

Environmental Permitting Fact Sheet

General Permit for the Discharge of Wastewaters from Significant Industrial Users (SIU)

Permit Overview

This general permit is issued under the authority of, and administered by the Department of Energy and Environmental Protection's ("DEEP") Bureau of Materials Management and Compliance Assurance, Water Permitting and Enforcement Division. DEEP uses both individual and general permits to regulate wastewater discharge activities. Individual permits are issued directly to an applicant, whereas general permits are issued to authorize similar activities by one or more applicants throughout a prescribed geographic area. Authorization of an activity under a general permit is governed by that general permit. A general permit sets terms and conditions for conducting an activity which, when complied with, are protective of the environment. General permits represent a streamlined process to permit specific activities and are more cost-effective for both the DEEP and the registrant.

This general permit applies to Significant Industrial Users who discharge metal finishing wastewater, process, or non-process wastewater to a Publicly Owned Treatment Works ("POTWs") either via the sanitary sewer or a properly licensed waste transporter.

"Significant Industrial User (SIU)" means:

- (1)(i) all Industrial Users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N; and
- (ii) any other Industrial User that: discharges a cumulative maximum of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW Treatment plant; or is designated as such by the commissioner on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's operation or for violating any Pretreatment Standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

"Process Wastewater" means any wastewater which, during manufacturing, commercial, mining or silvicultural activities, comes into direct contact with, or results from the production, use or handling of any process, raw material or intermediate or final product, byproduct or wasteproduct. This includes but is not limited to contact cooling and heating wastewater, cutting and grinding wastewater, non-destruct testing rinsewater, printing and photographic processing wastewater, tumbling or cleaning of parts wastewater, water treatment wastewater, commercial laundry wastewater, food processing wastewater, reverse osmosis reject water, building maintenance wastewater and other process wastewater.

Process wastewater does not include air compressor condensate, noncontact cooling water, domestic sewage, blowdown from heating and cooling equipment, hydrostatic pressure testing wastewaters, stormwater, or wastewater from agricultural activities. Any wastewaters which come into contact with process wastewaters prior to the monitoring location shall be deemed to be process wastewater.

Authorizing Statutes

Section 22a-430b of the General Statutes.

Who can use this general permit?

Any Significant Industrial User who initiates, originates, creates, or maintains a discharge of metal finishing, process, or non-process wastewater to a POTW either by a properly licensed transporter in accordance with Section 5(e)(4) of this general permit or via the sanitary sewer and,

- (1) in accordance with Section 4 of this general permit, submits a complete and sufficient registration and fee; and
- (2) in accordance with Section 3(b)(1) of this general permit, receives an Approval of Registration from the DEEP; and
- (3) in accordance with Section 3(b)(2) of this general permit, the discharge is in compliance with all terms and conditions of this general permit including, but not limited to, the prohibitions described in Section 5(a)(2) of this general permit; and
- (4) such activity is consistent with all applicable goals and policies in section 22a-92 of the General Statutes, and will not cause adverse impacts to coastal resources as defined in section 22a-93 of the General Statutes; and
- (5) such activity does not threaten the continued existence of any species listed pursuant to section 26-306 of the General Statutes as endangered or threatened and will not result in the destruction or adverse modification of habitat designated as essential to such species; and
- (6) such discharge, if it is located within an aquifer protection area as mapped under section 22a-354b of the General Statutes, complies with regulations adopted pursuant to section 22a-354i of the General Statutes; and
- (7) such activity, if located within a conservation or preservation area, complies with section 47-42d of the General Statutes; and
- (8) the registrant has certified in writing to the commissioner that a completed copy of the registration has been submitted to each applicable POTW Authority and the registrant has received an approval for connection or transport to each applicable POTW authority; and
- (9) in accordance with Section 3(b)(3)(8) of this general permit, the registrant has submitted to the commissioner a written certification from a qualified professional; and
- (10) in accordance with Section 3(b)(3)(9) of this general permit, the registrant and any other individual or individuals responsible for preparing the registration submits to the commissioner a written certification.

Consistent with 40 CFR 403.8(f)(2), a general permit may not be utilized for any metal finishing discharge whose limits are based on a Combined Wastestream Formula. Utilization of a Combined Wastestream Formula is necessary when a federal categorical discharge is mixed with discharges other than those covered by the respective category prior to an appropriate compliance monitoring location. Therefore, facilities with boiler blowdown, noncontact cooling water, water treatment wastewater and other non-metal finishing wastewaters that combine with metal finishing wastewaters prior to an appropriate compliance monitoring location shall not be authorized by this general permit.

Registration, Fee, and Professional Certification

Registration—For all registrants, the General Permit Registration Form for the Discharge of Wastewaters from Significant Industrial Users (DEEP-WPED-REG-029) shall be submitted for review and approval.

Fee--A registration fee of \$6,250 and \$3,125, established in accordance with section 22a-6f of the General Statutes, shall be submitted for metal finishing discharges greater than or equal to 10,000 gallons per day and less than 10,000 gallons per day, respectively. A registration fee of \$1,000 shall be submitted for other eligible wastewater discharges. No annual fees are assessed by this general permit.

Fees associated with this general permit shall be paid by certified check or money order payable to the Department of Energy and Environmental Protection.

Professional Certification--For metal finishing wastewaters, a Qualified Professional Engineer, and for process and non-process wastewaters, a Qualified Professional Engineer or in certain circumstances a Qualified Certified Hazardous Materials Manager, as defined in the general permit, shall:

- Review general permit requirements relating to the subject facility;
- Review: all registration information; the facility, based on a visual site inspection; compliance records; the Operation and Maintenance Plan; the Spill Prevention and Control Plan; the Solvent Management Plan, if applicable; and all wastewater collection and treatment systems and monitoring equipment, including any plans and specifications, operating records and any Department approvals regarding such wastewater collection and treatment systems and monitoring equipment;
- Make an affirmative determination that the Operation and Maintenance Plan, the Spill Prevention and Control Plan and (for Qualified Professional Engineers only) the Solvent Management Plan, if applicable, are adequate to assure that the activity authorized under this general permit will comply with the terms and conditions of such general permit, as well as, all wastewater collection and treatment systems and monitoring equipment have been designed (for Qualified Professional Engineers only) and installed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable; will function properly as designed based on visual inspection, compliance and operating records and implementation of the Operation and Maintenance Plan; and are adequate to ensure compliance with the terms and conditions of this general permit;
- Provide a written certification regarding such affirmative determination.

Conditions

Consistent with 40 CFR 403.5(b), the following conditions apply to all metal finishing, process and non-process wastewater discharges.

Wastewater discharged under the authority of this general permit shall not:

- (1) contain any substance which causes or threatens a fire or explosion hazard in each applicable POTW, including but not limited to, wastewaters with a closed cup flashpoint of less than 140°F (60°C) using the test methods specified in 40 CFR 261.21;
- (2) cause or threaten corrosive structural damage to each applicable POTW, or have a pH of less than 5.0 or more than 12.0 Standard Units. (*Note that, as stated at Sections 5A(a)(1) and 5B(a)(1), local ordinances and regulations may have a more limited pH range.*)
- (3) contain solid or viscous pollutants in amounts which will cause or threaten obstruction of flow in the sanitary sewer system or each applicable POTW;

- (4) contain heat in amounts which will inhibit biological activity in the each applicable POTW, nor contain heat in such quantities that the influent temperature at the POTW exceeds 104°F (40°C);
- (5) contain pollutants which result in the presence of toxic gases, vapors or fumes within each applicable POTW in a quantity that may cause acute worker health or safety problems;
- (6) contain pollutants in a quantity or concentration which may cause or contribute to excessive foaming within each applicable POTW or which may cause foaming within the POTW's effluent;
- (7) contain either singly or in combination with other discharges any pollutant in sufficient amounts to cause acute worker health and safety problems, problems in the collection system or pass through or interference with each applicable POTW;
- (8) contain either singly or in combination with other discharges flow in excess of the hydraulic capacity of each applicable POTW or its conveyance system;
- (9) contain mercury; or
- (10) if trucked or hauled, be introduced into a POTW except at discharge points designated by the POTW.

Metal Finishing Wastewater Effluent Limits

To ensure protection of the receiving POTW and the waters of the state from pollution, effluent limits apply to all metal finishing wastewater discharged under the authority of this general permit.

Metal finishing discharge limits contained in 40 CFR 413, 40 CFR 433 and section 22a-430-4(s) of the Regulations of Connecticut State Agencies were compared and the following limits were found to be consistent with the most stringent of the three regulatory requirements and thus incorporated into this general permit in **Table 5A-1**. POTW-specific effluent limits in Appendix F1 of this general permit supersede those in Table 5A-1 for discharges greater than 5,000 gpd that are directed to the POTWs listed therein.

In accordance with Section 5(a)(2)(B)(ii) of this general permit, discharges must not have a pH of less than 5.0 or more than 12.0 Standard Units. Discharges must also comply with pH and pollutant levels allowed by the local ordinances and regulations of each applicable POTW.

Note that pollutants listed in Table 5A-1 without effluent limits have monitoring requirements only.

Process and Non-process Wastewater Effluent Limits

For process and non-process wastewater discharged under the authority of this general permit that is not subject to Categorical Pretreatment Standards, effluent limits were incorporated into this general permit in **Table 5B-1**. POTW-specific effluent limits in Appendix F1 of this general permit supersede those in Table 5B-1 for discharges greater than 5,000 gpd that are directed to the POTWs listed therein.

In accordance with Section 5(a)(2)(B)(ii) of this general permit, discharges must not have a pH of less than 5.0 or more than 12.0 Standard Units. Discharges must also comply with pH and pollutant levels allowed by the local ordinances and regulations of each applicable POTW.

Table 5A-1 : Metal Finishing Wastewater Pollutant Limits

Pollutant	Unit	Average Monthly Limit	Maximum Daily Limit	Maximum Instantaneous Limit
Aluminum, Total	mg/l	----	----	----
Antimony, Total	mg/l	----	----	----
Barium, Total	mg/l	2.0	4.0	6.0
Cadmium, Total	mg/l	0.07	0.11	0.16
Chromium, Hexavalent ²	mg/l	0.1	0.2	0.3
Chromium, Total	mg/l	1.0	2.0	3.0
Cobalt, Total	mg/l	----	----	----
Copper, Total	mg/l	1.0	2.0	3.0
Cyanide, Amenable ²	mg/l	0.1	0.2	0.3
Cyanide, Total ³	mg/l	0.65	1.2	1.8
Fluoride	mg/l	20	30	45
Gold, Total	mg/l	0.1	0.5	0.75
Iron, Total	mg/l	----	----	----
Lead, Total	mg/l	0.1	0.5	0.75
Mercury, Total	ug/l	ND<0.2	ND<0.2	ND<0.2
Nickel, Total	mg/l	1.0	2.0	3.0
Nitrogen, Total	mg/l	----	----	40.0 ⁵
Oil & Grease, Hydrocarbon Fraction ³	mg/l	----	100	150
Organics, Total Toxic ^{1,4}	mg/l	----	----	2.13
Phosphorus, Total	mg/l	----	----	----
Silver, Total	mg/l	0.1	0.43	0.64
Solids, total suspended	mg/l	----	100	150
Tin, Total	mg/l	2.0	4.0	6.0
Titanium, Total	mg/l	----	----	----
Zinc, Total	mg/l	1.0	2.0	3.0

Footnotes:

1 As defined by Sections 40 CFR 413 and 433.

2 The limits for hexavalent chromium and amenable cyanide apply at the chromium reduction and cyanide destruction systems, respectively. These pollutants shall be monitored by using a grab sample average taken prior to combination with any dissimilar discharges.

3 This pollutant shall be monitored using a grab sample average taken prior to combination with any dissimilar discharges.

4 This pollutant shall be monitored using a grab sample taken prior to combination with any dissimilar discharges.

5 In accordance with Section 7(a) of this general permit, the commissioner may approve an alternate mass loading limit (flow x concentration) for Total Nitrogen, provided that the alternate mass loading limit discharged to the receiving POTW does not exceed 8.0 lbs/day.

Table 5B-1: Non-Categorical Process and Non-process Wastewater Effluent Limits¹

Pollutant	Maximum Instantaneous Limit	Pollutant	Maximum Instantaneous Limit
Conventional Pollutants	mg/l (unless noted)	Metals	mg/l
Biochemical Oxygen Demand (BOD ₅)	600.0 ²	Lead, Total	0.5
Chemical Oxygen Demand (COD)	1200.0 ²	Nickel, Total	2.0
Total Suspended Solids (TSS)	600.0 ²	Silver, Total	0.5 ⁵
Total Kjeldahl Nitrogen (TKN)	40.0 ³	Tin, Total	4.0
Nitrate-nitrite (as N)	40.0 ³	Zinc, Total	2.0
Total Fats, Oils and Grease ⁴	100.0		
Organic Pollutants	mg/l	Antimony, Total	4.0
Total Volatile Organics	5.0	Arsenic	0.10
Formaldehyde	10.0 ³	Beryllium, Total	2.0
Methylene Chloride	1.0	Cobalt, Total	4.0
Phenols, Total	10.0	Mercury, Total	0.0002 ⁶
Phthalate Esters	2.0	Molybdenum, Total	4.0
Polynuclear Aromatic Hydrocarbons	0.5	Selenium, Total	0.5
Ethylene Glycol	300.0 ³	Strontium, Total	2.0
Propylene Glycol	300.0 ³	Thallium, Total	2.0
Metals	mg/l	Titanium, Total	4.0
Cadmium, Total	0.5	Vanadium, Total	2.0
Chromium, Total	2.0	Zirconium, Total	2.0
Copper, Total	2.0	pH value range can be found at Section 5(a)(2)(B)(ii) of the SIU general permit (5.0 -12.0 S.U.)	

¹These effluent limits do not apply to residuals generated by water treatment facilities that are transported to the solids handling portion of a POTW.

² This limit does not apply to discharges of water treatment wastewater, or to discharges of food processing wastewater that have implemented the practices specified in Section 5B(c)(3) of this general permit. In accordance with Section 7(a) of this general permit, the commissioner may approve an alternate mass loading limit (flow x concentration) for BOD₅, COD or TSS. For COD, such alternate mass loading limit shall not exceed 200 lbs/day. For BOD₅ or TSS, each alternate mass loading limit shall not exceed 100 lbs/day or 2% of the POTW's design loading, whichever is less.

³In accordance with Section 7(a) of this general permit, the commissioner may approve an alternate mass loading limit (flow x concentration) for Total Kjeldahl Nitrogen, nitrate-nitrite nitrogen, formaldehyde, ethylene glycol, or propylene glycol, provided that the alternate mass loading limit for each pollutant discharged to the receiving POTW does not exceed 8.0 lbs/day for Total Kjeldahl Nitrogen or nitrate-nitrite nitrogen or 10.0 lbs/day for formaldehyde, ethylene glycol, or propylene glycol.

⁴For Food Processing wastewaters only, report as Total Oil & Grease. For all other wastewaters report as Total Petroleum Hydrocarbons.

⁵ For photographic processing wastewaters only, if maximum daily flow is less than 100 gallons per day, the silver effluent limit is 5.0 mg/l. For flows greater than 100 gpd, the silver limit is 2.0 mg/l.

⁶ This represents the minimum detection limit in test methods for mercury.

Minor Variance Provision

Section 7(a) of the SIU GP provides a procedure by which a registrant may request and the commissioner may grant a variance from an effluent limit, provided the variance will not result in any violations of the general prohibitions of Section 5(a)(2) of the general permit and is not inconsistent with section 22(a)-430-4(q) of the Regulations of Connecticut State Agencies.

The Commissioner shall not grant a minor variance from any requirement of this general permit without the written concurrence of each applicable POTW, as indicated on the Variance Request Form.

Variances from effluent limits in Table 5A-1, which apply to metal finishing wastewater, may only be requested for nitrogen, oil and grease, or total suspended solids. Variances from effluent limits in Table 5B-1, which apply to process and non-process wastewaters not subject to categorical pretreatment standards, may be requested for any of the listed pollutants.

Other Conditions

Mercury is a potent neurotoxin that poses risks to human health. Exposure to this toxic metal occurs through the consumption of fish that contain mercury's most toxic form, methyl-mercury. Historically, studies have shown atmospheric deposition from the incineration of municipal sewage to be a significant source of mercury in the environment. In accordance with Section 5(a)(2)(B)(ix) of this general permit, wastewaters discharged under the authority of the general permit are prohibited from containing mercury. This general permit establishes a minimum level of 0.2 ug/l for analyses of wastewater samples to demonstrate compliance with this prohibition.

The loading of nutrients, principally phosphorous and nitrogen, into the waters of the state must be maintained below a threshold level to ensure any surface water body shall not exceed that which supports maintenance or attainment of the designated uses for such water body. Metal finishing and commercial laundry wastewater discharges are capable of maintaining a reasonable potential to contribute significant quantities of phosphorous and nitrogen into receiving POTWs. Therefore, monitoring and/or limits for these chemical pollutants is a requirement of this general permit. Phosphorus monitoring for other types of wastewater are only required for discharges directed to POTWs listed in Appendix F2 of this general permit.

The loading of oil and grease, hydrocarbon fraction must be maintained below a threshold level to ensure protection of receiving POTWs and subsequent surface waters. Metal finishing and other types of wastewater discharges are capable of maintaining a reasonable potential to contribute significant quantities of oil and grease, hydrocarbon fraction into receiving POTWs. A maximum daily limit of 100 mg/l has been established for this pollutant.

When developing the *General Permit for the Discharge of Wastewaters from Categorical Industrial Users to a Publicly Owned Treatment Works* ("CIU GP"), DEEP assessed potential pollutant pass-through by comparing historical POTW effluent results to theoretical water quality-based limits (TWQBLs). Those POTWs with effluent results that were currently and/or chronically above TWQBLs for any pollutant associated with this general permit were prescribed specific effluent limits that are consistent with section 22a-430-4(m) of the Regulations of Connecticut State Agencies. These limits are more stringent than those listed in Tables 5A-1 and 5B-1 and are included within Appendix F1 of the general permit.

Effluent Monitoring

Consistent with current individual permit application requirements associated with metal finishing discharges, representative sampling of the effluent for analyses of: General pollutants, Toxic Metals, Cyanides, Phenols, Pesticides, as well as Volatile, Acid and Base/Neutral Organic compounds shall be performed and submitted as part of an appropriate registration.

Process and non-process wastewaters will be monitored for general pollutants commonly associated with wastewater categories listed in the permit.

Unless a monitoring waiver is provided by the Department for specific pollutant(s) in accordance with 40 CFR 403.12(e)(2), periodic monitoring for all pollutants is required throughout the term of the general permit.

Monitoring Frequency

Metal Finishing--Each metal finishing discharge covered by this general permit shall be monitored at a frequency consistent with the minimum frequency of monitoring for metal finishing facilities listed in section 22a-430-3 of the Regulations of Connecticut State Agencies. The frequencies are based on maximum daily flows and are as follows:

Max. Daily Flow	< 5,000 gpd	≥5,000 to <10,000 gpd	≥10,000 gpd
Min. Monitoring Freq.	Monthly	Twice per Month	Weekly

Process and Non-process Wastewater—Categories of Group I: Process Wastewater Discharges and Group II: Non-process Wastewater Discharges are shown below followed by a table of monitoring frequencies.

Group I: Process Wastewater Discharges

- Commercial laundry wastewater
- Contact cooling and heating wastewater
- Cutting and grinding wastewater
- Food processing wastewater
- Non-destruct testing rinsewater
- Printing and photographic processing wastewater
- Reverse osmosis reject water
- Tumbling or cleaning of parts wastewater
- Water treatment wastewater
- **Other process wastewaters** that meet the definition of “process wastewater” as defined in this general permit

Group II: Non-process Wastewater Discharges

- Air compressor condensate & blowdown
- Boiler blowdown wastewater
- Building maintenance wastewater
- Fire suppression system testing wastewater
- Hydrostatic pressure testing wastewater
- Noncontact cooling water

- Potable water system maintenance or sampling wastewater
- Swimming pool wastewater
- Vehicle maintenance wastewater
- **Other non-process wastewaters** that meet the definition of “non-process wastewater” as defined in this general permit.

Table 5B-3 Monitoring and Reporting Frequencies for Process and Non-process Wastewater Discharges

Discharge Group	Total Maximum Daily Flow Thresholds per Category of Wastewater	Minimum Frequency of Pollutant Monitoring ^{1,3}	Electronic Reporting Required ²
Group I– Process Wastewaters (except as noted below)	Flow < 1,000 gpd	None	No
	1,000 gpd ≤ Flow < 10,000 gpd	Quarterly	Yes
	Flow ≥ 10,000 gpd	Monthly	Yes
Group I -- Food Processing, Commercial Laundry, Reverse Osmosis Reject Water	Flow < 5,000 gpd	None	No
	5,000 gpd ≤ Flow < 25,000 gpd	Annual	Yes
	Flow ≥ 25,000 gpd	Quarterly	Yes
Group II -- Air Compressor Condensate, Boiler Blowdown, Noncontact Cooling Water, Hydrostatic Pressure Testing Wastewater	Flow < 10,000 gpd	None	No
	Flow ≥ 10,000 gpd	Quarterly	No
Group II -- Building Maintenance, Fire Suppression Testing, Swimming Pool, Vehicle Maintenance, Potable Water System Maintenance, etc. ⁴	All Flows	None	No

¹ Discharges that do not have a prescribed monitoring frequency must comply with the effluent limits of Section 5B(a) and conditions of Section 5(a) of this general permit. The permittee should maintain records of monitoring data that the permittee believes is representative of the current discharge.

² Note: Report to DEEP electronically via NetDMR.

³ For water treatment wastewaters associated with annual or semi-annual maintenance cleaning of clarifier tanks, settling lagoons, or other large tanks which may discharge greater than 50,000 gallons per day, samples shall be taken from the first 10% and last 10% of the discharge and analyzed separately. Such discharges shall not be counted toward the total maximum daily flow when determining monitoring frequency. (Please refer to the definition of “potable water system maintenance or sampling wastewaters”, as these wastewaters differ from water treatment wastewaters, and as Group II wastewaters, do not have a specified monitoring frequency.)

⁴ See Section 5B(b)(2).

Reporting

All metal finishing and some process wastewater monitoring results will be reported electronically via NetDMR, EPA’s electronic reporting system as indicated by Table 5B-3 above.

Treatment

Treatment shall be required for any pollutant reasonably expected to exceed the limits listed in this general permit.

Additional Specific Operating Conditions and BMPs For Process and Non-process wastewaters not subject to Categorical Pretreatment Standards, Section 5B(c) of this general permit establishes additional requirements by type of wastewater.

Permit Duration

This general permit shall expire October 30, 2025.

Modified Registrations

A permittee shall submit a modified registration:

- (1) To correct inaccurate or misleading information previously submitted to the Department, in accordance with Section 6(g) of this general permit;
- (2) Prior to any significant facility modifications, as described in Section 5(e)(3)(A) of this general permit.
- (3) At least fifteen (15) days prior to expanding or significantly altering its wastewater collection or treatment system or its method of operation as described in Section 5(e)(3)(B) of this general permit, or
- (4) To request a monitoring waiver for a new parameter after an Approval of Registration has been issued.

Transfer

This general permit may be transferred only in accordance with section 22a-6o of the General Statutes and section 22a-430-4(o) of the Regulations of Connecticut State Agencies.

Contact Address

WATER PERMITTING AND ENFORCEMENT DIVISION
BUREAU OF MATERIALS MANAGEMENT AND COMPLIANCE ASSURANCE
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
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This overview is designed to answer general questions and provide basic information. You should refer to the SIU general permit and to the appropriate statutes and regulations for the specific regulatory language of the different permit programs. This document should not be relied upon to determine whether or not an environmental permit is required. It is *your* responsibility to ensure that all required permits have been obtained.