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# Better Public Access to Point Source Wastewater Pollutant Discharge Information

<https://echo.epa.gov/>



2023 National NPDES Permitting Meeting  
1 March 2023



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Office of Enforcement  
and Compliance  
Assurance

# Outline

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- Quick overview of how EPA and states collect and manage wastewater sampling data from sewage treatment plants and industrial facilities.
- Overview and demonstration of EPA web tool for better access to these data.
- Questions and answers and demo of tool.



# Wastewater Pollution Data

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These wastewater pollution data are submitted on forms called "Discharge Monitoring Reports" or DMRs.

EPA policy requires states to enter these DMR data for some facilities into EPA's national data system.

EPA and states use DMR data to:

- Calculate permit effluent limits,
- Identify and target effluent limit violations, and
- Improve watershed modeling.



# Wastewater Pollution Data

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An important consideration in assessing the potential impact of pollutant discharges on human health and the environment is identifying the amount discharged (pounds per day), which can be reported or calculated from the DMR.

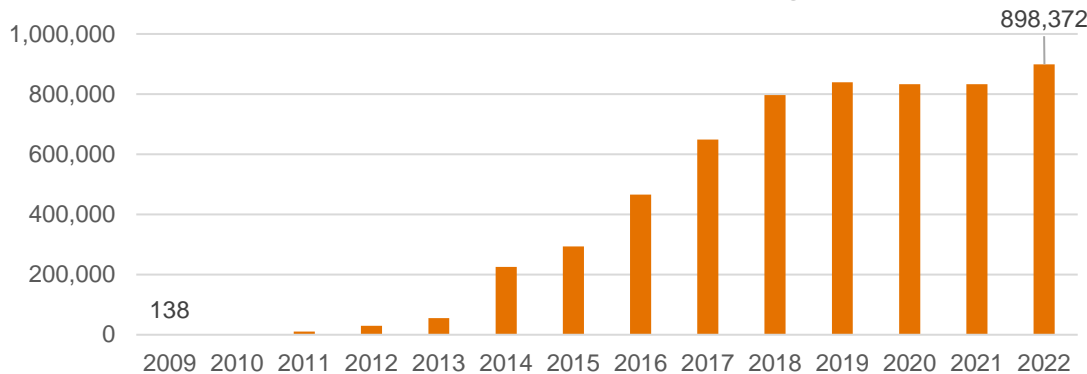
In accordance with the NPDES eRule, all NPDES permitted facilities need to electronically submit these DMRs. This has dramatically increased the amount of DMR data for the Loading Tool.



# NPDES eRule Phase 1 Progress

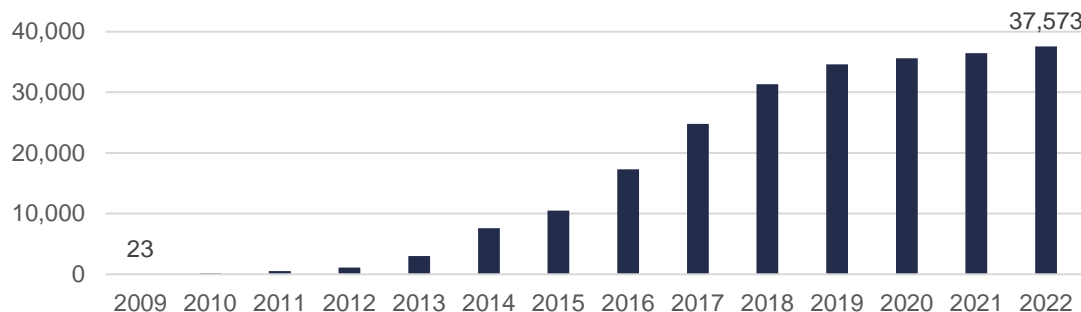


Count of DMR Form Submissions Through NetDMR



- NetDMR usage increased dramatically since promulgation of the 2015 NPDES eRule.
- This trend will continue as more and more facilities are trained and registered with NetDMR.
- States are also making tremendous progress in transitioning DMR filers to state electronic reporting tools and sharing these data with EPA.

Count of Facilities Using NetDMR



Source: EPA's national NPDES data system (ICIS-NPDES, 6 February 2023)



# Wastewater Pollution Data

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EPA also collects wastewater pollutant discharge data (annual amounts) from industrial facilities as part of the Toxics Release Inventory (TRI) program.

The current TRI toxic chemical list contains over 770 individually listed chemicals and 33 chemical categories covered by the TRI Program.



# ECHO Water Pollutant Loading Tool

<https://echo.epa.gov/>



EPA has a web tool, ECHO Water Pollutant Loading Tool, for easier access to DMR and TRI data (2007 to present).

EPA constructed this tool to answer questions in an easy-to-use interface:

- Who is the discharger of interest
- What is the pollutant of interest:
- When was the discharge:
- Where is the discharge of interest:
- How much point source pollution is discharged?



# ECHO Water Pollutant Loading Tool

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EPA designed the new tool for two main audiences:

- members of the general public (citizens, researchers) who would like quick and easy access to wastewater pollution data; and
- technical users (permit writers, watershed modelers, regulatory agencies).



# Wastewater Pollution Data

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The online access to wastewater pollutant discharge data allows:

- better transparency of wastewater pollutant discharges;
- enhanced utility of this data; and
- improved data quality.

The information can be used to highlight discharges that are not in compliance with their permit effluent limits.


EPA designed the Loading Tool with different tabs (search interfaces) and result formats (webpage, CSV downloads) to best match the user needs.


# ECHO Water Pollutant Loading Tool – EZ Search

Select Search Type

☒ Discharge Monitoring Report (DMR)

☐ Toxics Release Inventory (TRI)

Select Reporting Year  

 Help

### 1 Location or Watershed

☒ Nationwide

☐ Search by Location

ZIP Code

EPA Region [View EPA Regional Map](#)

Select an EPA Region

State

Select a State

County


Select a State

City

☐ Search by Watershed

ZIP Code

Watershed ID (2-Digit to 12-Digit HUC)

Major U.S. Watersheds 

Select a Watershed Group

Select a Watershed

**Only include facilities that discharge:**

☐ to impaired water bodies

☐ pollutants contributing to a water body impairment

☐ to counties or watersheds with ESA-listed aquatic species

### 2 Pollutant

☒ All Pollutants

☐ Specify Pollutant


Pollutant Name

Specify Pollutant Name

Chemical Abstract Service (CAS) Number

Specify CAS Number

☐ Pollutant Categories

With calculated loadings 

☐ Nitrogen

☐ Phosphorus

☐ Organic Enrichment

☐ Solids

☐ Metals


☐ Clean Water Act Priority Pollutants

☐ CERCLA Hazardous Substances

☐ TRI Chemicals

☐ Radionuclides

☐ Per- and Polyfluoroalkyl Substances (PFAS)

Without calculated loadings 

☐ Pathogen Indicators

☐ Temperature

☐ Wastewater Flow

☐ General Radioactivity

☐ Color

☐ Whole Effluent Toxicity

☐ Only include facilities with effluent limit exceedances

### 3 Industry

☒ All Point Sources

☐ Publicly Owned Treatment Works (POTWs)

☐ Industrial Point Sources (non-POTWs)

Point Source Category

All Point Source Categories

Industrial Sector ID (2-Digit SIC Code)

All SIC Codes

[SIC Code Lookup](#)

SIC Code (Enter 4-Digit Codes)

2-Digit NAICS Code

All NAICS Codes

Enter 2, 3, 4, 5, or 8-Digit NAICS Code(s)

### 4 Facility

Facility Name


Facility ID (NPDES, FRS, TRI, or CWNIS)

Permit Type

Select a Permit Type

Major/Non-Major Indicator

☒ Any ☐ Major ☐ Non-Major

**Only include facilities that:** 

☐ No Restrictions

☐ Link to TRI ID(s)

☐ DO NOT link to TRI ID(s)



# ECHO Water Pollutant Loading Tool – Custom Search

## Custom Search

Water Pollution Search

**Data Downloads**

Everyday Searches

Resources

Select Level of Detail for Loadings Output

Annual

[? Help](#)

Reporting Year

2020

### Search Criteria

#### Facility Location

State

Select a State

County

Select a State

City

ZIP Code (5-Digit)

#### Facility Characteristics

Facility Name

Facility ID (NPDES, FRS, TRI, or CWNS)

☐ Only include facilities that link to TRI ID(s)

Major/Non-Major Designation ☒ Any ☐ Major ☐ Non-Major

Permit Type

Select a Permit Type



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# ECHO Water Pollutant Loading Tool – Everyday Searches

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The Water Pollutant Loading Tool (Loading Tool) is a web-based tool that calculates and reports facility pollutant discharges in pounds per year or by monitoring period based on NPDES permit limit and DMR data.

Water Pollution Search

Data Downloads

**Everyday Searches**

Resources

Access specialized water pollutant-related tools using the links below.

## [Effluent Limit Exceedances Search](#)

Identifies instances where discharge monitoring report (DMR) data indicates there was an exceedance of the Clean Water Act (CWA) NPDES permit effluent limit.

## [TRI and DMR Comparison Dashboard](#)

Provides a comparison of wastewater discharge data reported on DMRs under the NPDES permit program and water releases reported under the Toxics Release Inventory (TRI) at a national, regional, or state level.

## [Nutrient Modeling \(Hypoxia Task Force Search\)](#)

Provides aggregated nitrogen and aggregated phosphorus loads (based on DMR data) and modeled loads for facilities that are likely to discharge nutrients but do not have nutrient DMR data.

## [Annual Loadings \(Hypoxia Task Force Search\)](#)

Provides separate summaries of nutrient permit monitoring requirements and aggregated and modeled nitrogen and phosphorus loads, organized by State or Point Source Category.



# ECHO Water Pollutant Loading Tool - Details

2022 Monitoring Period-Level Loads for BOD, 5-day, 20 deg. C (00310) from Outfall 001 ⓘ

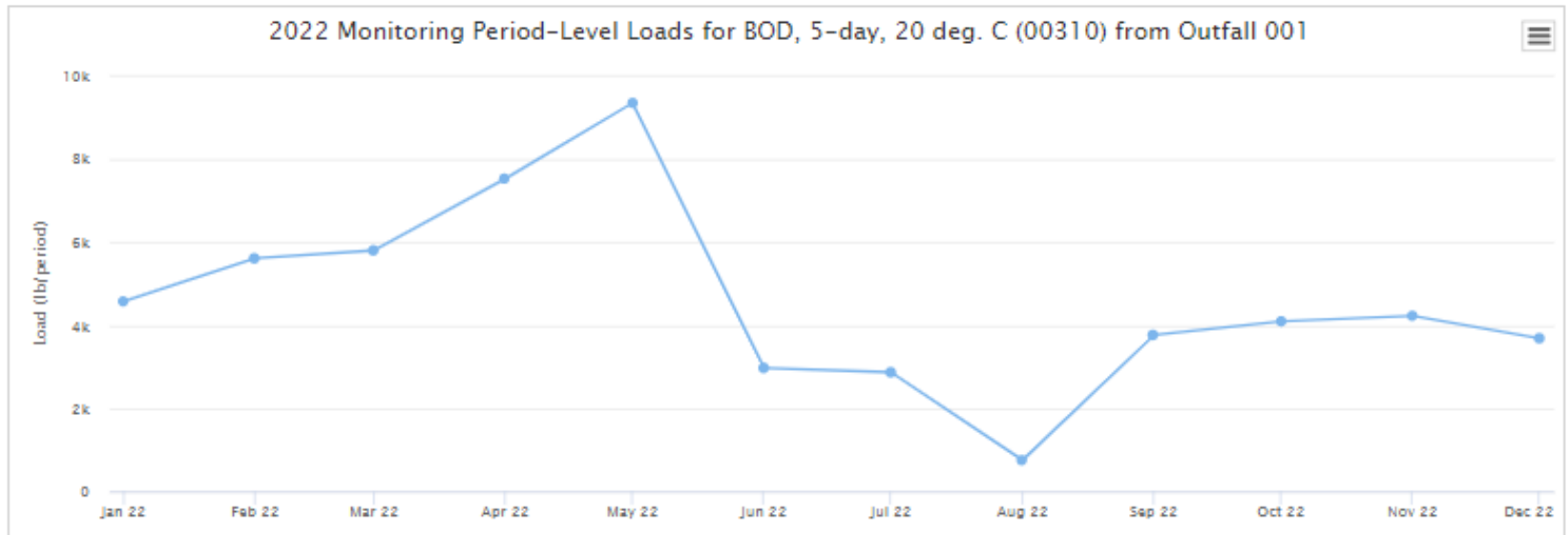
Monitoring Period	Discharge Information	No Data Indicator	Avg Daily Value	Below Detection Limit?	Limit	Measurement Type	Wastewater Flow (MGD)	Number of Days	Monitoring Period Load (lb/period)
► 01/31/2022	Occurred? Yes Reported? Yes Estimated? No		67	No	—	Quantity (kg/day)	7.12	31	4,580
► 02/28/2022	Occurred? Yes Reported? Yes Estimated? No		91	No	—	Quantity (kg/day)	7.07	28	5,618
► 03/31/2022	Occurred? Yes Reported? Yes Estimated? No		85	No	—	Quantity (kg/day)	6.55	31	5,810
► 04/30/2022	Occurred? Yes Reported? Yes Estimated? No		114	No	—	Quantity (kg/day)	7.87	30	7,541
► 05/31/2022	Occurred? Yes Reported? Yes Estimated? No		137	No	—	Quantity (kg/day)	7.03	31	9,365
► 06/30/2022	Occurred? Yes Reported? Yes Estimated? No		45	No	—	Quantity (kg/day)	7.07	30	2,977
► 07/31/2022	Occurred? Yes Reported? Yes Estimated? No		42	No	—	Quantity (kg/day)	6.61	31	2,871
► 08/31/2022	Occurred? Yes Reported? Yes Estimated? No		11	No	—	Quantity (kg/day)	6.91	31	752
► 09/30/2022	Occurred? Yes Reported? Yes Estimated? No		57	No	—	Quantity (kg/day)	7.18	30	3,771
► 10/31/2022	Occurred? Yes Reported? Yes Estimated? No		60	No	—	Quantity (kg/day)	8	31	4,101
► 11/30/2022	Occurred? Yes Reported? Yes Estimated? No		64	No	—	Quantity (kg/day)	7.22	30	4,234
► 12/31/2022	Occurred? Yes Reported? Yes Estimated? No		54	No	—	Quantity (kg/day)	7.84	31	3,691
Annual Load from Monitoring Data (lb/yr)							55,310	Sum of Monitoring Period Loads	
Number of Months Requiring Estimation							0		
Annual Load (lb/yr)							55,310	Annual Load from Monitoring Data (lb/yr) * 12 / (12 - 0)	

The Loading Tool allows you to drill down and view the exact formulas and aggregation process used for each pollutant load provided by the tool.

The example show the BOD5 pollutant load for a NJ refinery (Outfall 001).



# ECHO Water Pollutant Loading Tool - Details



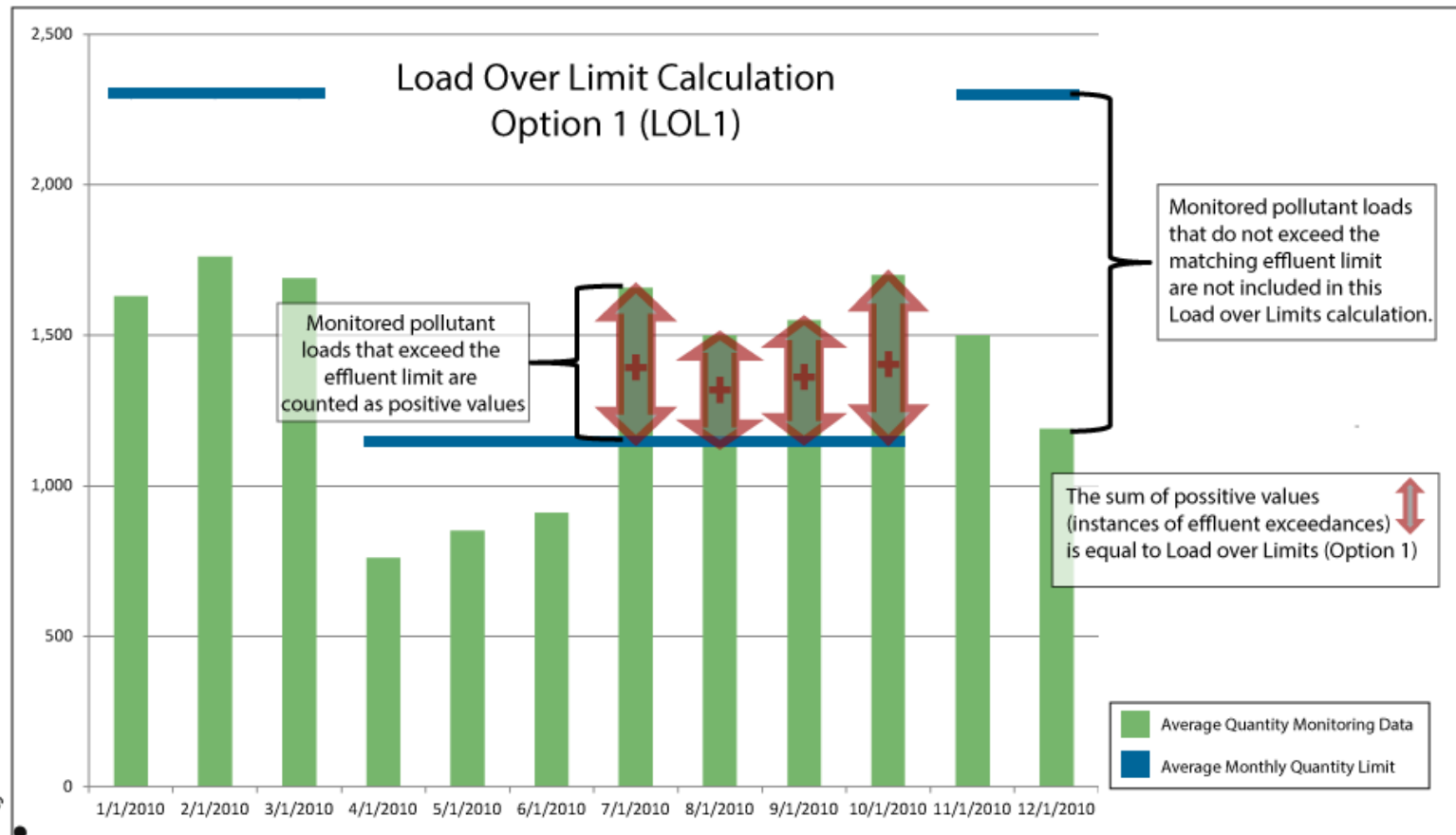
The Loading Tool also allows you plot these DMR data over time.



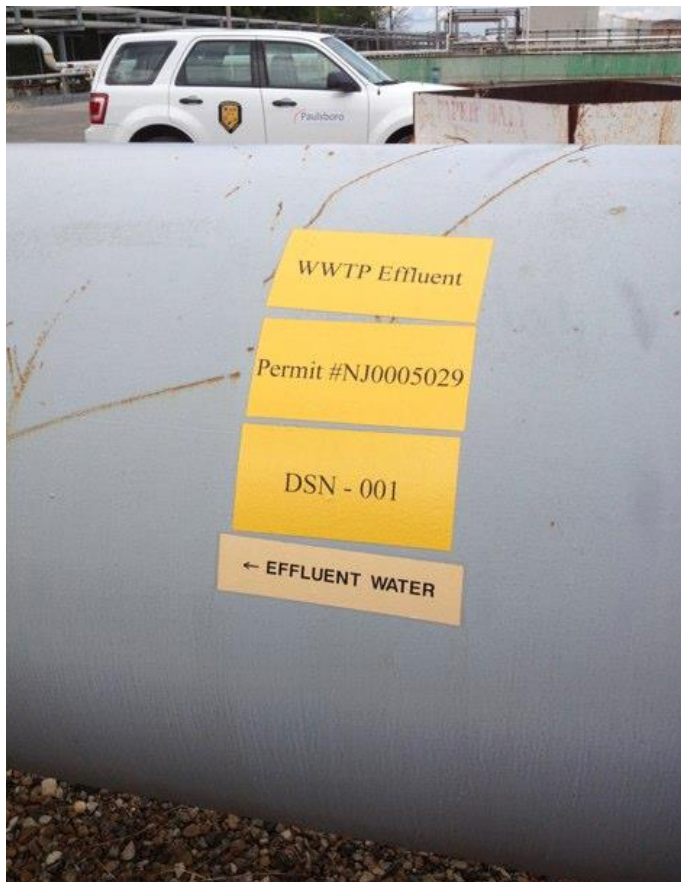


# ECHO Water Pollutant Loading Tool - LOL

Where either permit limits or enforcement action limits are available, the Loading Tool calculates the Load Over Limit (LOL) for the monitoring period for each pollutant. Load over Limits are provided in the results of [Custom Search](#).



# ECHO Water Pollutant Loading Tool



You have questions when you see a discharge....



## Facility Information (DMR)

PAULSBORO REFINING CO LLC, PAULSBORO, NJ, 08066--

**NPDES ID:** NJ0005029  
**FRS ID:** 110022294569  
**Other NPDES IDs associated with this FRS ID:** None  
**TRI ID(s):** 08066MBLLCBILLI  
*Click a TRI ID to view that facility's detail page.*  
**Facility Type:** NON-POTW  
**Permit Type:** NPDES Individual Permit  
**Permit Effective Date:** 07/01/2007  
**Permit Expiration Date:** 06/30/2012  
**Major/Minor Indicator:** Major  
**Permit Issuance:** STATE OF NEW JERSEY  
**Approved Pretreatment Program:** N/A  
**Combined Sewer Overflow (CSO) Outfall:** N/A  
**County:** CLOUCESTER

**Congressional District:** New Jersey's 1st District  
**Latitude:** 39.8401  
**Longitude:** -75.2574  
**Facility Design Flow (MGD):**  
**Actual Average Facility Flow (MGD):**  
**4-Digit SIC Code:** 2911 - PETROLEUM REFINING  
**NAICS Code:**  
**Likely Point Source Category:** 419 - Petroleum refining  
[View Enforcement Compliance Report](#)  
[View Permit Limits](#)  
[View Multi-Year Loading Report](#)

— Indicates value contains loads that are calculated using data that has been flagged as potential outliers or data errors.  
— Indicates there was one or more exceedances of permit effluent limits for this pollutant sometime during the year. You can hover over the yellow flag to see the load over limit value.

View [Facility Loading Calculations](#) for this facility and reporting year. Examining these calculations will show you how the Loading Tool calculates annual pollutant discharges. These calculations can also help identify errors in the underlying discharge monitoring data.

Select Reporting Year: 2012 ▼

### Top Pollutants by Pounds (DMR, 2012)

Pollutant Name	Total Pounds (lbs/yr)	Max Allowable Load (lbs/yr)
Solids, total dissolved	18,057,551	48,810,036
Chemical oxygen demand (COD)	1,138,600	
Solids, total suspended	220,641	1,082,229
BOD, 5-day, 20 deg. C	59,021	
Oil and grease	23,809	240,495
Phosphorus	13,143	
Chlorine produced oxidants	7,409	
Ammonia as N	2,597	445,556
Sulfide	177	6,211
Total phenols	57.1	

[Download All Data](#) [Compare to TRI](#)

### Top Pollutants by Toxic-Weighted Pounds (TWPE) (DMR, 2012)

Pollutant Name	Total TWPE (lbs-eq/yr)	Max Allowable Load (lbs-eq/yr)
Sulfide	495	17,390
Chromium, Hexavalent	6.86	1,227
Ammonia as N	2.88	495
Chromium	0.32	

[Download All Data](#) [Compare to TRI](#)

...the Loading Tool can provide answers!

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# Webinar Demo of Loading Tool

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Questions, comments, training requests on the Loading Tool should be directed to:

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