

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF WATER QUALITY

FACT SHEET

GENERAL PERMIT NCG100000
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT TO DISCHARGE STORMWATER

Permit No. NCG100000

Date: September 1, 2012

1. TYPES OF DISCHARGES COVERED

a. Industrial Activities Covered by this General Permit

Coverage under this general permit is applicable to all owners or operators of stormwater point source discharges associated with activities classified as establishments primarily engaged in activities classified as Used Motor Vehicle Parts [Standard Industrial Classification (SIC) 5015] and Automobile Wrecking for Scrap (a portion of SIC 5093). Coverage is also applicable to point source discharges **from like industrial activities** deemed by the Division of Water Quality (DWQ) to be similar to these operations in the process, or the discharges, or the exposure of raw materials, intermediate products, by-products, products, or waste products.

Except when DWQ deems activities or discharges to be similar as described above, the following activities are **excluded from coverage** under this General Permit: establishments primarily engaged in the wholesale trade of metal waste and scrap, iron and steel scrap, and nonferrous metal scrap (hereafter referred to as the metal waste recycling industry).

b. Types of Operations Covered

The **Used Motor Vehicle Parts** category includes facilities primarily engaged in the distribution at wholesale or retail of used motor vehicle parts. This industry includes establishments primarily engaged in dismantling motor vehicles for the purpose of selling parts.

Activities which are conducted in the Used Motor Vehicle Parts category are probably best described by the following:

- Wholesale or retail distribution of used automobile engines
- Wholesale or retail distribution of used automobile parts
- Wholesale or retail distribution of used motor vehicle parts

The **Automobile Wrecking for Scrap** category includes facilities primarily engaged in automobile dismantling for scrap metal.

Activities which are conducted in the Automobile Wrecking for Scrap category are probably best described by the following:

- Wholesale automobile wrecking for scrap

According to the Environmental Protection Agency, dismantlers are a major source for replacement parts for motor vehicles in service. Their primary activity involves the dismantling or wrecking of used motor vehicles. Typically, automobile dismantling facilities receive vehicles that are either uneconomical to run or wrecks that are uneconomical to repair. The nature of operations generally depends on the size and location of the facility. In urban areas where land is more valuable, vehicles are typically dismantled upon arrival, parts are segregated, cleaned, and stored. Remaining hulks are sold to scrap dealers rather than stored on site due to limited space. In more rural areas, discarded vehicles are typically stored on the lot and parts removed as necessary. Remaining hulks are sold to scrap dealers less frequently.

Once a used vehicle is brought to the site, fluids may be drained and the tires, gas tank, radiator, engine and seats may be removed. The dismantler may separate and clean parts. Such cleaning may include steam cleaning of the engine and transmission as well as the use of solvents to remove oil and grease and other residues. Usable parts are then inventoried and stored for resale. The remaining car and/or truck bodies are stored on site for future sale of the sheet metal and glass. Stripped vehicles and parts that have no resale value are typically crushed and sold to a steel scrapper. Some operations may, however, convert used vehicles and parts into steel scrap as a secondary operation. This is accomplished by incineration, shearing (bale shearer), shredding, or baling.

Significant materials include automobile parts (e.g., engine blocks, mufflers, batteries), solvents, oils, cleaning agents (e.g., detergents), used equipment, and junked automobiles. In junkyards, the condition of materials and junked vehicles may contribute to significant losses of fluids, which are sources of toxic metals, oil and grease, etc. Weathering of plated and non-plated metal surfaces may result in contributions of toxic metals to stormwater.

Because of the nature of the industrial activities at these facilities, pollutants of concern include: oil and grease, ethylene glycol, heavy metals, petroleum hydrocarbons, solvents, suspended solids, acid/alkaline wastes, detergents, phosphorus, and salts.

c. Characteristics of Discharged Stormwater

The renewal permit proposes the same parameters be regularly monitored in stormwater discharges. **The exception is that Oil and Grease (O&G) has been replaced by Total Petroleum Hydrocarbons (TPH),** or “Non-polar Oil and Grease.” This action is consistent with other recently renewed general permits for discharges associated with vehicle maintenance activities. The proposed parameters continue to be useful as stormwater pollution indicators for this industrial sector.

DWQ is replacing O&G with TPH, which can be analyzed cost effectively with the same method used to measure O&G: EPA Method 1664 (SGT-HEM). The permit does not require the more elaborate and typically more expensive TPH analysis with gas chromatography. The basis of this change is that O&G is composed of fatty matter from animal and vegetable sources and hydrocarbons of petroleum origin. Because TPH targets the family of chemical compounds that originally come from crude oil such as gasoline, diesel, kerosene, etc., TPH is more suited for vehicle maintenance activities. A lower benchmark also applies. Instead of the 30 mg/l O&G benchmark, the TPH benchmark is 15 mg/l, which is consistent with other States' benchmarks and/or limits (see **Appendix A**). We would only expect in discharges associated with significant oil contamination to exceed this benchmark. DWQ also found lab costs to be comparable to O&G analysis and reasoned the change would not pose a significant burden on permittees (see **Appendix B**).

DWQ reviewed data from these industrial permittees that submitted monitoring data during the previous cycle of NCG100000 (see **Appendix D**). Over 100 facilities submitted 435 samples that DWQ could consider for general permit development. See **Appendix D** for data analysis information, as well as **Sections 3 and 6** of this fact sheet for discussion and rationale in support of proposed monitoring.

d. Geographic Area(s) 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. Discharges located on the Cherokee Indian Tribal Reservation are subject to permitting by the U.S. Environmental Protection Agency and are not covered by 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.

2. PROPOSED DISCHARGE CONTROLS AND LIMITATIONS

Stormwater Discharges

The renewal permit incorporates benchmark concentrations for stormwater discharges to provide facilities with a tool with which to assess the effectiveness of best management practices (BMPs). These benchmark concentrations are not effluent limits, but provide guidelines for the facility's Stormwater Pollution Prevention Plan (SPPP or Plan).

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 (4) benchmark exceedences trigger notification to the Regional Office and

may prompt additional requirements (“Tier 3”). This general permit first incorporated stormwater benchmarks and tiered responses in the 2007 renewal.

Some parts of the **Stormwater Pollution Prevention Plan** (SPPP or Plan) have been expanded or modified. The draft permit also integrates the **Solvent Management Plan**, which a facility may elect to implement in lieu of monitoring total toxic organics (TTO), into the SPPP components:

10. **Solvent Management Plan.** Facilities that implement a Solvent Management Plan may so certify, and the requirement for **Total Toxic Organics** (TTO) monitoring in Part II, Section B. may be waived. The Solvent Management Plan shall include:

- (a) an annually updated and quantified inventory of the total toxic organic compounds present on site during the previous three years;
- (b) a narrative description of the in-plant locations and uses of the toxic organic compounds, the method of disposal including quantities disposed on- and off-site;
- (c) the management procedures and engineering measures for assuring that toxic organics do not spill or leak into stormwater.

DWQ may at its discretion require submittal, review, and approval of the Solvent Management Plan as a condition of continuing the TTO sampling waiver. For those facilities electing to employ the TTO sampling waiver, the permittee shall include the following signed certification statement on each discharge monitoring report: *“Based upon my inquiry of the person or persons directly responsible for managing compliance with the permit monitoring requirement for total toxic organics (TTO), I certify that to the best of my knowledge and belief, no leak, spill, or dumping of concentrated toxic organics into the stormwater or onto areas which are exposed to rainfall or stormwater runoff has occurred since filing the last discharge monitoring report. I further certify that this facility is implementing all the provisions of the Solvent Management Plan included in the Stormwater Pollution Prevention Plan.”*

For the remaining proposed requirements of the SPPP, please refer to the proposed draft General Permit NCG100000.

3. MONITORING AND REPORTING REQUIREMENTS

This permit specifies monitoring and reporting requirements for both quantitative and qualitative assessment of the stormwater discharge and operational inspections of the entire facility. Specific pollutant parameters for which sampling must be performed and the frequency of the sampling are based on the types of materials used, stored, and transferred at these sites, and on the potential for contamination of the stormwater runoff from these facilities.

The draft renewal permit proposes specific monitoring requirements for the following parameters for stormwater discharges: **Total Rainfall, pH, Total Petroleum Hydrocarbons (TPH)** [EPA Method 1664 (SGT-HEM), also called “Non-polar Oil & Grease”], **Total Suspended Solids (TSS), Ethylene Glycol, Lead, and Total Toxic**

Organics (TTO)—unless the facility is waived from TTO monitoring through a Solvent Management Plan. The only change in the suite of parameters is that TPH replaces O&G. The rationale for retaining these parameters in the renewal permit was based in part on data submitted by permittees, but also on their utility as stormwater pollution indicators for these industry types.

The draft permit incorporates a modified definition of what storm event should be sampled. Previous permits required sampling during a “representative storm event.” The proposed NCG100000 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. Last year the NCG140000 Ready-Mixed Concrete General Permit was the first permit to implement this new storm event definition.

The proposed general permit allows the permittee to forgo sampling if *adverse weather* conditions prevent sample collection (see the **Definitions** section of the draft permit). Inability to sample because of adverse weather conditions must be documented in the SPPP and recorded on the data monitoring forms (DMRs). The proposed draft maintains the requirement to separate semi-annual sampling events by a minimum of 60 days.

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. Qualitative monitoring should be performed during the analytic sampling event.

The draft permit proposes more specific direction to the permittee about how to respond to qualitative monitoring. If qualitative monitoring indicates that existing stormwater BMPs are ineffective, or that significant stormwater contamination is present, the permittee must investigate potential causes, evaluate the feasibility of corrective actions, and implement those corrective actions within 60 days. A written record of the permittee’s investigation, evaluation, and response actions must be kept in the SPPP. The draft permit also includes a **Qualitative Monitoring Response**, establishing actions for when a permittee repeatedly fails to respond effectively to correct problems, or if the discharge causes or contributes to a water quality standard violation.

4. COMPLIANCE SCHEDULE

The proposed compliance schedule in Part III, Section A was modified to address facilities that are renewing coverage under this new permit. 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 permit coverage for the first time: The Stormwater Pollution Prevention Plan shall be developed and implemented within 12 months of the effective date of the **Certificate of Coverage** and updated thereafter on an annual basis. Secondary containment, as specified in Part II, Section A, Paragraph 2(b) of this general permit, shall be accomplished within 12 months of the effective date of the issuance of the **Certificate of Coverage**.

New Facilities applying for coverage for the first time: 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 II, Section A, Paragraph 2(b) of this general 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 6 months of the effective date of this general permit and updated thereafter on an annual basis. Secondary containment, as specified in Part III, Paragraph 2(b) of this general permit shall be accomplished prior to the beginning of discharges from the operation of the industrial activity.

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

If a facility that is required to perform the total toxic organics (TTO) monitoring develops a solvent management plan and makes the certification detailed in the permit, the facility may not be required to perform TTO monitoring.

6. BASIS FOR CONTROLS AND LIMITATIONS

Stormwater Discharges

The conditions of this general permit has 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 shall be terminated and an individual permit will 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 retains 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 Environmental Protection Agency's (EPA) 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 renewal permit still reflects the Division's position that implementation of Best Management Practices (BMPs) and traditional stormwater management practices which control the source of pollutants meets the definition of BAT and BCT. 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 retained under 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 (SPPP). 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, 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 SPPP in this renewal permit still 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; and 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 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.

The EPA and NPDES 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 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 NCG100000.

Stormwater Benchmarks

The proposed **pH benchmark** range is based on N.C. Water Quality Standards in 15A NCAC 02B .0211 and is consistent with other renewed general stormwater permits. The TPH benchmark 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. See **Appendix A** for more information on TPH.

The standard **total suspended solids (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).

In January 2012, the **ethylene glycol** benchmark was revised based on more recent freshwater aquatic life data. The new value of 8,000 mg/l is based on half the Final Acute Value ($\frac{1}{2}$ FAV), a threshold that protects against impacts from short-term exposure. **Only one** out of the more than 400 samples reported since 2007 for this group of permittees exceeded 8,000 mg/l. Less than 15 percent of reported samples were a quantifiable level, and of those, **only four** samples were over 200 mg/l. Therefore, the draft permit proposes

that “any amount detected” serve as the trigger for *Tier One* responses, but that *Tier Two* and *Tier Three* actions are not prompted until levels exceed 8,000 mg/l. Because this fluid is present in automobiles, the draft permit retains monitoring for ethylene glycol.

The benchmark for **Lead (Pb)** remains 0.030 mg/l (or 30 µg/l). This value is the ½ FAV for lead, based on current DWQ calculation methodology for total recoverable lead. North Carolina is proposing changes to water quality (WQ) metals standards that will establish dissolved metals standards for the first time. If those WQ standards are finalized, acute values for *total recoverable* metals will change as a result of a revised translation method (for translating a dissolved value to a total recoverable value, which federal NPDES regulations require to be used in a permit) and a different assumed water hardness. However, the proposed metals standards will not be finalized for some time. Because those changes are not final, DWQ is not proposing a new stormwater benchmark for lead at this time. DWQ also notes that EPA’s NPDES Stormwater Multi-Sector General Permit (applies in states with no delegated program) imposes a lead benchmark for Automobile Salvage Yards that is hardness dependent and ranges from 0.023 mg/l (*25-50 mg/l hardness*) to 0.045 mg/l (*50-75 mg/l hardness*). The 0.030 mg/l benchmark falls within that range; a lower hardness assumption would mean a more stringent lead benchmark for facilities under EPA’s MSGP.

The draft general permit retains lead monitoring because of its presence in the metal scrap on these industrial sites. Also, 35 percent of all reported lead samples for NCG100000 since 2007 (241 samples) were above 0.030 mg/l, and over 20 percent of all samples were above 0.075 mg/l. There were 39 samples reported above 0.100 mg/l (see **Appendix D**). These numbers suggest that the majority of facilities permitted under NCG100000 are able to meet the current lead benchmark.

Total toxic organics (TTO) is a parameter representing the sum total of multiple organic compounds (depending on the industry). The same benchmark from the current permit, 1.0 mg/l, is proposed. Please refer to **Appendix C** for an explanation of the TTO benchmark and footnote development for this permit.

The **TPH [EPA Method 1664 (SGT-HEM)] benchmark** of 15.0 mg/l is discussed earlier in Section 1 c. of this fact sheet.

7. 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.

8. THE ADMINISTRATIVE RECORD

The administrative record, including application, draft permits, 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, 9th 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 a charge of 10 cents per page.

9. 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: **Bethany Georgoulis** at (919) 807-6372.

10. SCHEDULE OF PERMIT ISSUANCE

Draft Permit Public Notice – **Statewide Notice to publish September 4, 2012;**
Draft available on-line by September 4, 2012;
Comment Period Ends October 4, 2012

Permit Scheduled to Issue – **October 19, 2012;**
Effective November 1, 2012

11. 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 discharges subject to the outlined effluent limitations,

management practices, and special conditions. These determinations are open to comment from the public.

Interested persons are invited to submit written comments on the permit applications 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: **Bethany Georgoulis**

All comments received within thirty 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 thirty 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

Comparison of Other States' TPH Stormwater Benchmarks and/or Limits:

Agency	Media	Benchmark, Limit, Criteria, etc	Value (mg/L)	Notes
CT	groundwater	protection criteria	0.5	EPA Method 418.1
NV	groundwater	discharge limit	1.0	Technology-based limit
VA	groundwater	reporting limit	1.0	Virginia Petroleum Storage Tank Program
KS	groundwater	cleanup standard	0.5	Risk-based standard
TX	groundwater	MCL	1.1	Maximum Contaminant Level
OK	groundwater	MCL	3.0	May require cleanup down to 0.1 mg/L if near well
Tacoma, WA	stormwater	performance goal	10.0	24-hr average
Tacoma, WA	stormwater	performance goal	15.0	Grab sample
WA	stormwater	max daily limit	5.0	Port of Seattle NPDES permit technology-based limit for construction areas; 5.0 mg/L typically used for all construction sites in state; plus no visible sheen non-numerical limit.
WA	stormwater	max daily limit	8.0	Port of Seattle NPDES permit for deicing areas
WA	stormwater	max daily limit	15.0	Port of Seattle NPDES permit for roadways
NJ	stormwater	mo. Ave. limit	10.0	24-hr average, EPA Method 1664A, NJPDES NJ0132721 (hot-mix asphalt plants)
NJ	stormwater	max daily limit	15.0	Grab sample, EPA Method 1664A, NJPDES NJ0132721 (hot-mix asphalt plants)
TX	stormwater	max daily limit	15.0	Grab sample, TPDES permit TXG340000 (petroleum bulk stations and terminals)

APPENDIX B

Comparison of TPH Analysis Costs vs. O&G Analysis:

LABORATORY	O&G/HEM	TPH as SGT-HEM	TPH-GRO	TPH-DRO	
	EPA 1664A		SW-846 EPA 8015B		
Environmental Chemists Inc.	\$50	\$50	\$50	\$50	
Pace Analytical Services, Inc.	\$50	\$60	\$40	\$40	
Microbac Laboratories, Inc.	\$55	\$55	na	na	
Cameron Testing Services	\$45	\$60	\$43	\$43	
Environmental Conservation Laboratories, Inc.	\$75	\$75	\$40	\$45	
Water Tech Labs, Inc.	\$50	na	\$60	\$60	
DWQ Lab	\$34	na	\$87	\$87	
Meritech, Inc.	\$45	\$68	\$50	\$50	
Charlotte-Mecklenburg Utilities Laboratory	\$30	\$43	na	na	
					Avg (TPH-GRO + TPH-DRO) cost to capture full range of TPH
Average Cost	\$48	\$59	\$53	\$54	\$106
<i>Notes:</i>					
HEM = n-hexane extractable material					
SGT-HEM = silica gel treated n-hexane extractable material					
GRO = gasoline range organics					
DRO = diesel range organics					

APPENDIX C

NPDES Stormwater General Permits NCG030000 and NCG100000 Total Toxic Organics (TTO) Benchmark Development

No changes proposed to 2007 basis for TTO benchmark

1. Reference: Subchapter N - Effluent Guidelines and Standards, 40CFR433.10ff, Part 433 – Metal Finishing Point Source Category. Forty-six types of metal finishing operations are listed, appearing to be a comprehensive list of the types of activities that might be labeled, ‘metal finishing.’
 - a. Subpart A presents wastewater and pretreatment effluent limitations in 433.13, 433.14, 433.15, 433.16, and 433.17 for BPT, BAT, PSES, NSPS, and PSNS respectively. These paragraphs uniformly present a TTO effluent limitation of 2.13 mg/L maximum for any one day. No monthly average effluent limitation is established.
 - b. TTO for the metal finishing category includes 111 toxic organics, including solvents, chlorinated hydrocarbons, pesticides, PCBs, and dioxin. The reportable value for the TTO analysis is the sum of all concentrations for the 111 analytes greater than 0.01 mg/L.
 - c. Paragraph 433.12(a) provides that in lieu of TTO monitoring the permitting authority may allow the permittee to certify on each DMR that there has been no dumping of concentrated TTO into the wastewater stream.
 - d. Further, 433.12(a) provides that if TTO monitoring is required, the permittee may ‘analyze for only those pollutants that would reasonably be expected to be present.’
 - e. Paragraph 433.12(b) provides that if the permittee selects the certification alternative to TTO monitoring, he must submit a solvent management plan to the permitting authority’s satisfaction, and that the plan shall be incorporated as a part of the permit.

2. DWQ had established stormwater benchmark values for sixteen of the 111 toxic organics: benchmark values of 0 ug/L for dioxin and for the 7 PCBs; anthracene – 0.005 mg/L; pentachlorophenol – 0.019 mg/L; toluene – 0.055 mg/L and 0.0018 mg/L in trout waters; 1.0 mg/L for 2,4-dimethylphenol and for naphthalene; acrylonitrile – 3.8 mg/L; phenol – 4.5 mg/L in trout waters; and benzene – 6.7 mg/L.

3. The current draft permit provides as follows:
 - a. The permittee may elect to develop a solvent management plan and incorporate it in his SPPP. All in imitation of the federal effluent guidelines for wastewater and pretreatment discharges. Consistent with the previous version of the permit.
 - b. DWQ is willing to work with the permittee on alternate analyses and/or benchmarks to satisfy the TTO monitoring requirement (See Table 3 in Part II, Section B that notes TTO contains multiple compounds with varying environmental impact). This provision is parallel to, but not identical to, the federal provision establishing that wastewater permittees need only analyze for the pollutants reasonably expected to be present.
 - c. **The benchmark is set at 1.0 mg/L.** This is not a limit value in the sense that an exceedence constitutes a permit violation. This is more like an action level value. DWQ has benchmark values set for only a very small portion of the TTO suite. A value of 1.0 mg/L corresponds to our benchmarks for naphthalene and 2,4-dimethylphenol. Three benchmark values are above 1.0 mg/L, and 11 benchmark values are below 1.0 mg/L.
 - d. DWQ may evaluate analysis results and determine if any chemicals are present at levels of concern, even if below 1.0 mg/l, and require appropriate actions.

APPENDIX D

Data Analysis

Table 1: Data Reporting Summary 2007-2012

Sample Data from NCG100000 Permittees, 2007-August 2012

Number of Facilities Reporting: 111

	TSS (mg/l)	pH	Lead (mg/l)	O&G (mg/l)	TTO** (mg/l)	Ethylene Glycol (mg/l)
<i>Total no. samples reported</i>	369	322	241	82	13	64
<i>MAXIMUM</i>	3100	10.5	102	243	624	14,900
<i>MINIMUM</i>	0	1	0	0	0	0
<i>GEOMEAN</i>	*	7.0	*	*	*	*
<i>AVERAGE</i>	135		1.401	11	50	257
Benchmark in 2007 Permit	100	6-9	0.030	30	1	14
<i>No. samples over benchmark</i>	<i>108</i>	<i>pH>9: 6</i> <i>pH<6: 30</i>	<i>84</i>	<i>5</i>	<i>2</i>	<i>13</i>

Lead and ethylene glycol:	Lead (Pb)	Ethylene Glycol (EG)
<i>Percent samples over benchmark</i>	<i>35%</i>	<i>No. samples -> 1 >8,000 mg/l, revised EG benchmark for 2012</i>
<i>No. Pb samples above 75 ug/l</i>	<i>50</i>	<i>No. samples -> 4 >200 mg/l</i>
<i>No. Pb samples above 100 ug/l</i>	<i>39</i>	<i>No. samples -> 57 >0 mg/l</i>
		<i>No. of blanks in data set</i>
		<i>405 Total reported samples (435 - blanks)</i>
		<i>Note: majority of EG samples reported "<10 mg/l" or "ND"</i>

*Geometric mean could not be calculated because of several entries below quantitation level.

**Several facilities do not monitor TTO because they employ a Solvent Management Plan.