



National Pollutant Discharge Elimination System & State General Permit for the Discharge of Swimming Pool Wastewater to Surface and Ground Waters of the State

Fact Sheet

Draft

This fact sheet sets forth the significant factual, legal, and policy considerations examined during preparation of this draft master general permit. This action has been prepared in accordance with the Connecticut State Statutes and its implementing regulations, the Regulations of Connecticut State Agencies. Issuance of a master general permit serves to simplify and streamline the National Pollutant Discharge Elimination System (“NPDES”) and state groundwater permitting process for similar types of discharges; in leu of each facility having to obtain an individual permit. This general permit provides permit conditions and limitations to protect waters of the State from pollution.

Table of Contents

Section 1. Authority 3

Section 2. Authorization Under This General Permit..... 3

 2.1 Eligible Activities 4

 2.2 Limitations of Coverage 4

Section 3. Obtaining Permit Coverage..... 5

Section 4. Registration Requirements..... 6

Section 5. Swimming Pool Operations & Conditions of this General Permit..... 6

 5.1 Comprehensive Education and Training Program..... 8

 5.2 Annual Training..... 8

 5.3 Erosion and Sediment Control..... 8

 5.4 Release Prevention Plan..... 8

 5.5 Treatment and Disposal Options..... 8

Section 6.0 Record Keeping & Record Retention 11

Section 7.0 Reporting a Violation..... 11

Section 8.0 Regulations of Connecticut State Agencies..... 11

Section 9.0 State and Federal Standard Conditions 11

Section 10.0 Antidegradation..... 11

Section 11.0 Public Participation..... 12

Draft

Section 1. Authority

DEEP first issued the Swimming Pool General Permit on July 1, 1998, and the current General Permit expires on August 9, 2024. The purpose of this General Permit is to protect the waters of the State from discharges associated with swimming pool wastewater from public pools. “Swimming Pool Wastewaters” is defined in the General Permit as wastewater comprised of “Swimming pool maintenance wastewater”, “Swimming pool draining wastewater” and/or “Swimming pool filtration backwash wastewater.”

This general permit is issued under the authority of section 22a-430b of the Connecticut General Statutes “CGS” and the Regulations of Connecticut State Agencies (“RCSA”).

Section 2. Authorization Under This General Permit

This general permit is a renewal and continues to authorize public swimming pool water discharges into surface and grounds waters of the state of Connecticut. This general permit is intended to authorize discharges of water containing de minimis amounts of pollutants. A de minimis discharge of pollutants for purposes of this general permit is defined as treated wastewater, which complies with all of the conditions and limitations specified in this permit. These discharges are not associated with industrial processes, site remediation activities, and/or sanitary sewerage systems.

This general permit authorizes the discharge of swimming pool wastewater as defined in this permit, from public pools to surface waters and groundwaters of the state of Connecticut. Swimming pool wastewaters include the discharge of filter backwash, maintenance pressure washing, and pool draining wastewaters to surface water and ground water. Authorization is subject to the terms and conditions of this permit. This general permit is not intended for swimming pool discharges from private residential pools; however the Department encourages private residents to use the best management practices provided in the permit when initiating a discharge to waters of the State. Section 22a-426-1 of RCSA considers swimming pool discharges from residential pools as “clean water” so long as best management practices are implemented to mitigate adverse environmental impacts. Residential pool owners should take all reasonable steps to discharge swimming pool wastewater in a manner that minimizes discharges to ground and surface waters, discharges devoid of pollutants, and discharges that does not impact adjacent property not under common ownership.

Discharge(s) to ground waters of the State which may result from a discharge authorized by this permit, such as ground surface discharge by way of land application and infiltration or from overland flow are also authorized under this general permit.

Discharges to publicly owned treatment works (“POTWs”) are no longer covered under this general permit. Authorization to discharge applicable wastewaters maybe obtained by applying for permit coverage under the General Permit for Discharges from Miscellaneous Industrial Users (“MIU GP”) or the General Permit for the Discharge of Wastewaters from Significant Industrial Users Permit (“SIU GP”).

2.1 Eligible Activities

This permit operates under the premise that if appropriate Best Management Practices (“BMPs”) are implemented prior to discharge, and when necessary treatment is provided, negative environmental impacts should not occur. If appropriate BMPs are not employed, and the discharge causes adverse environmental impacts to the receiving water, the discharge is in violation of this permit, and the entity authorizing the activity and certifying compliance with the requirements of this general permit may be subject to enforcement actions.

To be considered an eligible activity under this general permit the discharges shall be comprised solely of swimming pool wastewater as defined in this general permit. “Swimming pool wastewater” means wastewater comprised of “Swimming pool maintenance wastewater”, “Swimming pool draining wastewater” and “Swimming pool filtration backwash wastewater”.

2.2 Limitations of Coverage

The following activities and discharges are prohibited under this general permit:

- Any discharge of water, substance or material into the waters of the State other than eligible discharges specified in this general permit are not authorized by this general permit, and any person who or municipality (“person” or “permittee”) which initiates, creates, originates or maintains such a discharge must apply for and obtain authorization to discharge under section 22a-430 of the Regulations of Connecticut State Agencies (“RCSA”) prior to the occurrence of such discharge.
- Any swimming pool wastewater to publicly or privately owned storm sewers or conveyances without written consent from the owner.
- The discharge of sanitary wastewater, including floor drains in bathrooms, showers, and equipment rooms, and discharges of swimming pool wastewater comingled with other sanitary or process wastewater.
- Discharges of disinfectants which contain copper or silver are prohibited for splash pads or similar facilities which have routine and frequent overflows onto the ground and into groundwater.
- Discharges to Sanitary Sewer

Discharges of swimming pool wastewater from a public pool to a POTW through a sanitary sewer are not authorized under this general permit and are regulated by the MIU GP or the SIU GP.

Section 3. Obtaining Permit Coverage

Any discharge of water, substance or material into the waters of the state other than the ones specified in this permit are not authorized by this general permit, and any person, owner, operator, SP1 and SP2 licensed contractor, or municipality (“persons”) which initiates, creates, originates or maintains such a discharge is automatically covered under this permit. Discharges from facilities eligible for coverage under this general permit are not expected to exceed any surface or ground water standards provided all applicable discharges are in accordance with the general permit terms and conditions.

For any public swimming pool constructed after July 1, 1998, located at a site served by sanitary sewer, the plumbing shall be constructed such that all discharges of swimming pool wastewater are directed to sanitary sewer, unless sanitary sewer is not available in the area. If a sanitary sewer is not available at the site, a subsurface disposal system dedicated to swimming pool wastewater is required. Discharge of swimming pool wastewater to ground surface, or land application, shall only occur when sanitary sewer is not available and a subsurface disposal system is not technically feasible due to factors, such as site location. A discharge of swimming pool wastewater to a surface water shall only occur when sanitary sewer is not available in the area, a subsurface disposal system is not technically available, and a discharge to ground surface is not practicable due to, but not limited to factors such as the site location and proximity to surface water. The Department encourages persons and municipalities that own and operate a public pool to make best efforts to connect to the sanitary sewer and limit discharges to surface and ground waters where adverse environmental impacts may occur.

Persons are responsible for retaining appropriate documentation for the chosen disposal option utilized at the facility. Failure to connect to an available sanitary sewer or utilize a subsurface disposal system, if available, may result in the termination of permit coverage under this general permit. Wastewater disposal options resulting in a discharge to ground water or surface water shall be the final resort. The Department expects the permittee to evaluate all disposal options under the guidance of a qualified professional and retain documentation of such evaluation onsite.

Should sanitary sewer become available, the disposal option must be updated and the discharge of swimming pool wastewater must be connected to sanitary sewer within two (2) years of the sanitary sewer becoming available.

An appropriate air gap shall be utilized for all wastewater disposal scenarios.

Section 4. Registration Requirements

The Department encourages persons and municipalities that own and operate a public pool to make best efforts to connect to the sanitary sewer and limit discharges to surface and ground waters where adverse environmental impacts may occur.

Any person, owner, operator, SP1 or SP2 licensed contractor, or municipality which, in accordance with this general permit, wishes to initiate, create, originate or maintain a discharge of swimming pool wastewater generated by a public pool is automatically granted coverage under this general permit without submitting a registration to the Commissioner, provided the person, owner, operator, SP1 or SP2 licensed contractor, or municipality, complies with all of the permit conditions and utilizes best management practices mitigating adverse impacts.

Persons, owner, operator, SP1 or SP2 licensed contractor, or municipalities who already have permit coverage under previous iterations of this general permit maintain their permit coverage, provided the person, owner, operator, SP1 or SP2 licensed contractor, or municipality complies with all of the permit conditions and utilizes best management practices mitigating adverse environmental impacts.

Section 5. Swimming Pool Operations & Conditions of this General Permit

Continuous chemical addition and filtration are required to ensure a safe swimming experience for persons using public pools. Chemicals are added for disinfection and control of pH, alkalinity, and hardness. Sanitizers are added to kill and control disease-carrying bacteria, algae, and dirt. The most commonly used sanitizers are chlorine and bromine compounds. Salt (sodium chloride) can also be used in pools to reduce the demand for sanitizers. Pool water needs to be continuously filtered for removal of organic and inorganic suspended solids which would otherwise cloud water and interfere with disinfection resulting in potential public health concerns. Since pool water is commonly used for backwash, the filter backwash also usually provides for blowdown of hardness, perspiration, body oils, lotions, nitrogen compounds (chloramines), and other dissolved solids as the pool water is replaced with fresh water. The Department presumes that wastewater discharged in accordance with the permit terms, conditions, and limitations will have de minimis effects on the pollutant load entering the receiving waterbody. Discharges that do not comply with the permit terms and conditions could have negative adverse effects and cause toxicity or result in fish kill events.

Pool Cleaning

Extensive pool cleaning usually takes place at the beginning of the season. Highly concentrated acid may be used for cleaning. The chemicals disperse in the volume of water remaining in the pool prior to drainage. Minor pool cleaning also takes place throughout the year. This is the same acid used for pH adjustment and the acid for pool cleaning is calculated into the total amount necessary for proper pool pH adjustment.

Filter Backwash

Filter systems include granular media filters (sand or anthracite filters) and fabric filters (paper or cloth cartridge filters and precoat diatomaceous earth filters). The backwash of sand filters will

result in the discharge of an initial high concentration of solids. Backwash of diatomaceous earth filters will result in the discharge of the same types of solids as from sand filters plus the precoat diatomaceous earth added to the filter fabric.

Cloth cartridge filters are manually cleaned by rinsing in water and paper cartridges can be cleaned or simply disposed of. Since pool water is commonly used for backwash, the filter backwash water will usually contain chlorine at a concentration equivalent to the level maintained in the pool.

Pool Drainage

At the end of the operating season, the outdoor facilities will drain out approximately 1/2 the pool volume. Drawing down the pool allows space for ice expansion and yet provides adequate pressure on the walls to prevent collapse. Discharge to the groundwater via seepage in the proximity of the pool can cause floatation of the pool due to groundwater pressure. Indoor facilities may operate for many years before the pool needs to be drained and refilled.

In CT, the complete contents of swimming pools are seldom discharged because some level of water must be maintained to ensure the structural integrity of the pool. The Department recommends that swimming pool wastewater be free of all disinfectant and at ambient temperature prior to disposal. The Department has identified several pollutants commonly associated with the discharges of swimming pool wastewater. Numeric and narrative standards have been developed to protect the waters of the State and are specific to the type of wastewater and disposal option. See section 5.5 of this fact sheet for the specific permit limits and conditions.

Disinfection & pH Adjustments

The Department has established effluent limitations which regulate the use of disinfectants with an active ingredient of chlorine, bromine, and poly(hexamethylenebiguanide hydrochloride (“PHMB”) compounds. The permit limitations are also sufficient for protection of the use of acids and bases for the purpose of pH adjustment, including but not limited to muriatic acid, cyanuric acid, soda ash, and sodium hydroxide.

Cyanuric acid is used as a chlorine stabilizer and marketed to reduce the amount of chlorine needed to maintain the minimum chlorine residual in an outdoor pool. Hydrochloric acid or sodium bisulfate is added to lower pH and sodium carbonate is added to raise it. A balance between pH, alkalinity and hardness must be maintained to control corrosion and scaling. Sodium bicarbonate is generally added to increase alkalinity and muriatic (hydrochloric) acid or sodium bisulfate to reduce it. Hardness is raised with calcium chloride and lowered by draining out pool water and replacing with lower hardness makeup water. A softener or demineralize to reduce hardness may also be used.

Chlorine is commonly used to disinfect swimming pool water to protect pool users from bacteria. Chlorine kills bacteria, algae, and disease-causing organisms. DEEP has developed effluent limits to protect the receiving waterbody from discharges of chlorine.

Bromine, like chlorine, is also a commonly used pool or spa disinfecting agent. The advantages of bromine include a more stable level of disinfecting power at higher water temperatures, and less objectionable smell compared to that of chlorine. DEEP has developed effluent limits to protect the receiving waterbody from discharges of bromine.

The Department's preferred and most environmentally friendly means for dechlorinating is to let the water rest and allow the chlorine to dissipate naturally. The use of chemicals such as sodium bisulfite or sodium thiosulfate may be used to dechlorinate water but must be used minimally, in accordance with the manufacturer's label to prevent depression of dissolved oxygen the if wastewater is discharged to a ground or surface waterbody.

5.1 Comprehensive Education and Training Program

Persons and municipalities are required to develop, implement, and keep current a comprehensive education and training program for all swimming pool personnel involved in pool maintenance and discharges. The program shall cover pool opening and closing procedures, maintenance procedures including but not limited to, filter backwashing, pool wall and bottom acid cleaning and/or pressure washing, periodic draining to maintain chemical balance or for sanitation purposes, chlorine or bromine testing, emergency procedures, and regulatory requirements of this general permit.

5.2 Annual Training

Owners and operators of public pools and pool contractors must perform annual training for all personnel involved in pool maintenance using the Comprehensive Education and Training Program, retain records, and make them available upon request and inspection.

5.3 Erosion and Sediment Control

No persons shall cause erosion during or as a result of the discharge or any wastewaters. Persons covered under this general permit shall implement best management practices and measures to prevent or minimize erosion and sedimentation during and after the discharge has ceased.

5.4 Release Prevention Plan

Persons and municipalities of public pools are required to develop, implement, and keep current a Release Prevention Plan ("Plan"). The Plan shall include precise instructions and procedures for opening and closing valves to prevent unpermitted discharges to waters of the state. The Plan shall include lock out tag out procedures, record keeping, stored in an accessible location and made available upon request.

5.5 Treatment and Disposal Options

5.5.1 Discharges to Ground Water via a Dedicated Subsurface Disposal System

Swimming pool wastewater may be discharged from a public pool to a dedicated subsurface leaching system, dry wells, galleries, etc. (designed to receive pool water and not sewage). All chemicals must be neutralized prior to discharge, and the location of the leaching system shall meet the prescribed setbacks from drinking water wells and onsite sewage disposal systems per the CT Public Health Code.

Swimming pool draining wastewater may be discharged from a public pool to dedicated subsurface disposal system water provided the following effluent limitations are met for each discharge:

Parameter	Limit Type	Discharge Limit	Sample Type	Sample Frequency
pH, standard units	Minimum – Maximum	6.5 – 8.0	Grab	Per Discharge
Cyanuric Acid, mg/L	Maximum	100	Grab	Per Discharge
poly(hexamethylenebiguanide hydrochloride), mg/L	Maximum	0.10	Grab	Per Discharge
Total Residual Chlorine, mg/L	Maximum	0.1	Grab	Per Discharge
Total Residual Bromine, mg/L	Maximum	0.1	Grab	Per Discharge

5.5.2 Discharges to Ground Water via a Land Treatment System

Swimming pool wastewater may be discharged from a public pool to a dedicated land treatment system. Land application of wastewater onto the ground surface shall not result in ponding or flooding conditions, the discharge shall infiltrate the ground completely and not run off into a surface water, stormwater collection conveyance system to surface water, wetland, pond or onto adjacent property not under common ownership.

The entire discharge volume shall be land applied and absorbed into the soil matrix maintaining a minimum distance of at least 25 feet from any drinking water supply well, subsurface sewage disposal system or surface water body.

All other swimming pool wastewater may be land applied to the ground surface provided the following effluent limitations are met for each discharge:

Parameter	Limit Type	Discharge Limit	Sample Type	Sample Frequency
pH, standard units	Minimum – maximum	6.5 – 8.5	Grab	Per Discharge
Cyanuric Acid, mg/L	Maximum	100	Grab	Per Discharge
poly(hexamethylenebiguanide hydrochloride), mg/L	Maximum	0.10	Grab	Per Discharge
Total Residual Chlorine, mg/L	Maximum	3.0	Grab	Per Discharge
Total Residual Bromine, mg/L	Maximum	3.0	Grab	Per Discharge

5.5.3 Discharges to Surface Water

A discharge of swimming pool wastewater to a surface water shall only occur when sanitary sewer is not available in the area, a subsurface disposal system is not technically feasible, and a discharge to ground surface is not practicable due to, but not limited to factors such as the site location and proximity to surface water. Persons must maintain sufficient documentation developed by a qualified professional and records supporting this disposal option and make them available within 48 hours of request. Persons shall bear the burden to demonstrate the disposal options of wastewater to a POTW, dedicated subsurface disposal system, and land application are not available at the time of discharge.

The permit includes prohibited discharges to surface water and restrictions for discharges in public water supply areas. The permit was revised to prohibit the discharge of swimming pool draining wastewater to a surface water from a pool that uses a chlorine generator to produce free chlorine, and thus has a higher sodium chloride content. These discharges must be discharged to a POTW or applied to the ground surface and infiltrate into the ground to mitigate instream aquatic toxicity. The permit also prohibits the discharge of copper, total, zinc, total, and silver to surface water.

Additionally, this section was modified to include the state of Connecticut's narrative water quality standards as follows:

The permittee shall assure that the surface water affected by the subject discharge shall conform to the Connecticut Water Quality Standards.

- No discharge shall contain, or cause in the receiving stream, a visible oil sheen or floating solids, or cause visible discoloration or foaming in the receiving stream.
- No discharge shall cause acute or chronic toxicity in the receiving water body.
- The temperature of any discharge shall not increase the temperature of the receiving stream above 85 °F, or in any case, raise the temperature of the receiving stream by more than 4 °F.

Swimming pool draining wastewater may be discharged from a public pool to a surface water provided the following effluent limitations are met for each discharge:

Parameter	Limit Type	Discharge Limit	Sample Type	Sample Frequency
pH, standard units	Minimum – Maximum	6.5 – 8.0	Grab	Per Discharge
Cyanuric Acid, mg/L	Maximum	100	Grab	Per Discharge
poly(hexamethylenebiguanide hydrochloride), mg/L	Maximum	0.10	Grab	Per Discharge
Total Residual Chlorine, mg/L	Maximum	0.1	Grab	Per Discharge
Total Residual Bromine, mg/L	Maximum	0.1	Grab	Per Discharge
Temperature, degrees Fahrenheit	Maximum	85	Grab	Per Discharge

Section 6.0 Record Keeping & Record Retention

This section was revised to clarify the record keeping requirements for all discharges. All records and analytical reports shall be maintained for a minimum of five (5) years and made available upon inspection or request.

Section 7.0 Reporting a Violation

This section was modified to provide concise and consistent requirements for how and when to report a permit violation. DEEP has developed an online web-based platform for permittees to report violations and the required five (5) day follow up report.

Section 8.0 Regulations of Connecticut State Agencies

Section 9.0 State and Federal Standard Conditions

The standard conditions have been included in this general permit for the convenience of the permittee and are generally duplicative of the incorporated regulations incorporated in section 8 of this general permit.

Section 10.0 Antidegradation

Implementation of the Antidegradation Policy follows a tiered approach pursuant to the state and federal regulations and consistent with the Connecticut Antidegradation Policy included in the Connecticut Water Quality Standards in Section 22a-426-8(b-f) of RCSA. Tier 1 Antidegradation review applies to all existing permitted discharge activities to all waters of the state. Tiers 1 and 2 Antidegradation reviews apply to new or increased discharges to high quality

waters and wetlands, while Tiers 1 and 3 Antidegradation reviews apply to new or increased discharges to outstanding national resource waters.

An antidegradation evaluation is conducted during the development of this general permit to ensure that existing and designated uses of surface waters and the water quality necessary for their protection are maintained and preserved, consistent with Connecticut Water Quality Standards, RCSA Sec.22a-426-8(a)(1). This review involved the following:

- An evaluation of narrative and numeric water quality standards, criteria, and associated policies;
- The discharge activity both independently and in the context of other dischargers in the affected waterbodies; and
- Consideration of any impairment listed pursuant to Section 303d of the federal Clean Water Act or any TMDL established for the waterbody.

DEEP has determined that the discharges and activities authorized by this general permit are consistent with the maintenance, restoration, and protection of existing and designated uses assigned to the receiving water body by considering all relevant available data. Discharges to high quality waters and wetlands are not authorized under this general permit and may require an individual permit and antidegradation evaluation to protect those waterbodies.

Section 11.0 Public Participation

Prior to making a final decision to approve or deny any application, the Commissioner shall consider written comments on the application from interested persons that are received within 30 days of this public notice. Written comments should be directed to Audra Dickson, Bureau of Materials Management and Compliance Assurance, Department of Energy and Environmental Protection, 79 Elm Street, Hartford, CT 061065127 or Audra.Dickson@ct.gov. The Commissioner may hold a public hearing prior to approving or denying an application if in the Commissioner's discretion the public interest will be best served thereby, and shall hold a hearing upon receipt of a petition signed by at least twenty five persons. Notice of any public hearing shall be published at least 30 days prior to the hearing.

Petitions for a hearing should include the application number noted above and also identify a contact person to receive notifications. Petitions may also identify a person who is authorized to engage in discussions regarding the application and, if resolution is reached, withdraw the petition. Original signed petitions may be scanned and sent electronically to deep.adjudications@ct.gov or may be mailed or delivered to: DEEP Office of Adjudications, 79 Elm Street, 3rd floor, Hartford, 06106-5127. All petitions must be received within the comment period noted above.

If submitted electronically, original signed petitions must also be mailed or delivered to the address above within ten days of electronic submittal. If a hearing is held, timely notice of such hearing will be published in a newspaper of general circulation. For additional information go to www.ct.gov/deep/adjudications.

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). If you are seeking a communication aid or service, have limited proficiency in English, wish to file an ADA or Title VI discrimination complaint, or require some other accommodation, including equipment to facilitate virtual participation, please contact the DEEP Office of Diversity and Equity at 860-418-5910 or by email at deep.accommodations@ct.gov. Any person needing an accommodation for hearing impairment may call the State of Connecticut relay number - 711. In order to facilitate efforts to provide accommodation, please request all accommodations as soon as possible following notice of any agency hearing, meeting, program, or event.

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