

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
DIVISION OF WATER QUALITY

**FACT SHEET**

GENERAL PERMIT NCG140000  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
PERMIT TO DISCHARGE STORMWATER AND WASTEWATER

Permit No. **NCG140000**

Initial Draft Date: March 25, 2011

Final Draft Date: May 24, 2011

**1. TYPES OF DISCHARGES COVERED**

***a. Industrial Activities Covered by this General Permit***

NCG140000 General Permit Coverage is applicable to owners or operators of industrial stormwater discharges and on-site vehicle maintenance area stormwater discharges associated with ready-mixed concrete manufacturing activities (SIC **3273**), and authorized process wastewater discharges.

In addition, the Division of Water Quality (DWQ) may require coverage under the General Permit for stormwater and process wastewater discharges from like industrial activities deemed by DWQ to be similar to ready-mixed concrete operations in the process, discharges, or exposure of raw materials, intermediate products, by-products, products, or waste products.

The following activities are specifically excluded from coverage under this General Permit: Disposal of process wastewater not specifically designated in this permit, and disposal of any concrete directly into stormwater conveyances, storm sewer outfalls, or into waters of the state.

***b. Types of Operations Covered***

*Basis for coverage: Federal rules at 40 CFR122.26(b)(14) and (b)(14)(ii) specifically define the industrial activities that are subject to regulation for storm water discharges associated with industrial activity. Ready-mixed concrete is a covered activity within the federal rule citation noted, and the General Permit covers all on-site activities and features associated with the ready-mixed concrete manufacturing activity. Covered industrial activities and site features may include, but are not limited to: all industrial areas where stormwater contacts scales, receiving, staging, crushing, mixing, screening, rejects piles, loading, and stockpiles of raw, intermediate, or finished product, by-products and waste products. Also permitted are stormwater flows from on-site vehicle and equipment maintenance areas. Additionally, the construction and operation of process wastewater treatment facilities, and authorized process wastewater discharges (those associated with vehicle and*

equipment cleaning, raw material stockpiles, and mixing drum cleanout) are also permitted under this permit.

### ***c. Characteristics of Discharged Stormwater and Wastewater***

The ready-mixed concrete industrial process includes the delivery and storage of raw materials (aggregates including sand, gravel and/or crushed stone, Portland cement, ash, and water) mixed at a centralized batch plant. Flows resulting from onsite activities include stormwater that has contacted recycled crushed concrete, vehicle maintenance areas (VMA), and raw and waste materials. Additionally ready-mixed concrete sites discharge process wastewater flows associated with vehicle and equipment cleaning, raw material stockpile irrigation, and mixing drum cleanout. Flows resulting from the manufacturing process activities and from contact with on-site materials can be highly variable in pollutant strength.

DWQ reviewed data from the ready-mixed concrete operations that submitted monitoring data during the previous cycle (see Appendix A). This analysis was challenging because of several reasons: 1) DWQ's resources for tracking ready-mixed permit data are not sufficient to be able to accurately match types of discharge (stormwater, wastewater, and what type of wastewater) to each facility; 2) numerous ready-mixed concrete facilities ceased or began operations during the five-year timeframe complicating data analysis; 3) numerous ready-mixed concrete facilities have not been submitting data as required by the permit, or have submitted incomplete data.

Since August 1, 2004, 36 general permits for ready-mixed concrete have been issued. At the time these data were collected for analysis (December, 2010), 259 ready-mixed concrete general permits were listed as having an active status, five general permits were up for review, seven had been returned, and 33 ready-mixed concrete general permits were listed as expired.

Of the 259 currently active NCG140000 COC holders, approximately 176 permittees submitted stormwater analytical data, 30 permittees submitted vehicle maintenance area (VMA) analytical stormwater data, and 92 reported wastewater data. It is challenging to know what percentage of these permittees are correctly submitting or are not submitting data as some permittees went out of business and some came under permitting coverage during this time period. Additionally, many facilities may or may not have vehicle maintenance areas, and many may not actively discharge wastewater.

#### **Stormwater Data**

176 permittees submitted stormwater data from 2004-2010. 159 permittees submitted pH stormwater data, 150 permittees submitted Total Suspended Solids (TSS) stormwater data, and 150 permittees submitted both TSS and pH stormwater data (See Appendix A).

Of the permittees that submitted pH stormwater data (159), 44%, or 70 permittees, submitted data out of pH benchmark range (the vast majority of those were above, not below pH 9). Of those permittees that submitted above-benchmark data, about half

submitted above-benchmark pH data once, and half submitted above-benchmark pH data two or more times. It is difficult to know if this is because permittees did not have repeated instances of above-range pH samplings, or if permittees did not submit all data.

78 permittees submitted stormwater data above TSS benchmarks (52% of the 150 permittees that submitted TSS data). Of those permittees that submitted TSS data above benchmarks, 44 permittees submitted stormwater data above the TSS benchmark once, and 34 permittees submitted stormwater data above the TSS benchmark two or more times. Again, it is difficult to know how many times permittees submitted TSS data relative to sampling. 32 permittees submitted data that was above both TSS and pH benchmarks (21% of permittees that submitted both TSS and pH stormwater data).

### Wastewater Data

As we can see from the above data, both pH and TSS continue to be pollutants of concern in industrial stormwater samples from North Carolina ready-mixed concrete facilities. 52% of permittees that collected TSS data had at least one instance of above-benchmark sampling, and 44% of permittees that collected stormwater data reported above-benchmark pH samples.

Of the 92 permittees that submitted wastewater data, 84 permittees submitted raw material stockpile wastewater runoff data, 73 permittees submitted Vehicle and Equipment Wash data, 13 permittees submitted mixing drum washout data, and 13 permittees submitted recycle system overflow data. 36%, 21% and 2% of permittees that submitted raw material stockpile data exceeded pH, TSS, and settleable solids limits, respectively. 37%, 19% and 4% of permittees that submitted vehicle and equipment wash data exceeded pH, TSS, and settleable solids limits, respectively. 50%, 31% and 8% of permittees that submitted mixing drum washout wastewater data exceeded pH, TSS, and settleable solids limits, respectively. While 38%, 0% and 0% of permittees that submitted recycle system overflow wastewater data exceeded pH, TSS, and settleable solids limits, respectively.

From these data it appears that settleable solids levels were much below limits. However, the limit in the current NCG140000 is 5 mL/L, while the limit in the NCG020000 is 0.1 mL/L (established by 15A NCAC 2B .0406(b)). If the NCG140000 data is reviewed with a 0.2 mL/L limit in mind, 32% of the raw material wastewater, 39% of the vehicle equipment wastewater, 50% of the mixing drum wastewater, and 100% of the recycle system wastewater discharges would be over 0.2 mL/L. Additionally, only a small fraction of the permittees submitted settleable solids data. DWQ proposes to continue to monitor settleable solids data in the permit and maintain the current limit for the next permit term, and will re-evaluate permit limits in the next permit round when more data is available.

It appears from these data, that recycle system overflows had a much lower instance of TSS limit exceedence than other types of NCG140000 wastewater. However, it is difficult to accurately determine if that is true, due to the low numbers of wastewater data submitted for TSS and pH limits. It does appear that TSS and pH do have significant instances of limit

violations for all types of wastewater, therefore these parameters continue to be of concern and will continue to be monitored under this permit.

This General Permit renewal proposes the same parameters be monitored in stormwater discharges as in the previous permit, with the exception of total flow, which has been removed.

### Benchmarks and Limits

TSS and pH continue to be pollutants of concern for both stormwater and wastewater discharges associated with ready-mixed activities. TSS levels are of special concern in HQW, ORW, Trout, and PNA-classified waters, and 15A NCAC 02B .0224 sets special limits for wastewater discharges to these waters. Because of these two factors, stormwater benchmarks and wastewater limits have been set at lower levels for discharges to those receiving water classifications. See Section 7, Basis for controls and limitations for more information.

DWQ believes that the monitoring and control of stormwater discharges from vehicle maintenance areas continues to benefit and improve water quality in North Carolina. In this permit renewal cycle, permittees discharging VMA stormwater and wastewater are required to monitor total petroleum hydrocarbons (TPH) instead of oil and grease (O&G). This is consistent with other recently renewed permits, such as those from 2009. DWQ believes TPH is an improved and more precise monitoring parameter for VMA activities for several reasons: first, TPH is a more targeted parameter, testing only for the family of chemical compounds that originally come from crude oil such as gasoline, diesel, and kerosene; second, discharges associated with significant oil contamination would only be expected from vehicle maintenance areas; and finally, a lower benchmark also applies (15 mg/L instead of the 30 mg/L), all reasons that make this a more targeted and thorough parameter.

North Carolina's new TPH benchmark is consistent with other states' benchmarks and/or limits. Lab costs are comparable to the previous O&G analysis.

Wastewater discharge parameters are the same as in the previous permit cycle, with the exception that a requirement for total petroleum hydrocarbons (TPH) monitoring has been added when vehicle maintenance area discharges are commingled with wastewater discharges.

Contributions of settleable solids from wastewater discharges to receiving waters remain a concern in North Carolina, and therefore its wastewater limit remains in this permit. 15A NCAC 02B .0224 sets limits for the total volume of wastewater in HWQ-classified water bodies. In this permit renewal the volume of wastewater discharging to HWQ waters has therefore been set at 50% of the summer 7Q10 flow when the 7Q10 can be determined and alternative management measures are proposed when the 7Q10 cannot.

More regarding benchmarks can be found in Section 3.a. of this Fact Sheet.

***d. Geographic Area Covered by this General Permit***

Discharges covered by this General Permit are located at any place within the political boundary of the State of North Carolina. However, discharges located on the Cherokee Indian Tribal Reservation are subject to permitting by the U.S. Environmental Protection Agency, rather than DWQ, and are not eligible for coverage under this General Permit.

***e. Receiving Waters***

Receiving waters include all surface waters of North Carolina or municipal separate storm sewer systems conveying stormwater to surface waters, with some notable exceptions. New or expanding wastewater discharges to freshwater ORW-classified water bodies are prohibited in North Carolina by 15A NCAC 2B .0225. Special limits may apply in areas draining to ORWs. Other areas with water quality management plans may limit or prohibit new or expanding wastewater discharges. NCG140000 will not cover wastewater discharges to these above-mentioned water bodies. Some permittees may be able to receive individual permits for wastewater discharges in areas *draining* to ORWs. Stormwater-only discharges to ORW-classified waters may be allowed under NCG140000 with some provisions for new stormwater discharges.

**2. AUTHORIZATION TO CONSTRUCT AND OPERATE A TREATMENT FACILITY**

*North Carolina rules in 15A NCAC 2H .0138 provide for DWQ to issue an Authorization to Construct (ATC) for the construction and operation of water pollution control facilities. North Carolina General Statutes 143-215.1 require a permit be issued for the construction or operation of any treatment works in the state. Ready-mixed concrete facilities that propose to construct wastewater treatment facilities to meet NPDES permit requirements are therefore subject to this ATC requirement.*

In this permit renewal, these requirements to construct and operate a wastewater treatment facility under NCG140000 have not changed, however, DWQ has now included language in the permit outlining and clarifying ATC requirements to operate and construct treatment facilities. DWQ will implement the ATC review process for all wastewater treatment facilities *except* for those that are specifically excluded in the permit as deemed permitted by 15A NCAC 02T .1003 (closed-loop recycle system discharges from drum washout wastewater). In order to be excluded from ATC requirements, these treatment systems must meet all criteria and design requirements in NCAC 15A 02T .1000.

As before, the ATC review will be performed concurrently with the review of the Notice of Intent (NOI) application to allow the discharge of process wastewater under NCG140000. Final plans and specifications will be a requirement of a complete ATC application. *The issuance of an ATC is conditional upon satisfactory review of these plans and specifications.*

### 3. PROPOSED DISCHARGE CONTROLS AND LIMITATIONS

#### Stormwater Discharges

##### a. **Benchmark Parameters, Concentrations, & Monitoring Strategy:**

*Rationale: DWQ's permitting program strategy addresses the pollution potential of industrial stormwater. Permittees must be able to demonstrate that on-site industrial materials are not reaching receiving waters or becoming water pollutants. DWQ's methodology for achieving this is through scheduled self-monitoring by each permittee.*

The renewal permit incorporates benchmark concentrations for stormwater discharges to provide facilities with a tool to assess the effectiveness of Best Management Practices (BMP). These benchmark concentrations are not effluent limits, but provide guidelines for the implementation of facility's Stormwater Pollution Prevention Plan (SPPP or Plan).

*DWQ's evaluation of the data summarized in 1.c. above is that a significant number of facilities are not fully successful in controlling pollutant discharges. This General Permit renewal requires semi-annual monitoring for stormwater parameters throughout the permit term. Previously, annual sampling was required. This renewal also introduces a tiered approach, specifying permittee actions when monitoring results are above benchmark concentrations. Exceedences of benchmark values require the permittee to increase monitoring, increase management actions, increase record keeping, and/or install stormwater BMPs in a tiered program. Four benchmark exceedences trigger notification to the Regional Office, and may prompt additional requirements ("Tier 3"). These proposed changes mirror other general stormwater permit renewals since 2007.*

Previous versions of this General Permit used "cut-off concentrations" to reduce required analytical monitoring for stormwater discharges. The arithmetic mean of all monitoring data collected during the term of the permit was calculated for each parameter and compared to the cut-off concentration. If the mean was less than the permitted cut-off concentration, then the facility was allowed to discontinue analytical monitoring for that parameter at that outfall until the final year of the permit. This method is no longer employed in this permit renewal, which is consistent with our approach in other recent stormwater permit renewals.

The Division revised that strategy on the basis that (1) so few data points over the term of the permit were insufficient to provide confidence in an average concentration and justify discontinuation of monitoring, (2) industrial processes or activities may change during the period the facility is not monitoring, and (3) periodic monitoring ensures the facility maintains vigilance in stormwater management. Additionally, DWQ Central and Regional Offices have found this method to be an effective stormwater management technique for all types of industrial facilities covered under NC DWQ's NPDES stormwater industrial program.

This General Permit renewal requires increased monitoring if permittees fail to monitor stormwater per the permit terms. After six months of monthly monitoring, the permittee may make a request to DWQ to return to a semi-annual monitoring schedule. Quarterly monitoring was proposed initially, however because of the complicated nature of increasing and decreasing permit monitoring, and because the industry raised compelling arguments as to why quarterly monitoring was not feasible, DWQ determined that a semi-annual monitoring schedule would be protective, yet more practical. If sites exceed benchmark standards, the tiered structure will require the permittee to increase or modify the monitoring schedule.

**b. Stormwater Pollution Prevention Plan:**

*Rationale: DWQ's perspective is that the permittee's effective control of the pollutants potentially present in industrial site runoff cannot occur without a deliberate management plan that serves that specific objective. This management plan continues to evolve in order to be more effective.*

The General Permit requires the permittee to develop and implement a written plan to manage and control the discharge of pollutants in the stormwater flows leaving the site. In this General Permit renewal, the Stormwater Pollution Prevention Plan has been modified from the previous revision. The particular requirements are detailed in the permit text, but in sum, the modified elements of the plan are as follows.

Among the significant changes in this renewal are the requirements to note if the receiving water body is impaired, or a TMDL has been created for the receiving water, a requirement for a more thorough narrative description of the site including crushing areas, outside activities, and ash storage areas, a more detailed preventative maintenance and good housekeeping section, an updated employee training section, a requirement to update the Plan annually, and, the newly clearly stated requirements to keep a rain gauge and monitoring records on site and to implement the Plan.

1. Site Plan: The site plan shall provide a description of the physical facility and the potential pollutant sources which may be expected to contribute to contamination of stormwater discharges. At a minimum the site plan includes:
  - (a) A general location map showing the facility's location in relation to transportation routes and surface waters, and whether each receiving water is **impaired** or is located in a **watershed for which a TMDL has been established**, and what the parameter(s) of concern are.
  - (b) A narrative description of storage practices, loading and unloading activities, outdoor process areas, crushing activities, dust or particulate generating or control processes, and waste disposal practices. A narrative description of the potential pollutants which could be expected to be present in the stormwater discharge from each outfall. A narrative description of handling and storage of fly ash, ash by-products, recycled materials, and their country of origin.

- (c) A site map drawn at a scale sufficient to clearly depict all on-site and adjacent surface waters and wetlands, site topography, direction of flow in each drainage area, industrial activities occurring in each drainage area, and the physical features and location of industrial activities. The site map shall include a distance legend and must indicate the percentage of each drainage area that is impervious.
  - (d) An annual certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges.
- 2. Stormwater Management Plan: At a minimum, the stormwater management plan shall also include :
  - (c) BMP Summary. A listing of site structural and non-structural Best Management Practices shall be provided. The installation and implementation of BMPs shall be based on the assessment of the potential for sources to contribute significant quantities of pollutants to stormwater discharges and data collected through monitoring of stormwater discharges. The BMP Summary shall include a written record of the specific rationale for installation and implementation of the selected site BMPs. The BMP Summary shall be reviewed and updated annually. A rain gauge and record of daily rainfall amounts shall be kept onsite and up to date.
- 3. Spill Prevention and Response Plan (SPRP): The SPRP shall include an assessment of potential pollutant sources based on a materials inventory of the facility. It shall detail the permittee's spill prevention and spill response preparations and actions. Facility personnel (or the team) responsible for implementing the SPRP shall be identified in a written list incorporated into the SPRP and signed and dated by each individual acknowledging their responsibilities for the plan.
- 4. Preventative Maintenance and Good Housekeeping Program: The program shall list all stormwater control systems, stormwater discharge outfalls, all on-site and adjacent surface waters and wetlands, industrial activity areas (including material storage areas, material handling areas, disposal areas, process areas, cement crushing areas, loading and unloading areas, ash storage areas, and haul roads), all drainage features and structures, and existing structural BMPs. The program shall address and record the handling and storage of fly ash, ash by-products, recycled materials, and their country of origin. The program shall establish schedules of inspections, maintenance, and housekeeping activities of stormwater control systems, as well as facility equipment, facility areas, and facility systems that present a potential for stormwater exposure or stormwater pollution. Inspection of material handling areas and regular cleaning schedules of these areas shall be incorporated into the program. Timely compliance with the established schedules for inspections, maintenance, and housekeeping shall be recorded in writing and maintained in the SPPP. All such inspections must be documented with printed name, date and signature of the individual performing the inspection(s).

5. **Employee Training:** Training programs shall be developed and training provided at least once a year for facility personnel with responsibilities for spill response and cleanup, preventative maintenance activities, and any of the facility’s operations that have the potential to contaminate stormwater runoff. The facility personnel (or team) responsible for implementing the training shall be identified, and the annual training shall be documented by the signature of each employee that participates.
6. **Responsible party:** no changes to this section.
7. **Plan Amendment (annual update):** The annual update shall include an updated list of significant spills or leaks of pollutants for the previous three years, or the notation that no spills have occurred. The annual update shall include written re-certification that the stormwater outfalls have been evaluated for the presence of non-stormwater discharges. Each annual update shall include a documented re-evaluation of the effectiveness of the BMPs listed in the BMP Summary of the Stormwater Management Plan. The annual update shall be documented with the printed name, date and signature of the individual performing the review, as well as a detailed description of the changes necessary to keep the SPPP updated.
8. **Director notification:** no changes to this section.
9. **Facility Inspections:** Inspections of the facility and all stormwater systems shall occur as part of the Preventative Maintenance and Good Housekeeping Program at a minimum on a semi-annual schedule, according to the schedule in Table 2. These inspections shall have at least 30 days separating inspection dates, unless inspections are required more frequently by DWQ as part of the Tiered Response. These facility inspections are different from, and in addition to, the stormwater discharge characteristic monitoring required in Part IV of this permit.
10. **Implementation.** The permittee shall implement the Plan.

Process Wastewater Discharges

DWQ is proposing few changes to the effluent limitations for process wastewater discharges authorized by the permit. This General Permit renewal requires quarterly monitoring for stormwater parameters throughout the permit term, instead of annual sampling that was previously required. Monitored wastewater parameters (pH, TSS, settleable solids) remain the same in this permit renewal, however, and as mentioned above, TPH has been added when VMA stormwater commingles with wastewater. Proposed revisions to effluent limitations include a lower TSS limit for HQW, Trout, and PNA waters, as required by 15A NCAC 02B .0224. This draft consolidates the effluent limitations into one table to simplify the permit.

This permit revision also has the provision that failure either to monitor wastewater per permit terms, and/or violation of permit limits twice in a row immediately institutes monthly monitoring for all wastewater parameters. After six months of monthly

monitoring, the permittee may make a request to return to a quarterly monitoring schedule.

This permit revision includes a text revision for improved clarity. DWQ has encountered confusion both within DWQ, and within the regulated community regarding previous versions of the permit text, especially in reference to recycle systems. This draft permit clarifies that recycle systems may be used as a volume-control element of a wastewater treatment facility; however, these wastewater treatment systems with recycle elements are not subject to distinct provisions within the revised permit text. On the other hand, closed-loop recycle systems (CRLS) are specific types of wastewater treatment systems or facilities that conform in all aspects to the design requirements of 15A NCAC 02T .1000. The regulation of wastewater releases from closed-loop recycle systems are covered under 15A NCAC 02T .1000, and are not authorized by this permit. Additionally, the draft permit does not authorize the construction or operation of CLRS.

#### **4. MONITORING AND REPORTING REQUIREMENTS**

##### Stormwater Discharges

The draft General Permit specifies monitoring and reporting requirements for both quantitative and qualitative assessment of the stormwater discharge, and operational inspections of the entire facility. Sample parameters and sample frequency are based upon pollutants potentially generated from ready-mixed concrete operations as reported in the literature and in on-site monitoring reports from current DWQ permittees. See section 1 c. above.

The draft permit proposes specific monitoring requirements for the following parameters for stormwater discharges: TSS, pH, total petroleum hydrocarbons (vehicle maintenance areas only), event duration, and total rainfall.

The draft permit incorporates a modified definition of a storm event that is to be sampled. Previous permits and most other stormwater General Permits define the stormwater event to be sampled as the “representative storm event”. The NCG140000 permit renewal now requires permittees to sample the “Measurable Storm Event”, a new term for North Carolina stormwater permits. The “Measurable Storm Event” is an event that results in an actual discharge, rather than an event with a rainfall measuring 0.1 inches or more. To qualify as a Measurable Storm Event, the previous storm event must have been at least 72 hours prior.

DWQ considered comments from Carolina Ready Mixed Concrete Association members and a new definition in the 2008 Environmental Protection Agency (EPA) Multi-Sector General Permit (MSGP) in making this determination to use an updated definition for this sampled storm event. CRMA members expressed concern they wasted resources trying to sample storms that did not meet the previous representative storm event definition. CRMA members stated they often hire consultants to sample at their sites and find that there was no discharge, or later learn that the storm event did not meet the representative storm

definition of 0.1 inches. CRMA group members suggested this new storm designation as a time and money-saving alternative that is consistent with newer EPA procedures.

DWQ is proposing increased monitoring frequency for stormwater discharges (a change from annual to semi-annual throughout the permit term) based on the rationale discussed earlier in Section 3. The change is consistent with other General Permits recently renewed.

As before, the renewal permit specifies qualitative (visual) monitoring of each stormwater outfall for the purpose of evaluating the effectiveness of the Stormwater Pollution Prevention Plan and assessing new sources of stormwater pollution. Qualitative monitoring parameters include color, odor, clarity, floating and suspended solids, foam, oil sheen, and other obvious indicators of stormwater pollution. The draft permit proposes that qualitative monitoring now be performed during a measureable storm event and at the same time as the analytical monitoring. Qualitative monitoring in NCG140000 is consistent with DWQ's other stormwater discharge permits.

The General Permit requires reporting the monitoring results on Discharge Monitoring Forms (DMR) within 30 days of the permittee receiving lab reports. The permit text provides that the permittee may be excused from stormwater monitoring during periods of adverse weather or discharge / no flow, upon submittal of a DMR with a notation of "Adverse Weather", "No Flow This Period", or like explanation. In the past, DWQ's practice under other stormwater General Permits has been to advise permittees that failure to monitor due to extended drought; or due to discharges only from dangerous thunderstorms, hurricanes, or tropical storms; or due to discharges only available from night-time storms have all been excused. On the other hand, DWQ does not consider that rainfall occurring only on weekends is a sufficient impediment to excuse failure to monitor.

### Wastewater Discharges

The draft General Permit specifies monitoring and reporting requirements for quantitative assessment of the wastewater discharge. Sample parameters and sample frequency are based upon pollutants potentially generated from ready-mixed concrete operations, as reported in the literature and in on-site monitoring reports from current DWQ permittees. See section 1 c. above.

Unlike stormwater discharges, a monitoring value for these wastewater discharge parameters higher than the permit limit constitutes a violation of the terms and conditions of the permit.

The draft permit proposes specific monitoring requirements for the following conventional parameters for wastewater discharges: pH, TSS, settleable solids, total flow and TPH (for vehicle maintenance areas only). The monitoring requirements are adopted from 15A NCAC 2B .0400 Rules (SS, TSS and pH), and Water Quality Standards in the 2B .0200 Rules (TSS and total volume limits for special waters). The draft proposes no change to effluent limits from the previous permit for SS or pH. It does propose to change the monitoring frequency to quarterly, from the previous annual requirement. Limits are required to be reported as a daily maximum, as in the previous permit.

TSS limits have been augmented by the more stringent value for HWQ, Trout and PNA waters. The total volume of all wastewater discharges combined is limited in HQWs to 50% of the total in-stream flow of the receiving water under summer 7Q10 conditions, as per 15A NCAC.02B .0224. Process wastewater discharges shall only be monitored for TPH when commingled with stormwater discharges from VMA areas. TPH does not have a limit for wastewater and instead is subject to benchmarks and provisions of Part IV, Section A, including the Tiered Action Response.

**5. COMPLIANCE SCHEDULE**

The permittee shall comply with limitations and controls specified for stormwater discharges in accordance with the following schedule:

Existing facilities already operating, but applying for coverage under this General Permit for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the initial Certificate of Coverage issued pursuant to this General Permit and updated thereafter on an annual basis. Secondary containment, as specified in Part III, Paragraph 2(b) of this permit, shall be accomplished within 12 months of the effective date of the initial Certificate of Coverage.

New facilities applying for permit coverage for the first time: All requirements, conditions, limitations, and controls contained in this permit become effective immediately upon issuance of the Certificate of Coverage. The Stormwater Pollution Prevention Plan shall be developed and implemented prior to the beginning of discharges from the operation of the industrial activity and be updated thereafter on an annual basis. Secondary containment, as specified in Part III, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

Existing facilities previously permitted and applying for renewal under this General Permit: All requirements, conditions, limitations, and controls contained in this permit (except new SPPP elements in this permit renewal) shall become effective immediately upon issuance of the Certificate of Coverage. New elements of the Stormwater Pollution Prevention Plan for this permit renewal shall be developed and implemented within six months of the effective date of the initial Certificate of Coverage issued pursuant to this General Permit and updated thereafter on an annual basis. Secondary containment, as specified in Part III, Paragraph 2(b) of this permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

**6. SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE**

There are no proposed special conditions in the draft General Permit.

## **7. BASIS FOR CONTROLS AND LIMITATIONS**

The conditions of this General Permit have been designed using best professional judgment to achieve water quality protection through compliance with the technology-based standards of the Clean Water Act (Best Available Technology [BAT] and Best Conventional Pollutant Control Technology [BCT]). Where the Director determines that a water quality violation is occurring and water quality-based controls or effluent limitations are required to protect the receiving waters, coverage under the General Permit may be terminated and an individual permit may be required. Based on a consideration of the appropriate factors for BAT and BCT requirements, and a consideration of the factors discussed below in this fact sheet for controlling pollutants in stormwater discharges associated with the activities as described in Item 1 (Types of Discharge Covered), this permit contains a set of requirements for developing and implementing Stormwater Pollution Prevention Plans, and specific requirements for monitoring and reporting on stormwater discharges.

The permit conditions reflect the EPA's and North Carolina's pollution prevention approach to stormwater permitting. The quality of the stormwater discharge associated with an industrial activity will depend on the availability of pollutant sources. This permit reflects the Division's position that implementation of BMPs and traditional stormwater management practices which control the source of pollutants meets the definition of BAT and BCT. For stormwater discharges the permit conditions are not numeric effluent limitations, but rather are designed to be flexible requirements for developing and implementing site specific plans to minimize and control pollutants in the stormwater discharges associated with the industrial activity.

Title 40 Code of Federal Regulations (CFR) Part 122.44(k)(2) authorizes the use of BMPs in lieu of numeric effluent limitations in NPDES permits when the agency finds numeric effluent limitations to be infeasible. The agency may also impose BMP requirements which are "reasonably necessary" to carry out the purposes of the Act under the authority of 40 CFR 122.44(k)(3). The conditions of the renewal permit are based on the authority of both of these regulatory provisions. The pollution prevention requirements (BMP requirements) in this permit operate as limitations on effluent discharges that reflect the application of BAT/BCT. The basis is that the BMPs identified require the use of source control technologies which, in the context of these general permits, are the best available of the technologies economically achievable (or the equivalent BCT finding).

All facilities covered by this General Permit must prepare, retain, implement, and (at a minimum of annually) update a Stormwater Pollution Prevention Plan. The term "pollution prevention" distinguishes this source reduction approach from traditional pollution control measures that typically rely on end-of-pipe treatment to remove pollutants in the discharges. The plan requirements are based primarily on traditional stormwater management, pollution prevention and BMP concepts, and providing a flexible basis for developing site-specific measures to minimize and control the amounts of pollutants that would otherwise contaminate the stormwater runoff.

The pollution prevention approach adopted in the Stormwater Pollution Prevention Plan in this permit focuses on two major objectives: 1) to identify sources of pollution potentially affecting the quality of stormwater discharges associated with industrial activity from the facility; 2) to describe and ensure that practices are implemented to minimize and control pollutants in stormwater discharges associated with industrial activity from the facility; and 3) to ensure compliance with the terms and conditions of the permit.

The Division believes that it is not appropriate, at this time, to require a single set of effluent limitations or a single design or operational standard for all facilities which discharge stormwater associated with industrial activity. This permit instead establishes a framework for the development and implementation of site-specific Stormwater Pollution Prevention Plans. This framework provides the necessary flexibility to address the variable risk for pollutants in stormwater discharges associated with the industrial activities that are addressed by this permit, while ensuring procedures to prevent stormwater pollution at a given facility are appropriate given the processes employed, engineering aspects, functions, costs of controls, location, and age of facility (as discussed in 40 CFR 125.3). This approach allows flexibility to establish controls which can appropriately address different sources of pollutants at different facilities.

In 1979, the EPA completed a technical survey of industry BMPs, based on a review of practices used by industry to control the non-routine discharge of pollutants from non-continuous sources including runoff, drainage from raw material storage areas, spills, leaks, and sludge or waste disposal. This review included analysis and assessment of published articles and reports, technical bulletins, and discussions with industry representatives through telephone contacts, written questionnaires and site visits. The technical survey identified two classes of pollution control measures.

The first class of controls are those management practices which are generally considered to be essential to the development of an effective and efficient BMP program, low in cost, and applicable to broad categories of industries and substances. These controls include the following: developing a Spill Control Committee and implementing spill reporting, material inventorying and compatibility reviews, employee training, visual inspections, preventative maintenance programs, good housekeeping, and addressing security issues. These practices are broadly applicable to all industries and can be implemented by each facility independent of the category of industry, ancillary sources, specific chemicals used at different sites, and/or plant site locations. The survey concluded that these controls should be minimum requirements for any effective BMP program.

The second class of controls includes management practices which provide for a second line of defense against the release of pollutants. These controls include prevention measures, containment measures, mitigation and clean-up measures and treatment methods. The types of chemicals, industrial operations and various ancillary sources specify the controls applicable to an individual facility.

The EPA and other states have, on a case-by-case basis, imposed BMP requirements in NPDES permits. The EPA has also continued to review and evaluate case studies involving

the use of BMPs and the use of pollution prevention measures associated with spill prevention and containment measures for oil. The development of the NPDES permit application requirements for stormwater discharges associated with industrial activity resulted from the evaluation and identification of the potential contaminants and the resultant water quality impacts of stormwater discharges from industrial sites. Public comments received during the rule-making provided additional insight regarding stormwater risk assessment, as well as appropriate pollution prevention and control measures and strategies. During that time EPA again reviewed stormwater control practices and measures. These experiences have shown the Division that pollution prevention measures such as BMPs can be appropriately used and that permits containing BMP requirements can effectively reduce pollutant discharges in a cost-effective manner. BMP requirements are being appropriately imposed in general permits in lieu of numeric effluent limitations pursuant to 40 CFR 122.44(k)(2).

There has been no significant change to this rationale since the previous General Permit.

### Stormwater Benchmarks

The proposed pH benchmark range is based on N.C. Water Quality Standards contained in 15A NCAC 02B .0211 and is consistent with other renewed general stormwater permits. The standard TSS benchmark of 100 mg/L is based on the median concentration derived from the National Urban Runoff Program (NURP) study in 1983 and serves as a benchmark in most other industrial stormwater permits with TSS monitoring. The lower TSS benchmark for ORW, HQW, Trout, and Primary Nursery Area (PNA) waters of 50 mg/L reflects half that standard value and was set to flag potential problems in discharges to waters with much lower water quality standards for TSS concentrations (20 mg/L for HQW and ORW; 10 mg/L for Trout and PNA waters).

The TPH benchmark (for vehicle maintenance areas only) of 15 mg/L is consistent with other states' benchmarks and/or limits and reflects a value we would associate only with significant oil contamination.

### Wastewater Discharge Limitations

The authorized process wastewater discharge types from vehicle and equipment cleaning, raw material stockpiles, and mixing drum cleanout are also retained in this draft permit. Pollutants of concern still include pH, TSS, and settleable solids. This draft permit includes total petroleum hydrocarbon (TPH) action levels for wastewater when VMA-derived stormwater drains and commingles with wastewater before discharge. The draft permit effluent limitations are based on N.C. Water Quality Standards and Categorical Effluent Limitations. The **pH and TSS** limitations are based on water quality standards in 15A NCAC 2B .0200 and .0300. Regulations in 15A NCAC 2B .0400 establish effluent limitation ranges for **settleable solids**. DWQ is maintaining the previous permit limit for settleable solids as the previous permit cycle. More stringent TSS average limits and total flow volume limits are based on N.C. Water Quality Standards for HQW, Trout, and PNA waters.

The draft renewal permit specifies that written authorization is not required when flocculants *already approved by the Division* are administered in accordance with approved maximum application doses and any other current requirements.

This NCG140000 draft also incorporates a **limit on total volume of wastewater discharged to HQW classified waters** (50 percent of the 7Q10 flow), as mandated in the 15A NCAC 02B .0224 Rules.

**8. REQUESTED VARIANCES OR ALTERNATIVES TO REQUIRED STANDARDS**

There are no requested variances or alternatives to required standards. Facilities requesting variances to required standards will not be covered under this General Permit but will instead be required to seek coverage under an individual permit.

**9. THE ADMINISTRATIVE RECORD**

The administrative record, including the draft permit, fact sheet, public notice, comments received, and additional information is available by writing to:

Stormwater Permitting Unit  
 Division of Water Quality  
 1617 Mail Service Center  
 Raleigh, North Carolina 27699-1617

The above documents are available for review and copying at:

Archdale Building, 9<sup>th</sup> Floor  
 Surface Water Protection Section  
 Stormwater Permitting Unit  
 512 N. Salisbury Street  
 Raleigh, North Carolina

between the hours of 8:00 AM and 5:00 PM Monday through Friday. Copies will be provided at DWQ’s currently established estimate of the cost of reproduction.

**10. STATE CONTACT**

Additional information about the draft permit may be obtained at the above address between the hours of 8:00 AM and 5:00 PM Monday through Friday by contacting: **Jennifer Jones** at (919) 807-6379. Email: [jennifer.jones@ncdenr.gov](mailto:jennifer.jones@ncdenr.gov)

**11. SCHEDULE OF PERMIT ISSUANCE**

Draft Permit Public Notice – **Statewide notice published April 15, 2011;**  
**Draft available on DWQ website April 15, 2011;**  
**Comment Period Ends May 15, 2011.**

Permit Scheduled to Issue – **June 15, 2011 (Effective July 1, 2011).**

**12. PROCEDURE FOR THE FORMULATION OF FINAL DETERMINATIONS**

*a. Comment Period*

The Division of Water Quality proposes to issue an NPDES General Permit for the above described stormwater and process wastewater discharges subject to the outlined controls, limitations, benchmarks, management practices, and special conditions. These determinations are open to comment from the public.

Interested persons are invited to submit written comments on the General Permit or on the Division of Water Quality’s proposed determinations to the following address:

Stormwater Permitting Unit  
 Division of Water Quality  
 1617 Mail Service Center  
 Raleigh, North Carolina 27699-1617  
 Attn: **Jennifer Jones**  
[jennifer.jones@ncdenr.gov](mailto:jennifer.jones@ncdenr.gov)

All comments received within 30 days following the date of public notice are considered in the formulation of final determinations.

*b. Public Meeting*

The Director of the Division of Water Quality may hold a public meeting if there is a significant degree of public interest in a proposed permit or group of permits. Public notice of such a meeting will be circulated in newspapers in the geographical area of the discharge and to those on the Division of Water Quality mailing list at least 30 days prior to the meeting.

*c. Appeal Hearing*

An applicant whose permit is denied, or is granted subject to conditions he deems unacceptable, shall have the right to a hearing before the Commission upon making written demand to the Office of Administrative Hearing within 30 days following issuance or denial of the permit.

*d. Issuance of a Permit When No Hearing is Held*

If no public meeting or appeal hearing is held, after review of the comments received, and if the Division of Water Quality determinations are substantially unchanged, the permit will be issued and become effective on the first day of the month following the issuance date. This will be the final action of the Division of Water Quality.

If a public meeting or appeal hearing is not held, but there have been substantial changes, public notice of the Division of Water Quality revised determinations will be made. Following a 30-day comment period, the permit will be issued and will become effective on the first day of the month following the issuance date. This will be the final action of the Division of Water Quality unless a public meeting or appeal hearing is granted.

**APPENDIX A**

<b><u>STORMWATER DATA</u></b>			
<b><u>Type</u></b>	<b><u># of Permittees</u></b>	<b><u># of Total Data Point Submitted</u></b>	<b><u>%</u></b>
Active SW Permittees	259		
Permittees that submitted SW data	176		
Submitted SW pH data	159	577	
Submitted SW TSS data	150	549	
Submitted both SW pH & TSS data	150	539	
<b>Submitted pH data out of benchmark range?</b>	70	122	
Percent of permittees submitting data out of pH range			44%
Permittees with pH levels above benchmarks 1 recorded time	33		
Permittees with pH levels above benchmarks 2 recorded times	27		
Permittees with pH levels above benchmarks 3 recorded times	7		
Permittees with pH levels above benchmarks 4 recorded times	1		
Permittees with pH levels above benchmarks 5 recorded times	2		
<b>Permittees that submitted SW TSS data above benchmarks?</b>	78		
Percent of permittees submitting data above the TSS benchmark			52%
Permittees with TSS levels above benchmarks 1 recorded time	44		
Permittees with TSS levels above benchmarks 2 recorded times	19		
Permittees with TSS levels above benchmarks 3 recorded times	5		
Permittees with TSS levels above benchmarks 4 recorded times	5		
<b>Permittees that submitted both pH and TSS data out of benchmark range?</b>	32		
Percent of permittees submitting data out of pH and TSS benchmarks?			21%

<b><u>Permittees the submitted Raw Material WW data</u></b>	<b><u># of Permittees</u></b>	<b><u>%</u></b>
Permittees submitting data above pH limits	30	36%
Permittees submitting data above TSS limits	18	21%
Permittees submitting data above settleable solids limits	<b>2</b>	<b>2%</b>
Total of Permittees that submitted data	84	

<b><u>Permittees the submitted Vehicle and Equipment Wash WW data</u></b>	<b><u># of Permittees</u></b>	<b><u>%</u></b>
Permittees submitting data above pH limits	25	37%
Permittees submitting data above TSS limits	14	19%
Permittees submitting data above settleable solids limits	<b>3</b>	<b>4%</b>
Total of Permittees that submitted data	72	

<b><u>Permittees the submitted Recycle System Overflows WW data</u></b>	<b><u># of Permittees</u></b>	<b><u>%</u></b>
Permittees submitting data above pH limits	7	50%
Permittees submitting data above TSS limits	4	19%
Permittees submitting data above settleable solids limits	<b>1</b>	<b>8%</b>
Total of Permittees that submitted data	13	

<b><u>Permittees the submitted Mixing Drum WW data</u></b>	<b><u># of Permittees</u></b>	<b><u>%</u></b>
Permittees submitting data above pH limits	5	38%
Permittees submitting data above TSS limits	0	0%
Permittees submitting data above settleable solids limits	<b>0</b>	<b>0%</b>
Total of Permittees that submitted data	13	