

NPDES Permit No. IL0000124  
Notice No. DCR:23033001.docx

Public Notice Beginning Date: August 31, 2023

Public Notice Ending Date: October 02, 2023

National Pollutant Discharge Elimination System (NPDES)  
Permit Program

Draft Reissued NPDES Permit to Discharge into Waters of the State

Public Notice/Fact Sheet Issued By:

Illinois Environmental Protection Agency  
Bureau of Water  
Division of Water Pollution Control  
Permit Section  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276  
217/782-0610

Name and Address of Discharger:

Grand Tower Energy Center, LLC  
1820 Power Plant Road  
Grand Tower, Illinois 62942

Name and Address of Facility:

Grand Tower Energy Center, LLC  
1820 Power Plant Road  
Grand Tower, Illinois 62942  
(Jackson County)

The Illinois Environmental Protection Agency (IEPA) has made a tentative determination to issue a NPDES permit to discharge into the waters of the state and has prepared a draft permit and associated fact sheet for the above named discharger. The Public Notice period will begin and end on the dates indicated in the heading of this Public Notice/Fact Sheet. The last day comments will be received will be on the Public Notice period ending date unless a commentor demonstrating the need for additional time requests an extension to this comment period and the request is granted by the IEPA. Interested persons are invited to submit written comments on the draft permit to the IEPA at the above address. Commentors shall provide his or her name and address and the nature of the issues proposed to be raised and the evidence proposed to be presented with regards to those issues. Commentors may include a request for public hearing. Persons submitting comments and/or requests for public hearing shall also send a copy of such comments or requests to the permit applicant. The NPDES permit and notice number(s) must appear on each comment page.

The application, engineer's review notes including load limit calculations, Public Notice/Fact Sheet, draft permit, comments received, and other documents are available for inspection and may be copied at the IEPA between 9:30 a.m. and 3:30 p.m. Monday through Friday when scheduled by the interested person.

If written comments or requests indicate a significant degree of public interest in the draft permit, the permitting authority may, at its discretion, hold a public hearing. Public notice will be given 45 days before any public hearing. Response to comments will be provided when the final permit is issued. For further information, please call Derek Rompot at 217/782-0610.

The applicant was previously engaged in the production of electricity for sale. Electricity was produced through the operation of two natural gas-fired combustion turbine generators (CTG). The CTG exhaust gas was directed into heat recovery steam generators (HRSG) with natural gas-fired duct burners. Steam from the HRSGs is used to power the former Units 3 and 4 steam electric turbines, which had a generating capacity of 528 MW (SIC 4911).

This plant ceased operations December 7, 2020. The facility discharges wastewater at an average discharge of 0.024 MGD facility floor drains and sump discharges, water treatment filter backwash, oil/water separator discharges, treated/filtered water uses, and stormwater runoff to Outfall 001, 0.002 MGD of sewage treatment plant effluent from Outfall A03, and an intermittent discharge of stormwater combined with the treated sanitary wastewater at Outfall 003.

The following modifications are proposed:

Grand Tower Energy Center previously operated coal-fired boilers which were converted to a natural gas-fired combined cycle facility in 2001. Grand Tower Energy Center closed in 2020. When the facility utilized coal as the fuel source, fly ash and bottom ash were generated and were sent to the on-site ash pond. The ash pond has been closed and the previous ash pond discharge (Outfall 002) has physically been removed.

Grand Tower Energy Center has ceased operations and have removed or disabled the majority of equipment on site. Outfall B01 remains; it has been renumbered as Outfall 001 and consists of a DAF of 0.024 MGD discharge from plant floor drains and sumps, water treatment filter backwash, oil/water separator discharges, miscellaneous water usage, and stormwater. Outfall A03 remains and is used to monitor the sewer plant effluent before comingling with Stormwater at Outfall 003.

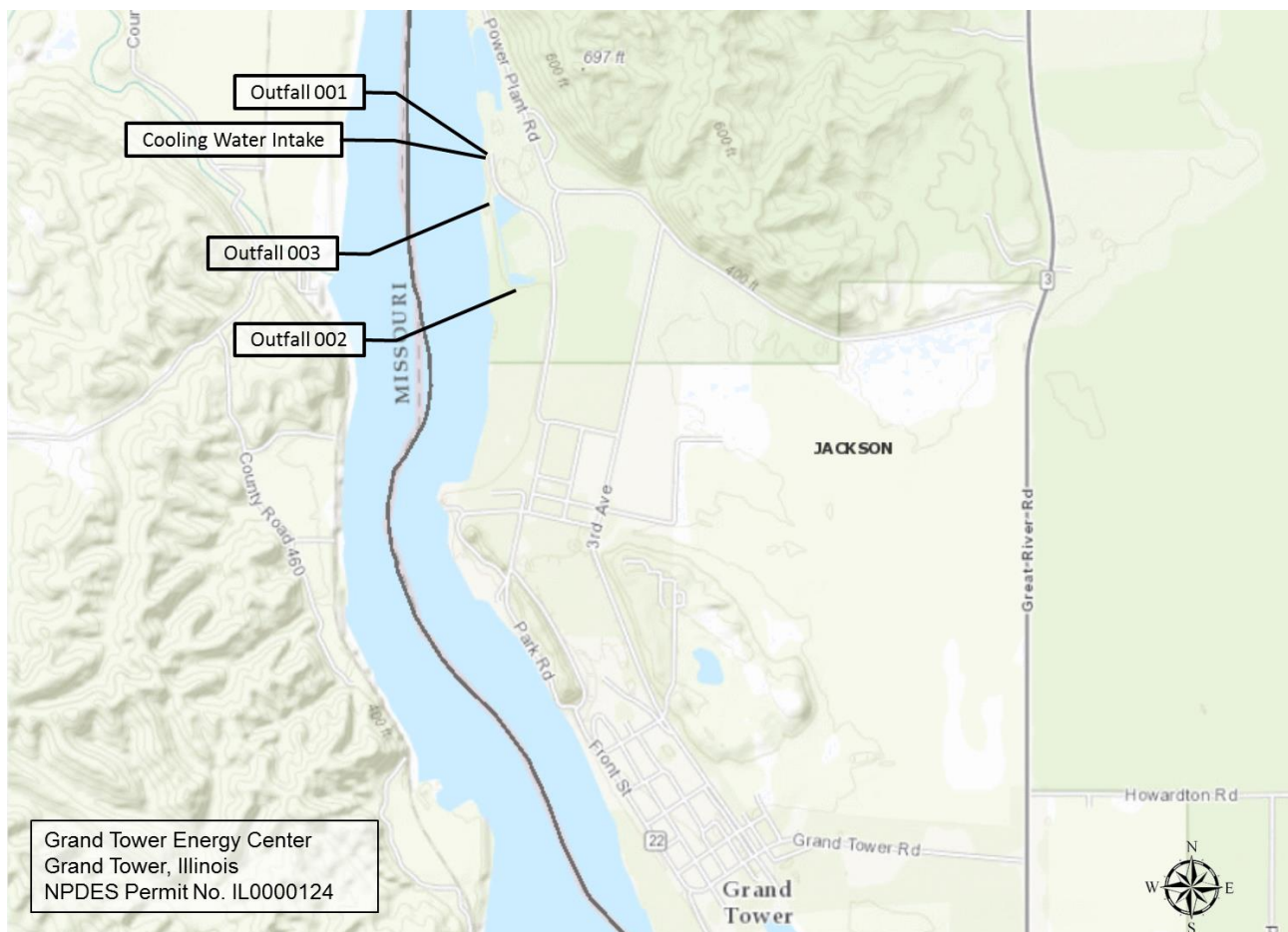
The following changes have been made to the permit:

- Outfall 001 Main Condenser Colling Water Discharge has been removed from the permit. All wastewater associated with electrical generation operations have ceased. In the draft permit Outfall 001 will remain but will consist solely of discharges from Outfall B01.
- Outfall A01 Intake Screen Backwash has been removed from the permit. With the facility closure, all intake equipment (including intake screens) has been physically removed. There will no longer be wastewater discharge from this Outfall.
- Outfall B01 Process Wastewater Treatment Plant. With the facility closure, the waste streams associated with electricity generation are no longer being produce. Wastewater associated with building sumps, the process wastewater treatment plant and some chemical and oil are still in the building, so this outfall will remain active and permitted. Outfall B01 physically discharges through Outfall 001. With the removal of all other process wastewater and Outfall A01, the only discharge at Outfall 001 is form Outfall B01, the draft permit rennumbers Outfall B01 as Outfall 001.
- Former Outfall B01 (Outfall 001 in the draft permit), due to the cessation of operations, the frequency of weekly monitoring has been reduced to monthly monitoring. The requirement for monthly monitoring of sulfates has been removed.
- Outfall 002 Ash Pond Discharge has been removed from the permit. The ash pond has been closed and the physical outfall structure has been removed from the facility.
- Outfall 003 – the monthly requirement for flow monitoring has been removed. Flow monitoring will be continued with no changes at Outfall A03.
- Special Conditions 3, 4, 19, 21 and 22, have been removed from the permit because the facility closure has rendered these conditions obsolete.
- Special Conditions 5 through 16 and Special Condition 20 have been renumbered because of the removal of Special Conditions 3, 4, 19, 21 and 22 from the Permit. The wording of these special conditions has not been changed.

Application is made for the existing discharges which are located in Jackson County, Illinois. The following information identifies the discharge point, receiving stream and stream classifications:

<u>Outfall</u>	<u>Receiving Stream</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Stream Classification</u>	<u>Integrity Rating</u>
001	Mississippi River	37° 39' 28" North	89° 30' 45" West	General Use	Not Rated
003	Mississippi River	37° 39' 22" North	89° 30' 44" West	General Use	Not Rated

To assist you further in identifying the location of the discharge please see the attached map.



Note: The Cooling Water Intake Structure has been decommissioned and is no longer in use.

Outfall 001 is the discharge point for the process wastewater treatment plant (previously permitted as Outfall B01). There is no longer any condenser cooling water discharge at Outfall 001.

Outfall 002 has been physically removed and is no longer in existence.

The stream segment, I-84, of the Mississippi River, receiving the discharge from outfalls 001 and 003, is listed on the 2020/2022 Integrated Water Quality Report and 303(d) List as impaired for fish consumption, and was not listed as a biologically significant stream, nor was it given an integrity rating in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*.

The following parameters have been identified as the pollutants causing impairment:

Designated Use

Fish Consumption Use

Primary Recreation Contact Use

Potential Cause

Aldrin, Dieldrin, Endrin, Heptachlor, Mercury, Mirex, Polychlorinated Biphenyls (PCBs), and Toxaphene

Fecal Coliform

The discharges from the facility shall be monitored and limited at all times as follows:

Outfall 001 (Previously permitted as Outfall B01)

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		REGULATION	CONCENTRATION LIMITS mg/L		REGULATION
	30 DAY	DAILY		30 DAY	DAILY	
	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM	
Flow (MGD)						
pH				6 – 9 s.u.		35 IAC 304.125
Total Suspended Solids				15	30	35 IAC 304.124
Oil/Grease				15	20	40 CFR 423

Outfall A03:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		REGULATION	CONCENTRATION LIMITS mg/L		REGULATION
	30 DAY	DAILY		30 DAY	DAILY	
	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM	
Flow (MGD)						
pH				6 – 9 s.u.		35 IAC 304.125
BOD <sub>5</sub>	1.25	2.5	35 IAC 304.120	30	60	35 IAC 304.120
Total Suspended Solids	1.25	2.5	35 IAC 304.120	30	60	35 IAC 304.120
Fecal Coliform					400/100 ml	35 IAC 304.121
Total Residual Chlorine					0.75	35 IAC 302.208 & 40 CFR 125.3

Outfall 003:

PARAMETER	LOAD LIMITS lbs/day DAF (DMF)		REGULATION	CONCENTRATION LIMITS mg/L		REGULATION
	30 DAY	DAILY		30 DAY	DAILY	
	AVERAGE	MAXIMUM		AVERAGE	MAXIMUM	
Flow (MGD)						

Load Limit Calculations:

- A. Load limit calculations for Outfall A03 for the following pollutant parameters were based on a design average flow of 0.005 and a design maximum flow of 0.005 and using the formula of average or maximum flow (MGD) X concentration limit (mg/l) X 8.34 = the average or maximum load limit (lbs/day): BOD<sub>5</sub> and Total Suspended Solids.

The load limits appearing in the permit will be the more stringent of the State and Federal Guidelines.

The following explain the conditions of the proposed permit:

The Special Conditions of the permit clarify limitations and reporting requirements for flow, pH, total residual chlorine, fecal coliform, temperature, and stormwater. Additionally, the special conditions address the use of water treatment additives including molluscicides, prohibit the discharge of PCBs, recognize a mixing zone and ZID for TRC, require the treatment facilities be operated by a Class K operator, and provide requirements for discharge monitoring report submission.

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Illinois Environmental Protection Agency

Division of Water Pollution Control

1021 North Grand Avenue East

Post Office Box 19276

Springfield, Illinois 62794-9276

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

Reissued (NPDES) Permit

Expiration Date:

Issue Date:

Effective Date:

Name and Address of Permittee:

Grand Tower Energy Center, LLC  
1820 Power Plant Road  
Grand Tower, Illinois 62942

Facility Name and Address:

Grand Tower Energy Center, LLC  
1820 Power Plant Road  
Grand Tower, Illinois 62942  
(Jackson County)

Discharge Number and Name:

001 Process WWTP  
003 Stormwater and Treated Sanitary Wastewater  
A03 Sewage Treatment Plant Effluent

Receiving Waters:

Mississippi River  
Mississippi River  
Mississippi River via Outfall 003

In compliance with the provisions of the Illinois Environmental Protection Act, Title 35 of Ill. Adm. Code, Subtitle C and/or Subtitle D, Chapter 1, and the Clean Water Act (CWA), the above-named permittee is hereby authorized to discharge at the above location to the above-named receiving stream in accordance with the standard conditions and attachments herein.

Permittee is not authorized to discharge after the above expiration date. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit the proper application as required by the Illinois Environmental Protection Agency (IEPA) not later than 180 days prior to the expiration date.

Darin E. LeCrone, P.E.  
Manager, Permit Section  
Division of Water Pollution Control

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Effluent Limitations and Monitoring

1. From the effective date of this permit until the expiration date, the effluent of the following discharge(s) shall be monitored and limited at all times as follows:

Outfall(s): 001 Process WWTP  
(Daily Maximum Flow = 0.024 MGD)

This discharge consists of:

1. Plant Floor Drains and Sumps\*
2. Water Treatment Filter Backwash and Water Softener Backwash
3. Oil/Water Separator Discharge\*\*
4. Stormwater Runoff

\* This waste stream includes station flood pumps, which discharge during flooding caused by high river stage and precipitation.

\*\* Includes CTG and HRSG area drains used for washing the exterior of equipment and floors, and stormwater runoff from the CTG and HRSG area with the potential of oil contamination.

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	DAF (DMF)		LIMITS mg/L			
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	See Special Condition 1.				1/Month	Measure
pH	See Special Condition 2.				1/Month	Grab
Total Suspended Solids			15	30	1/Month	8-Hr Comp.
Oil/Grease			15	20	1/Month	Grab

Outfall A03 – Sewage Treatment Plant Effluent\*  
(DMF = 0.005 MGD)

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	DAF (DMF)		LIMITS mg/L			
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
Flow (MGD)	See Special Condition 1.				1/Month	Measure
pH	See Special Condition 2.				1/Month	Grab
BOD <sub>5</sub>	1.25	2.5	30	60	1/Month	8-Hour Composite
Total Suspended Solids	1.25	2.5	30	60	1/Month	8-Hour Composite
Fecal Coliform	See Special Condition 11.			400/100 ml	1/Month	Grab
Total Residual Chlorine	See Special Condition 9 and 10.			0.75	1/Month	Grab

\* The discharge must be sampled prior to mixing with stormwater.

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Effluent Limitations and Monitoring

Outfall 003 – Sewage Treatment Plant Effluent and Stormwater\*\*  
(Intermittent Discharge)

PARAMETER	LOAD LIMITS lbs/day		CONCENTRATION		SAMPLE FREQUENCY	SAMPLE TYPE
	<u>DAF (DMF)</u>		<u>LIMITS mg/L</u>			
	30 DAY AVERAGE	DAILY MAXIMUM	30 DAY AVERAGE	DAILY MAXIMUM		
Flow (MGD)*	See Special Condition 1.				**	

\* See Special Condition 16.

\*\* Flow Sampling shall be conducted at Outfall A03

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Special Conditions

SPECIAL CONDITION 1. Flow shall be measured in units of Million Gallons per Day (MGD) and reported as a monthly average and a daily maximum on the Discharge Monitoring Report.

SPECIAL CONDITION 2. The pH shall be in the range 6.0 to 9.0. The monthly minimum and monthly maximum values shall be reported on the DMR form.

SPECIAL CONDITION 3. The discharge of a reportable quantity is not subject to the reporting requirements of Section 311 of the Clean Water Act, if such a discharge is in compliance with this permit and such activity was reviewed and made part of the public record in accordance with the issuance of this permit. The permittee is exempt from Section 311 reporting for discharges meeting the terms and conditions as found at 40 CFR 117.12

SPECIAL CONDITION 4. There shall be no discharge of polychlorinated biphenyl compounds (PCBs) such as those commonly used for transformer fluid.

SPECIAL CONDITION 5. Molluscicidal Treatment

Molluscicide treatment per the procedure described in the document dated October 1, 2004 submitted by Ameren Energy Generating, titled "Grand Tower Power Station Zebra Mussel Treatment Plan," has been approved by the Agency. Any proposed modification from the approved procedure shall be subject to Agency review and the permittee shall submit notice a minimum of 30 days prior to modification to procedure.

The applicant shall notify the field office 24-hours prior to conducting any molluscicidal treatment. All treatment sample results shall be kept on-site.

SPECIAL CONDITION 6. In the event the permittee shall require the use of water treatment additives other than those previously approved by this Agency, or if the permittee increases the feed rate or quantity of the additives used beyond what has previously been approved by this Agency, the permittee shall request a modification of this permit in accordance with the Standard Conditions – Attachment H.

SPECIAL CONDITION 7. All samples for Total Residual Chlorine shall be analyzed by an applicable method contained in 40 CFR 136, equivalent in accuracy to low-level amperometric titration. Any analytical variability of the method used shall be considered when determining the accuracy and precision of the results obtained. For the purpose of this permit Total Residual Chlorine means those substances which include combined and uncombined forms of both chlorine and bromine and which are expressed, by convention, as an equivalent concentration of molecular chlorine. The Total Residual Chlorine limit of 0.75 mg/l and monitoring requirements apply year round. If chlorine is not used during the non-swimming season (November 1 through April 30) the permittee shall report this fact on the monthly DMR form.

SPECIAL CONDITION 8. A zone of initial dilution (ZID) is recognized for chlorine with dimensions of 0.013 feet across the width of the river from the end-of-pipe and 0.013 feet downstream from this point. Within the ZID, 38.5:1 dilution is afforded. A mixing zone is recognized with dimensions extending 0.023 feet across the width of the river and 0.023 feet downstream. Within the mixing zone 67:1 dilution is afforded.

SPECIAL CONDITION 9. The daily maximum fecal coliform count shall not exceed 400 per 100 ml during the recreational season (May 1 through October 31). During the non-swimming season (November 1 through April 30) fecal coliform effluent limitations and monitoring requirements are not applicable.

SPECIAL CONDITION 10. Samples taken in compliance with the effluent monitoring requirements shall be taken at a point representative of the discharge, but prior to entry into the receiving stream.

SPECIAL CONDITION 11. If an applicable effluent standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the NPDES Permit, the Agency shall revise or modify the permit in accordance with the more stringent standard or prohibition and shall so notify the permittee.

SPECIAL CONDITION 12. The use or operation of this facility shall be by or under the supervision of a Certified Class K operator.

SPECIAL CONDITION 13. The Permittee shall record monitoring results on Discharge Monitoring Report (DMR) electronic forms using one such form for each outfall each month.

In the event that an outfall does not discharge during a monthly reporting period, the DMR Form shall be submitted with no discharge indicated.

The Permittee is required to submit electronic DMRs (NetDMRs) instead of mailing paper DMRs to the IEPA beginning December 21,



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Special Conditions

2016 unless a waiver has been granted by the Agency. More information, including registration information for the NetDMR program, can be obtained on the IEPA website, <http://www.epa.state.il.us/water/net-dmr/index.html>.

The completed Discharge Monitoring Report forms shall be submitted to IEPA no later than the 28th day of the following month, unless otherwise specified by the permitting authority.

Permittees that have been granted a waiver shall mail Discharge Monitoring Reports with an original signature to the IEPA at the following address:

Illinois Environmental Protection Agency  
Division of Water Pollution Control  
Attention: Compliance Assurance Section, Mail Code # 19  
1021 North Grand Avenue East  
Post Office Box 19276  
Springfield, Illinois 62794-9276

SPECIAL CONDITION 14. The effluent, alone or in combination with other sources, shall not cause a violation of any applicable water quality standard outlined in 35 Ill. Adm. Code 302.

SPECIAL CONDITION 15. In addition to the other requirements of this permit, no effluent shall contain settleable solids, floating debris, visible oil, grease, scum or sludge solids. Color, odor and turbidity must be reduced to below obvious levels.

SPECIAL CONDITION 16. The Agency has determined that the effluent limitations in this permit constitute BAT/BCT for storm water which is treated in the existing treatment facilities for purposes of this permit reissuance, and no pollution prevention plan will be required for such storm water. In addition to the chemical specific monitoring required elsewhere in this permit, the permittee shall conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity, and determine whether any facility modifications have occurred which result in previously-treated storm water discharges no longer receiving treatment. If any such discharges are identified the permittee shall request a modification of this permit within 30 days after the inspection. Records of the annual inspection shall be retained by the permittee for the term of this permit and be made available to the Agency on request.

SPECIAL CONDITION 17. Metal Cleaning Wastes:

1. Non-chemical metal cleaning wastes generated at this facility have previously been treated as a low volume waste source. Any discharges of non-chemical metal cleaning waste will continue to be treated as a low volume waste source in accordance with Federal Register, Vol. 80, No. 212 published on November 3, 2015.
2. With the exception of combustion turbine generator wash wastewater, chemical metal cleaning wastewater rinses may not be discharged unless this permit has been modified to include the new discharge.

