an estimated effluent concentration for any chemical listed in Tables 2 and 3 expected to be present in facility effluent.

7. ADDITIONAL TOXIC AND OTHER POLLUTANT INFORMATION

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

New industries, regardless of discharge type, must provide an estimated effluent concentration for any chemical listed in Tables 4 and 5 expected to be in facility effluent.

8. INJURIOUS CHEMICALS NOT PREVIOUSLY REPORTED

New or existing industries, regardless of discharge type, must provide a measured or estimated effluent concentration for any toxic or otherwise injurious chemicals known or believed to be present in facility effluent that have not been previously identified in this application. Quantitative effluent data that are less than 5 years old for these chemicals must be reported.

NOTE: All effluent data submitted in response to questions 4, 5, 6, 7, and 8 above should be recorded on page 31. To submit additional information see page ii, item 8. If the effluent concentrations are estimated, place an E in the "Analytical Method" column. The following fields must be completed for each data row: Parameter, CAS No., Concentration(s), Sample Type, Analytical Method, Quantification Level and Detection Level. See page ii, number 5 for analytical test requirements.

Attachment 1

CONSUMERS ENERGY COMPANY
PALISADES NUCLEAR PLANT
WATER TREATMENT ADDITIVE LIST

**PALISADES NUCLEAR PLANT
NPDES WATER TREATMENT ADDITIVES
Permit Application 4/4/03**

OUTFALL	MANUF.	PRODUCT NAME/NO.	INTERNAL STREAM	Approval Date
001A Mixing Basin Discharge				
	Generic	Sodium Hypochlorite	Biological growth control of condenser cooling water	Approved in current NPDES
	Nalco	Nalco Acti-brom	Biological growth control of condenser cooling water	Approved in current NPDES
	BetzDearborn	Spectrus DT1403 (sodium bisulfite or other dehalogenation reagent)	Dehalogenate bio growth control condenser cooling water	Approved in current NPDES
	BetzDearborn	Spectrus 1300 (CT-2)	Zebra mussel control condenser cooling water	Approved in current NPDES
	BetzDearborn	Clamtrol CT 4	Zebra mussel control condenser cooling water	Approved in current NPDES
	BetzDearborn	Spectrus DT1400 (Betz DT-S)	Detoxifying agent of CT-2 and CT-4	Approved in current NPDES
	Nalco	Dynacool 1383	Cooling water scale and corrosion inhibitor	MDEQ approval letter dated 8/23/01
	Nalco	Nalco 1336	Cooling water scale and corrosion inhibitor	MDEQ approval letter dated 8/23/01
	Generic	Hydrazine (30 -40% solution)	Corrosion control in steam generators	Approved in current NPDES
	Nalco	Nalco 1250 Plus (Carbohydrazide)	Corrosion control in steam generators	MDEQ approval letter 10/31/96
	BetzDearborn	Steammate PW0240 (Morpholine)	Condenser water pH control	Approved in current NPDES
	Generic	Boric Acid	Corrosion control in steam generators	MDEQ approval letter dated 8/25/88
	Calgon	Thruguard 700 (Calgon PCL-1)	Scale inhibitor in cooling water	MDEQ approval letter dated 5/6/86
	BetzDearborn	Depositrol BL5301 (Betz PAL02)	Cooling water organic corrosion inhibitor	MDEQ approval letter dated 5/20/93
	Generic or Calgon	Sodium Nitrite (Calgon LCS-60)	Cooling water corrosion inhibitor	MDEQ approval letter dated 6/7/93

PALISADES NUCLEAR PLANT
NPDES WATER TREATMENT ADDITIVES
Permit Application 4/4/03

OUTFALL	MANUF.	PRODUCT NAME/NO.	INTERNAL STREAM	Approval date
001A Mixing Basin Discharge	Betz	Betz Inhibitor AZ 8100 (TTA)	Cooling water biological control	MDEQ approval letter dated 8/29/00
	Generic	Aluminum Sulfate	Reverse osmosis system scale control	MDEQ approval letter dated 3/19/90
	Generic	Sulfuric Acid (60-100%)	Reverse osmosis system	Approved in current NPDES permit
	Alconox	Alconox 8 Detergent	Primary radwaste decontamination agent	MDEQ approval letter dated 5/18/98
	BetzDearborn	Spectrus NX1100	Radwaste tank biofouling decontamination agent	MDEQ approval letter dated 6/29/98

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B. Outfall Information

PLEASE TYPE OR PRINT

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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 a 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?

☐ No, proceed to item 4.

☒ Yes.

B. Have these water treatment additives been previously approved?

☐ No, continue with C below

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

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

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

The required toxicity information (described in Items 7 and 8 above) is currently available in the SWQD files for the water treatment additives listed on the DEQ's Internet page <http://www.deq.state.mi.us/swq/gleas/docs/wta/WTAlist.doc>. 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 SWQD.

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

10. WHOLE EFFLUENT TOXICITY TESTS

Have any acute or chronic WET tests been conducted on any discharges or receiving water in relation to facility discharges within the last three years? If yes, identify the tests and summarize the results below unless the test has been submitted to the department in the last 5 years

No

Michigan Department of Environmental Quality- Surface Water Quality Division
WASTEWATER DISCHARGE PERMIT APPLICATION
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B. Outfall Information

Complete a separate Section III.B. - Outfall Information (pages 26-31) for each outfall at the facility. Make copies of this blank section of the application for additional outfalls as necessary.

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001D
--	----------------------------------	------------------------

1. OUTFALL INFORMATION (see page 25 for instruction on completion of this page)

A.	Watershed NA				
B.	Receiving Water NA - Internal discharge to Mixing Basin				
C.	County Van Buren			Township Covert	
D.	1/4, 1/4 SE	1/4 NW	Section 05	Town 02S	Range 17W
E.	Latitude 42 19' 23"		Longitude 86 18' 56"		

F. Type of Wastewater Discharged (Check all that apply to this outfall):

- ☐ Contact Cooling ☐ Sanitary Wastewater ☐ Groundwater Cleanup ☐ Storm Water (regulated)
☐ Noncontact Cooling ☒ Process Wastewater ☐ Hydrostatic Pressure Test ☐ Storm Water (not regulated)
☐ Storm water subject to effluent guidelines (indicate under which category) _____
☐ Other - specify (see "Table 8 - Other Common Types of Wastewater" in appendix) _____

J. What is the maximum Facility Design Flow Rate: 0.1 MGD

G. What is the maximum discharge flow authorized for this outfall: 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	Discharge Volume	Annual Total
NA	NA	NA	
From	Through	Discharge Volume	
From	Through	Discharge Volume	
From	Through	Discharge Volume	

I. Continuous Discharge

How often is there a discharge from this outfall (on the average)? 24 Hours/Day 12 Days/Year

Batch dischargers must provide the following additional information:

Is there effluent flow equalization? ☐ Yes ☒ No

Batch Peak Flow Rate: 80 gpm

Number of batches discharged per day: 1

	Minimum	Average	Maximum
Batch Volume (gallons)	38,000	49,000	58,000
Batch Duration (minutes)			

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

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001D
--	----------------------------------	------------------------

2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

This information is used to determine the applicable federal regulations for this discharge. The information required to be reported is dependent on the type of facility. Page 7 of the appendix contains an abbreviated list of various industries and the types of information each shall report in this application. For assistance call the Permits Section. All industries shall provide the name of each process and the SIC or the NAICS code for the process. If the wastestream is not regulated under federal categorical standards, the applicant shall report all pollutants which have the reasonable potential to be present in the discharge. To submit additional information see page ii, item 8.

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 (see the instructions to determine the appropriate information to be reported) This process removes suspended solids and radioactivity by collection, evaporation, distillation, and demineralization prior to discharging at Outfall 001D. See Section I, Exhibit I-10 for detailed flow information

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 (see the instructions to determine the appropriate information to be reported).

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 (see the instructions to determine the appropriate information to be reported):

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 (see the instructions to determine the appropriate information to be reported):

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 (see the instructions to determine the appropriate information to be reported):

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

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001D
--	----------------------------------	------------------------

3 WASTEWATER CHARACTERISTICS - CONVENTIONAL POLLUTANTS - Instructions for completing this page are on the facing page.

☐ Check this box if additional information is included as an attachment To submit additional information see page ii, item 8.

Parameter	Maximum Daily Concentration	Maximum Monthly Concentration	Units	Number of Analyses	Sample Type
Biochemical Oxygen Demand - five day (BOD ₅)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
COD (Chemical oxygen demand)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
TOC (Total organic carbon)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Ammonia Nitrogen (as N)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Suspended Solids	0.0	0.0	mg/l	3	<input checked="" type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Dissolved Solids	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Phosphorus (as P)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Fecal Coliform Bacteria (report geometric means)	maximum-7day NA		counts/100ml		Grab
Total Residual Chlorine	NA		<input type="checkbox"/> mg/l <input type="checkbox"/> µg/l		Grab
Dissolved Oxygen	minimum daily NA	Do Not Use	mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
pH (report maximum and minimum of individual samples)	minimum *	maximum	standard units		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Summer	*		<input type="checkbox"/> °F <input type="checkbox"/> °C		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Winter	*		<input type="checkbox"/> °F <input type="checkbox"/> °C		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Oil & Grease	NA		mg/l		Grab
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp

* The Company is requesting a waiver from this reporting requirement

Michigan Department of Environmental Quality- Surface Water Quality Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater
B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001D
---	----------------------------------	------------------------

9. WATER TREATMENT ADDITIVES

Water treatment additives include any material that is added to water used at the facility or to a 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?

☐ No, proceed to item 4.

☒ Yes.

B. Have these water treatment additives been previously approved?

☐ No, continue with C. below.

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

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

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

The required toxicity information (described in items 7 and 8 above) is currently available in the SWQD files for the water treatment additives listed on the DEQ's Internet page <http://www.deq.state.mi.us/swq/gleas/docs/wta/WTAlist.doc>. 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 SWQD.

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

10. WHOLE EFFLUENT TOXICITY TESTS

Have any acute or chronic WET tests been conducted on any discharges or receiving water in relation to facility discharges within the last three years? If yes, identify the tests and summarize the results below unless the test has been submitted to the department in the last 5 years.

No

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

B. Outfall Information

Complete a separate Section III.B. - Outfall Information (pages 26-31) for each outfall at the facility. Make copies of this blank section of the application for additional outfalls as necessary.

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001F
--	----------------------------------	------------------------

1. OUTFALL INFORMATION (see page 25 for instruction on completion of this page)

A.	Watershed NA				
B.	Receiving Water NA - Internal discharge to Mixing Basin				
C.	County Van Buren		Township Covert		
D.	1/4, 1/4 SE	1/4 NW	Section 05	Town 02S	Range 17W
E.	Latitude 42 19' 23"		Longitude 86 18' 56"		

F. Type of Wastewater Discharged (Check all that apply to this outfall):

- | | | | |
|---|--|--|--|
| <input type="checkbox"/> Contact Cooling | <input type="checkbox"/> Sanitary Wastewater | <input type="checkbox"/> Groundwater Cleanup | <input type="checkbox"/> Storm Water (regulated) |
| <input type="checkbox"/> Noncontact Cooling | <input checked="" type="checkbox"/> Process Wastewater | <input type="checkbox"/> Hydrostatic Pressure Test | <input type="checkbox"/> Storm Water (not regulated) |
| <input type="checkbox"/> Storm water subject to effluent guidelines (indicate under which category) _____ | | | |
| <input type="checkbox"/> Other - specify (see "Table 8 - Other Common Types of Wastewater" in appendix) _____ | | | |

J. What is the maximum Facility Design Flow Rate: 0.1 MGD

G. What is the maximum discharge flow authorized for this outfall: 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	Discharge Volume	Annual Total
NA	NA	NA	
From	Through	Discharge Volume	
From	Through	Discharge Volume	
From	Through	Discharge Volume	

I. Continuous Discharge

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

Batch dischargers must 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- Surface Water Quality Division
WASTEWATER DISCHARGE PERMIT APPLICATION
SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001F
--	----------------------------------	------------------------

2. PROCESS STREAMS CONTRIBUTING TO OUTFALL DISCHARGE

This information is used to determine the applicable federal regulations for this discharge. The information required to be reported is dependent on the type of facility. Page 7 of the appendix contains an abbreviated list of various industries and the types of information each shall report in this application. For assistance call the Permits Section. All industries shall provide the name of each process and the SIC or the NAICS code for the process. If the wastestream is not regulated under federal categorical standards, the applicant shall report all pollutants which have the reasonable potential to be present in the discharge. To submit additional information see page ii, item 8.

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 (see the instructions to determine the appropriate information to be reported): The turbine building sump collects filtered floor drainage from the turbine building which is treated by the oil/water separator prior to discharging to Outfall 001F. See Section I, Exhibit-10 for detailed flow information.

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 (see the instructions to determine the appropriate information to be reported):

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 (see the instructions to determine the appropriate information to be reported):

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 (see the instructions to determine the appropriate information to be reported):

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 (see the instructions to determine the appropriate information to be reported):

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

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457	OUTFALL NUMBER 001F
--	----------------------------------	------------------------

3. WASTEWATER CHARACTERISTICS - CONVENTIONAL POLLUTANTS - Instructions for completing this page are on the facing page.

☐ Check this box if additional information is included as an attachment. To submit additional information see page ii, item 8.

Parameter	Maximum Daily Concentration	Maximum Monthly Concentration	Units	Number of Analyses	Sample Type
Biochemical Oxygen Demand - five day (BOD ₅)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
COD (Chemical oxygen demand)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
TOC (Total organic carbon)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Ammonia Nitrogen (as N)	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Suspended Solids	*		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Dissolved Solids	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Total Phosphorus (as P)	NA		mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Fecal Coliform Bacteria (report geometric means)	maximum-7day NA		counts/100ml		Grab
Total Residual Chlorine	NA		<input type="checkbox"/> mg/l <input type="checkbox"/> µg/l		Grab
Dissolved Oxygen	minimum daily NA	Do Not Use	mg/l		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
pH (report maximum and minimum of individual samples)	minimum *	maximum	standard units		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Summer	*		<input type="checkbox"/> °F <input type="checkbox"/> °C		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Temperature, Winter	*		<input type="checkbox"/> °F <input type="checkbox"/> °C		<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
Oil & Grease	11.6	7.1	mg/l	36	Grab
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp
					<input type="checkbox"/> Grab <input type="checkbox"/> 24 Hr Comp

* The Company is requesting a waiver from this reporting requirement

Michigan Department of Environmental Quality- Surface Water Quality Division
WASTEWATER DISCHARGE PERMIT APPLICATION

SECTION III - Industrial and Commercial Wastewater

B. Outfall Information

PLEASE TYPE OR PRINT

FACILITY NAME	NPDES PERMIT NUMBER	OUTFALL NUMBER
Consumers Energy Company Palisades Nuclear Plant	MI0001457	001F

9. WATER TREATMENT ADDITIVES

Water treatment additives include any material that is added to water used at the facility or to a 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?

☐ No, proceed to item 4.

☒ Yes

B. Have these water treatment additives been previously approved?

☐ No, continue with C. below.

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

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

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

The required toxicity information (described in items 7 and 8 above) is currently available in the SWQD files for the water treatment additives listed on the DEQ's Internet page <http://www.deq.state.mi.us/swq/gleas/docs/wta/WTAlist.doc>. 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 SWQD.

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

10. WHOLE EFFLUENT TOXICITY TESTS

Have any acute or chronic WET tests been conducted on any discharges or receiving water in relation to facility discharges within the last three years? If yes, identify the tests and summarize the results below unless the test has been submitted to the department in the last 5 years.

No

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

C. Signature Page

PLEASE TYPE OR PRINT

FACILITY NAME Consumers Energy Company, Palisades Nuclear Plant	NPDES PERMIT NUMBER MI0001457
--	----------------------------------

1. CERTIFICATION

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

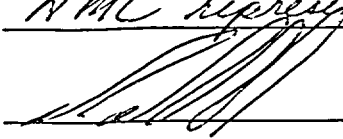
- A. For a corporation, by a principal executive officer of at least the level of vice president, or their designated representative if the representative is responsible for the overall operation of the facility from which the discharge described in the permit application or other NPDES form originates.
- B. For a partnership, by a general partner.
- C. For a sole proprietorship, by the proprietor.
- D. For a municipal, state, or other public facility, by either a principal executive officer, the mayor, village president, city or village manager or other duly authorized employee.

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."

Print Name: Daniel T. Malone Title: Site Director

Representing: NMC representing Consumers Energy

Signature:  Date: 07/01/03

This completes Section III. Return the completed application (Sections I, III and any attachments) to the appropriate district office. See pages 2 and 3 of the appendix for district office addresses and a map of district boundaries.

If assistance is needed completing this application, contact the Permits Section, telephone number: 517-373-8088.

Attachment 2

CONSUMERS ENERGY COMPANY

PALISADES NUCLEAR PLANT

SUGGESTED CHANGES MARKED-UP COPY OF CURRENT

NPDES PERMIT



JOHN ENGLER, Governor
DEPARTMENT OF ENVIRONMENTAL QUALITY

"Better Service for a Better Environment"
HOLLISTER BUILDING PO BOX 30473 LANSING MI 48909-7973

INTERNET www.deq.state.mi.us
RUSSELL J. HARDING, Director

REPLY TO

SURFACE WATER QUALITY DIVISION
KNAPPS CENTRE
PO BOX 30273
LANSING MI 48909-7773

October 1, 1999

CERTIFIED MAIL -- Z 067 071 750

Consumers Energy Company
212 West Michigan Avenue
Jackson, Michigan 49201

Dear Sir or Madam:

SUBJECT: NPDES Permit No. MI0001457
CECO-Palisades Power Plt, 27780 Blue Star Memorial Highway, Covert

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

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

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

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

Mr. Fred Morley, District Supervisor
Plainwell District Office, SWQD, DEQ
Suite B
1342 SR 89 West
Plainwell, Michigan 49080-1915
Telephone: 616-692-2120

Sincerely,

William E. McCracken

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

Attachment: Permit

cc: EPA-Region 5
208 Agency - Southwestern Michigan Commission
Mr. Fred Morley, Plainwell District Supervisor, SWQD (2) (Supersedes Storm Water COC MIS410244)
PCS Unit, SWQD (Supersedes Storm Water COC MIS410244)
Point Source Studies (Grand Rapids District Office), SWQD
Files

21E P10.1

P10.1

MARKUP
(Renewed Permit)

PART I

Section A. Effluent Limitations And Monitoring Requirements

f. Zebra Mussel Control Requirements

Parameter	Maximum Limits for Quantity or Loading			Maximum Limits for Quality or Concentration			Frequency of Analysis	Sample Type
	Monthly	Daily	Units	Monthly	Daily	Units		
Spectrus CT 1300	---	---	---	---	5	ug/l	Every 3 Hrs During Discharge	Grab
Betz Clam-Trol CT-4	---	---	---	---	40	ug/l	Every 3 Hrs During Discharge	Grab

The discharge of any combination of Spectrus CT 1300 and Clam-Trol CT-4 is restricted to no more than six (6) times per year, for no more than 12 hours per discharge event when water temperature is 55°F and higher, or no more than 16 hours when water temperature is below 55°F, per discharge event. The permittee shall notify the Plainwell District Supervisor of the Surface Water Quality Division at least one (1) week prior to each discharge.

The sampling procedures, preservation and handling, and analytical protocol for compliance monitoring shall be in accordance with the Orange II/Methylene Chloride Method. The quantification levels shall not exceed 50 ug/l for Spectrus CT 1300 and 260 ug/l for Betz Clam-Trol CT-4 unless higher levels are appropriate because of sample matrix interference. Other methods may be used upon approval of the Plainwell District Supervisor. The highest value measured during the discharge event shall be reported. If the concentration in all samples is less than the quantification level, report zero on the discharge monitoring reports.

The water quality-based effluent limits are less than the quantification levels using the specified analytical method. Detoxification of the treated effluent is required using bentonite clay unless the permittee demonstrates to the Plainwell District Supervisor, through mass-balance calculations, that the final effluent limit of 10 ug/l for Spectrus CT 1300 and 40 ug/l for Betz Clam-Trol CT-4 will be met. If a successful demonstration is not made, the discharge of Spectrus CT 1300 and Betz Clam-Trol CT-4 from monitoring point 001A requires the permittee to conduct a 48-hour acute toxicity test using a *Daphnia* species to verify adequate detoxification. This test shall be conducted on the discharge during the first treatment of each product. This test shall be conducted using procedures contained in EPA/600/4-90/027F "Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms." The results of the toxicity testing and discharge concentrations shall be submitted to the Plainwell District Supervisor within 30 days following the first treatment of each product.

Any discharge of Spectrus CT 1300 or Betz Clam-Trol CT-4 at or above the indicated quantification levels is a specific violation of this permit. If all the samples in any monthly reporting period are less than the above quantification levels and, if toxicity testing is required because of the lack of a successful demonstration, the results of the effluent toxicity testing do not exceed 1.0 acute toxic units (TU_A), the Michigan Department of Environmental Quality will consider the permittee to be in compliance with the final effluent limitations for this pollutant for that reporting period.

If the results of effluent toxicity testing for any product exceeds 1.0 TU_A, the permittee shall discontinue use of that product and notify the Plainwell District Supervisor. The permittee will not be authorized to discharge that product until a demonstration is made to the Plainwell District Supervisor that 1.0 TU_A will be consistently achieved.

↑ Delete from permit. Subject additives use approval is required by separate letter.

page 2 of 3

PART I

Section A. Effluent Limitations And Monitoring Requirements

3. Request for Discharge of Water Treatment Additives

Requests for the discharge of water treatment additives shall be sent to the Great Lakes and Environmental Assessment Section, Surface Water Quality Division, Department of Environmental Quality, P.O. Box 30273, Lansing, Michigan 48909, with a copy of the request to the Plainwell District Supervisor. Instructions may be obtained via the internet at <http://www.deq.state.mi.us/swq/gleas/docs/wta/wtamemo.htm> to submit a request electronically. Written approval from the Department to discharge such additives at specified levels shall be obtained prior to discharge by the permittee. Additional monitoring and reporting may be required as a condition for the approval to discharge the additive.

A request to discharge water additives shall include all of the following water additive usage and discharge information:

- a. Material Safety Data Sheet;
- b. the proposed water additive discharge concentration;
- c. the discharge frequency (i.e., number of hours per day and number of days per year);
- d. the monitoring point from which the product is to be discharged;
- e. the type of removal treatment, if any, that the water additive receives prior to discharge;
- f. product function (i.e. microbiocide, flocculant, etc.);
- g. a 48-hour LC_{50} or EC_{50} for a North American freshwater planktonic crustacean (either *Ceriodaphnia* sp., *Daphnia* sp., or *Simocephalus* sp.); and
- h. 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) of the Water Quality Standards.

Prior to submitting the request, the permittee may contact the Great Lakes and Environmental Assessment Section by telephone at 517-335-4184 or via the internet at <ftp://ftp.deq.state.mi.us/pub/swq/rule57/WT-A/WTAList.doc> to determine if the Department has the product toxicity data required by items g and h above. If the Department has the data, the permittee will not need to submit product toxicity data.

4. Cooling Water Intake System

In order for the Department to assess the environmental impact of the increased flow in the cooling water intake pursuant to Section 316(b) of the Federal Water Pollution Control Act, the permittee shall conduct a study to determine quantitative fish mortality due to entrainment and/or impingement. The study shall be conducted in accordance with the permittee's Cooling Water Intake Study Plan dated September 16, 1999. The fish impingement monitoring shall be conducted for twelve (12) months beginning November 1, 1999. Fish entrainment monitoring shall be conducted for three (3) months beginning April 1, 2000. The results of the studies shall be submitted to the Plainwell District Supervisor of the Surface Water Quality Division according to the following schedule

- a. A final report of fish entrainment shall be submitted on or before October 31, 2000.
- b. A final report of fish impingement shall be submitted on or before December 31, 2000.

This permit may be modified to include further reductions in fish mortality if it is determined the current technology being used at the power plant does not continue to reflect the best technology available for minimizing adverse environmental impact.

Delete from permit. Demonstration was completed.
See cover letter for compliance details.

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