

Technical Bulletin

For General Permit NCG590000



NORTH CAROLINA DIVISION OF WATER RESOURCES

Revised August 30, 2024

Coverage Under This Permit

This general permit covers new and existing Greensand Water Treatment Plants (WTPs) with point source discharges of backwash wastewaters from technologies designed for iron and/or manganese removal with and without the addition of chemical coagulants; and existing Conventional WTP wastewaters from water purification facilities using aluminum, iron, or polymer-based coagulation agents with filter backwash, sedimentation basin washdown, and decant from water treatment facilities. Such discharges include wastewaters from water purification systems using:

- **Greensand (iron and/or manganese removal systems) as well as similar wastewaters from water purification activities such as sand filtration or calcite filtration systems.**
- **Conventional Water Treatment (water purification facilities with filter backwash, sedimentation basin washdown, and decant from water treatment facilities).**

To be considered for coverage under this general permit, new Conventional WTPs proposing a point discharge to surface waters shall be covered under an individual permit for one permit cycle in order to demonstrate compliance with Water Quality Standards (WQSs) and limitations set forth in this general permit.

Wastewater contaminated with pollutants other than those regulated under the effluent sheet(s) pertaining to their water purification processes are excluded from this general permit and will require an individual NPDES permit to discharge to surface waters. Specifically, wastewaters containing arsenic, radioactive substances, significant quantities of toxic pollutants, and effluents demonstrating toxicity to aquatic life will be required to apply for an individual NPDES permit to discharge to surface waters. Also, discharges to receiving waters classified as ORW or HQW are excluded from general permit coverage.

Process wastewaters from Membrane treatment and Ion Exchange water treatment purification systems are not covered under this general permit even if used in combination with greensand and conventional WTP technologies.

Significant Changes from Previous General Permit

- A Notice of Intent (NOI) is now required to be submitted by existing permittees to maintain coverage upon renewal of the General Permit.
- Flow limits are being implemented for all facilities and will be specified on the Permittee's individual Certificates of Coverage.
- Duration of Discharge monitoring has been added to all effluent tables [Sections B. (1), B. (2), B. (3), and B. (4)] for instantaneous dischargers or Conventional facilities with a discharge flow less than 0.05 MGD.
- Total Manganese monitoring is no longer required for all facilities.
- TKN and Nitrate + Nitrite Nitrogen monitoring is now required for Greensand and Conventional WTPs that monitor for Total Nitrogen.
- Upstream Total Hardness monitoring has been updated to require Quarterly monitoring for the first three years of coverage and then Annual monitoring thereafter.
- Section C. Electronic Reporting of Discharge Monitoring Reports has been updated to reflect current federal requirements.
- Section D. Whole Effluent Toxicity Testing Requirements has been updated to reflect the new electronic submission methods for testing results. Additionally, the updated condition includes the requirement for test data to be certified by laboratory supervisor and ORC or approved designate signature.

Key Permit Requirements

- Description of Wastewater Treatment Systems:
 - Conventional Water Treatment Plants perform solids settling either in alternating lagoons or through clarification followed by dechlorination, if necessary. Solids are routinely removed and disposed of via land application or incineration.
 - Greensand backwash wastewaters sometimes require solids settling or particulate removal using sand filtration or sand bed irrigation followed by dechlorination, if necessary. Solids removal and disposal are performed as needed.
 - Some small filtration systems have wastewaters that do not require wastewater treatment to meet permit limitations. Permittees should design wastewater treatment systems to handle peak flow volumes so enough detention time is allowed for solids settling and removal. It is the permittee's responsibility to design a treatment system that will comply with water quality standards and permit limitations.
- Greensand WTP, sand filtration, calcite filtration and effluent monitoring of parameters from similar water purification activities are specified in Part I, Section B. Two separate monitoring pages are included:
 - B. (1) Greensand WTP discharges to freshwater; and
 - B. (2) Greensand WTP discharges to saltwater.
- Conventional WTP effluent monitoring of parameters is specified in Part I, Section B. Two separate monitoring pages are included:
 - B. (3) Conventional WTP discharges to freshwater; and
 - B. (4) Conventional WTP discharges to saltwater.
- Electronic Reporting of Discharge Monitoring Reports is specified in Part I, Section C. All permittees covered under this general permit shall report discharge monitoring data electronically using the NC DWR's Electronic Discharge Monitoring Report (eDMR) internet application. Temporary waivers can be acquired as specified in Section C.
- Whole Effluent Toxicity (WET) testing is specified in Part I, Section D, and applies to all Conventional WTPs. Two different types of WET tests, chronic and acute, are specified.
 - Chronic Toxicity Pass/Fail permit limits apply to:
 - Discharges to freshwater with an $IWC^* \geq 0.25\%$; and
 - Discharges to saltwater with a modeled dilution
 - Acute Toxicity Pass/Fail permit limits apply to:
 - Discharges to freshwater with an $IWC^* < 0.25\%$; and
 - Discharges to saltwater with Tidal waters not modeled.
 - *IWC = Instream Wastewater Concentration and will be specified on the Permittees' Certificate of Coverage (CoC).
- All samples shall be collected before the effluent joins or is diluted by any other wastestream, water or substance (Part II, Section D. 1).
- Perform proper operation and maintenance of the system to achieve compliance with the conditions of the permit (Part II, Section C. 2).
- Solids, sludges, metals or other pollutants removed in the course of treatment shall be disposed properly to prevent materials from entering waters of the State (Part II, Section C. 6).
- The permittee shall give notice to the Division of any planned physical alterations or additions to the system that could significantly increase the quantity of pollutants discharged or introduce new pollutants to the discharge (Part II, Section E. 2).
- Any exceedances of the permit limits must be reported to the Division within 24 hours from the

time the permittee becomes aware of the circumstances (Part II, Section E. 6).

Frequently Asked Questions (FAQs)

1) Do I need to employ a certified wastewater treatment plant operator to manage and run the system?

Conventional Water Treatment Plants require wastewater treatment systems to employ a PC-1 certified operator. Greensand Water Treatment Plant systems with no wastewater treatment (solids settling or removal) do not require a certified operator. However, if wastewater treatment is necessary at the Greensand WTP than contact DWR/Wastewater Operator Certification & Training staff to see if an operator is required. The Division's Wastewater Operator Certification & Training Unit can be contacted for detailed information at:

<https://deq.nc.gov/about/divisions/water-resources/operator-certification/wastewater-operator-certification>.

2) Where do I find my stream classification?

The stream classification, i.e. C, WS (Water Supply), SC, etc. can be found on the CoC. Classes C, B, and WS are all considered freshwater. Classes SC, SB, and SA are all considered saltwater. If you are unsure of your stream classification, you may contact the NPDES Staff at the phone number listed below or by going to:

<https://deq.nc.gov/about/divisions/water-resources/water-quality-permitting/npdes-wastewater/permitting-contacts>.

3) How do I know if my stream is Nutrient Sensitive Waters (NSW), Trout Waters (Tr), ORW, or HQW?

In addition to your stream classification, some waters have supplemental classifications such as NSW, Tr, etc. The supplemental classifications are listed next to the stream classification which can be found in the CoC or the Supplement to Permit Cover sheet of an

individual permit. For example: C-NSW. Note, some streams may have several supplemental stream classifications.

4) How do I determine what type of WET test I should be performing and at what effluent concentration?

The Supplement issued with the CoC will list the Whole Effluent Toxicity test to be performed by your facility and at what effluent concentration. The test to be performed will either be an Acute Toxicity Test at 90% effluent (Part I, Section D. (3)) or a Chronic Toxicity Test (Part I, Section D. (2)) at a specified effluent concentration listed in the CoC Supplement. Greensand WTPs do not have to perform WET tests.

Note that the maximum effluent default value to perform WET tests is 90%. So, if your facility's IWC is 100%, perform your WET tests using an effluent concentration of 90%. If you are unsure of your IWC and WET testing requirements, you may contact the NPDES Unit.

5) Does a certified lab need to be used to analyze samples?

Yes, a North Carolina certified lab must be used to perform analytical testing. A list of certified labs is available from the Division and on the DWR website.

6) What If I Sell My Business Or The Name of My Business Changes?

The Division views changes of name or ownership as a minor permit modification. Name and ownership changes require you to complete a Name/Ownership Change Form. The forms are available at:

<https://deq.nc.gov/about/divisions/water-resources/water-quality-permitting/npdes-wastewater/npdes-compliance-and-0>.

7) How do I apply for coverage, renew coverage, or rescind coverage under this General Permit?

This General Permit expires on August 31, 2029. A Notice of Intent (NOI) must be submitted by existing permittees no later than 60 days from the expiration date of the existing General Permit in order to maintain coverage. Existing permittees will then receive a new Certificate of Coverage (CoC) if all permit annual fees have been paid. New applicants seeking coverage are required to submit EPA Form 1 and Form 2C (including Tables A through C) and the applicable permit fees. If an existing permittee plans to eliminate the discharge from the water purification system and no longer requires coverage under this General Permit, the permittee will need to request rescission of permit coverage from the NPDES Unit by letter.

8) Do I need to submit the monitoring results to the Division?

Yes. All permittees covered under this general permit shall report discharge monitoring data electronically using NC DWR's Electronic Discharge Monitoring Report (eDMR) internet application. Information on eDMR and the NPDES electronic reporting requirements are available at:

<https://deq.nc.gov/about/divisions/water-resources/edmr>

All monitoring results shall be kept on site for three years. The Division may request these reports for review at any time. (Part II, Section D. 8). Note, per Part II, Section E. 6, violations of any permit limitation must be reported within 24 hours from the time the permittee becomes aware of the circumstances.

9) Will routine compliance inspections occur under this General Permit?

Regional staff inspect facilities covered under a general permit and non-major individually permitted facilities as time and man-power allow for in that region.

10) Can all Greensand and Conventional WTPs apply for a General permit?

New applicants for a proposed Conventional WTP and any WTP discharging to HQW or ORW waters shall not be covered under this general permit. In addition, WTPs' failing WET tests will be asked to maintain an individual NPDES permit and initiate a program to address and solve aquatic toxicity problems. Individual WTP permittees with special conditions or limitations not contained in this general permit may be required to maintain an individual permit.

11) Does the WTP need to obtain an ATC permit prior to constructing wastewater treatment facilities?

No. Session Law 2011-394, which became effective July 1, 2011, no longer requires an ATC permit for construction work at drinking water treatment facilities with an NPDES permit.

It is the permittee's responsibility to design a treatment system that complies with Design Criteria in NC Administrative Code 15A 02T .0505 and that will meet NC water quality standards and permit limitations contained in this permit.

12) Can facilities receive Notices of Violation if a limitation contained in this General Permit is violated?

Yes, as with individual permits, violations of this permit can result in the issuance of NOVs, civil penalties, and enforcement proceedings. It is likely the Permittee will be requested to apply for an individual permit or Special Order of Consent if improvements need to be made at the facility to comply with permit limits.

Contact Information

For additional information on NPDES wastewater permitting and compliance, please contact us at:

Division of Water Resources
Water Quality Permitting Section – NPDES
1617 Mail Service Center
Raleigh, N.C. 27699-1617

Phone: (919) 707-9000
Fax: (919) 807-6489

You may also contact your local Division of Water Resources Regional Office at:

Asheville	828-296-4500
Fayetteville	910-433-3300
Mooresville	704-235-2100
Raleigh	919-791-4200
Washington	252-946-6481
Wilmington	910-796-7215
Winston-Salem	336-776-9800

The Division maintains a website at <https://www.deq.nc.gov/about/divisions/water-resources>.

Also try the DEQ Division of Environmental Assistance and Customer Service at <https://www.deq.nc.gov/about/divisions/environmental-assistance-and-customer-service>.

For industry-specific information on minimizing pollutants, contact the North Carolina Office of Pollution Prevention and Environmental Assistance at (919) 715-6500, or at <http://www.p2pays.org>.

Other Information about North Carolina's NPDES General Permits Program

Copies of our General Wastewater Permits, technical bulletins, application forms, guidance documents, and other miscellaneous forms can be found at <https://www.deq.nc.gov/about/divisions/water-resources/permitting/npdes-wastewater/npdes-permitting-process/npdes-general-permits>.

- NCG500000 – Non-contact cooling water, boiler blowdown, cooling tower blowdown, condensate, hydroelectric dams
- NCG510000 – Groundwater remediation for hydrocarbon fuels only [no chlorinated solvents]
- NCG520000 – Sand dredging
- NCG530000 – Aquaculture, fish/seafood packing and rinsing
- NCG550000 – Single-family residences and other 100% Domestic < 1,000 GPD
- NCG560000 – Pesticides
- NCG580000 – Re-use from conjunctive use reclaim water systems
- NCG590000 – Water treatment plant dischargers [wastewater from conventional and greensand systems]