

3. Flow Monitoring

Although there is no single flow limit that applies to all dischargers covered by this general permit, to ensure ongoing compliance with the effluent limits and proper operation and maintenance of treatment systems, the operator should monitor and comply with two site specific flow limits: the design flow limit and the total elapsed flow limit on any treatment components.

As discussed earlier in this Fact Sheet, the individual components of a wastewater treatment systems are designed and constructed within a margin of safety to allow for adequate treatment of the wastewater within certain limitations or “design flow.” For the purposes of this RGP, the system’s “design flow” limit is the flow capacity of the component or segment of the treatment train with the lowest capacity. In other words, the individual piece of equipment with the lowest design flow in the treatment system would set the design flow limit for the site. Similarly, in order to ensure proper operation and maintenance of the effluent treatment system, the operator needs to monitor total elapsed flow of the effluent. Total flow measurement is needed because many components of treatment systems have a predicted performance life measured in terms of total gallons of wastewater throughput.

4. Sampling and Testing - All samples shall be tested using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136. As provided for in EPA’s Model Permit for Discharges Resulting from the Cleanup of Gasoline From Underground Storage Tanks (June 1989), for measuring volatile compounds, however, Method 8260, or an equivalent, may be used as a substitute for CWA Methods 602, 624, or 1624. Permittees should note that any method changes must be accompanied by documented quality assurance/quality control (QA/QC) test results to prove that the analytical process can achieve the lower detection limits of Method 8260.

The monitoring requirements have been established to yield data representative of the discharge under authority of Section 308(a) of the Act and 40 CFR Sections 122.41(j), 122.44(i) and 122.48, and as certified by the State. Monitoring must be conducted according to the procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the RGP. Samples taken in compliance with the monitoring requirements specified in the RGP shall be taken at a location that provides a representative analysis of the influent, as well as the effluent just prior to discharge to the receiving water or, if the effluent is commingled with another permitted discharge, prior to such commingling. The results of this monitoring shall be summarized and kept on site and available for inspection.

However, certain monitoring requirements, such as frequency of sampling may be reduced upon demonstration by ongoing sampling and analytical data that the influent or effluent either does not contain a limited parameter or does not demonstrate any toxicity

in the case of whole effluent toxicity testing. This change requires prior approval by the Director.

5. Minimum Levels - The test method in 40 CFR 136 for each pollutant has a minimum level (ML) at which it can accurately quantify the chemical. Appendix VI of the RGP lists tests methods and the MLs for each pollutant limited in the permit. Where sample concentrations are above the ML, any of the methods listed for that pollutant in Appendix VI may be used. However, where approved methods have MLs above the permit limits, the permittee must use the approved method with the lowest possible ML before the concentration can be considered non-detectable.

6. Acute Toxicity Testing and Monitoring - The States of Massachusetts and New Hampshire have narrative criteria in their water quality regulations (see Massachusetts 314 CMR 4.05(5)(e) and New Hampshire Part Env-Ws 1703.21) that prohibit toxic discharges in toxic amounts. The RGP does not allow for the addition of materials or chemicals which would produce a toxic effect to any aquatic life. If the States and/or EPA suspect that a discharge has a reasonable potential to cause or contribute to an excursion above the State's narrative criterion for toxicity, they may request that a Whole Effluent Toxicity (WET) test result and/or priority pollutant scan of the water to be discharged be required as part of the Notice of Intent, as authorized at 40 CFR Section 122.44(d)(1)(v).

If toxicity testing is required, EPA will provide the permittee with a copy of the test procedure and detailed protocol. The WET test will consist of one chronic and modified acute toxicity screening test with one hundred percent effluent sample. *Ceriodaphnia dubia* for fresh water and Mysid shrimp for marine water shall be used as test organisms.

The 126 EPA Priority Pollutants are found at 40 CFR Section 423, Appendix A. All samples shall be tested using the analytical methods found in 40 CFR Section 136 or alternative methods approved by EPA in accordance with the procedures in 40 CFR Section 136. The permittee shall submit to EPA-NE and the appropriate State Agency the results of all testing conducted, as required at 40 CFR Section 122.41(1)(4)(ii).

7. Recordkeeping and Reporting Requirements

In addition to the recordkeeping requirements found in Part II.C of the permit, the results of the sampling, monitoring, testing, and analysis must be summarized monthly on the monthly summary form provided for in Appendix VIII of the permit and kept on-site or with the permittee and available for inspection by EPA or the State. However, if the results indicate that a violation of the effluent limitations of this permit has occurred, or upon request by EPA or the State, the permittee must submit a summary of the results to EPA-NE and the State to the following addresses:

1) **EPA:**

U.S. Environmental Protection Agency, Region I
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114-8127

2) **Massachusetts Department of Environmental Protection:**

i. The Regional Offices wherein the discharge occurs:

Massachusetts Department of Environmental Protection
Bureau of Waste Management
Western Regional Office
436 Dwight Street, Suite 402
Springfield, MA 01103

Massachusetts Department of Environmental Protection
Bureau of Waste Management
Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

Massachusetts Department of Environmental Protection
Bureau of Waste Management
Northeast Regional Office
One Winter Street
Boston, MA 02108

Massachusetts Department of Environmental Protection
Bureau of Waste Management
Central Regional Office
627 Main Street
Worcester, Massachusetts 01608

ii. Copies of all notifications required by this permit must also be submitted to the State at:

Massachusetts Department of Environmental Protection
Division of Watershed Management
627 Main Street, 2nd floor
Worcester, MA 01608

3) **New Hampshire Department of Environmental Services:** Signed copies of all information and certifications required herein must be submitted to the State at:

New Hampshire Department of Environmental Services
Water Division
Wastewater Engineering Bureau
P.O. Box 95,
Concord, New Hampshire 03302-0095.

B. Special Monitoring & Reporting Requirements Common to All Dischargers

The following monitoring conditions are designed to provide a number of system checkpoints during startup and re-start after shutdown periods, including:

1. Influent Monitoring Required- The RGP requires influent sampling. For over 10 years, EPA-NE has routinely required monitoring of both influent to treatment and effluent to the receiving water or drainage system at projects pursuant to approved site remediation activities in MA and NH. After the issuance of over 2,000 discharge authorizations in MA and NH, EPA-NE does not believe that influent sampling places an unnecessary burden on these types of projects. Although compliance with the effluent limitations in the permit is determined by the effluent sampling, sampling the influent to the treatment system provides critical information necessary for proper operation and maintenance of the treatment system, removal efficiencies, and other quality control factors. This type of data also provides the EPA and States with information about the amount of pollution being removed from the environment as the result of the permit. .

Under the RGP, permittees may apply for a reduction in the frequency of monitoring, including influent monitoring, by submitting a notice of change (NOC) (see Appendix V of the RGP). For example, after the first six months of testing, if influent monitoring results do not change significantly, the permittee may apply for a decrease in sampling by submitting an NOC. However, until EPA provides written confirmation allowing the change, the permittee must continue monitoring at the frequency required by the RGP.

2. Initial Treatment System Discharge Startup- To ensure proper operation of the treatment equipment and achievement of effluent limits during the initiation of discharge, the RGP requires additional sampling and analysis during the first month of discharge. Laboratory samples (typically grab samples accompanied by appropriate chain-of-custody forms) must be obtained from the influent to treatment and from the effluent to the drainage system once each day for the first, third, and sixth day of discharge. (Note: in cases where days fall on a holiday, Sunday, or other normal non-workday, the schedule may be adjusted to the next day before or after the off-day and noted on the monitoring report).

Samples must be analyzed with a 72-hour turnaround time in order to minimize breakthrough of the pollutants through the control system. If the system is working properly and achieving effluent limits, sampling for the remainder of the first month shall be weekly and then monthly thereafter. Turnaround time for these additional samples

shall insure that no more than seven (7) days pass between the sampling event and results received and reviewed by the operator.

During system startup, the operator may also utilize field monitoring and visual observations as appropriate (e.g. portable organic vapor analysis, pH, turbidity, or other tests) to aid in proper system startup. Any indication of system malfunction or violation of effluent limitations greater than ten (10) percent requires immediate shutdown of the system discharge until appropriate repairs or other actions can be implemented.

If the system is shut down during startup, due to system malfunction or violations of effluent limits, at re-start of treatment and discharge, field monitoring shall again be utilized and an additional laboratory sample must be taken with a 24-hour turnaround time when results must be reviewed by the operator. If the problem has been corrected, the regular sample schedule may resume. If the problem persists, the system must be shut down again and repairs made. EPA-NE and the state contact must also be notified by telephone, fax, e-mail or other means within 48-hours of the need to shut down the treatment system and cease discharge a second time. Discharge may resume upon completion of correction of the problems or unless otherwise directed by EPA-NE or the state contact.

3. Intermittent Operations and System Re-Start- Intermittent operation of treatment systems is occasionally necessary due to seasonal fluctuations of water table elevations in groundwater extraction systems, climate conditions, ongoing aquifer tests, system repairs, or other circumstances. Prolonged system shutdown can adversely affect certain treatment units (for example, commonly used carbon adsorption systems if fresh carbon is not installed). The RGP establishes a requirement for additional monitoring during re-start if the discharge has been interrupted for greater than 30 consecutive days but fewer than 90 days. A minimum of two (2) sets of influent and effluent laboratory samples must be taken during the first week after re-start of discharge with a 72-hour turnaround time for review by the operator. If the system is operating properly and meeting the effluent limits, monitoring may resume on the monthly schedule as before shutdown. If any sample or other observation indicates that effluent quality exceeds limitations by more than ten (10) percent, the same shutdown, repair, and notification requirements as required during initial startup apply.

4. Extended System Shutdown - Treatment systems and discharges which are interrupted for **greater than 90 consecutive days** are considered extended shutdowns. Any system re-start after this period shall revert to the monitoring requirements for initial system startup.

5. Short Term Discharges - Discharges lasting **less than one week (7 days)**, such as; pump tests, discharge of temporarily containerized waters, etc, ***excluding hydrostatic testing discharges***, which are then terminated and are not planned to be re-started, are considered “short-term discharges.” For all short term discharges, a minimum of three

(3) representative influent and effluent laboratory samples are required. At least one sample must be taken on the first day of discharge and one on the last day of discharge.

EPA-NE recognizes that due to the time requirements for samples to be sent to a laboratory, analyzed, and the results obtained, the discharge may have ceased or be nearly complete by the time the laboratory results are available to the operator. However, the permittee is required to apply appropriate BMPs and utilize available field screening techniques in concert with accepted treatment technology to assure compliance with the permit limitations.

IX. Best Management Practices and Requirements for BMP Plan

A. General

The RGP contains requirements for operators to insure Best Management Practices (BMPs) for the facility or site operations generating the water(s) being discharged under this RGP. EPA is authorized under 40 CFR Section 122.44(k)(4) to impose BMPs in NPDES permits when the Agency finds that BMPs are “reasonably necessary to ... or to carry out the purposes of the CWA.” One of the key functions of a BMP is to prevent spills and other releases without treatment, bypass of treatment, or other permit violations from occurring.

EPA-NE has routinely included BMP requirements in individual and general permits issued by the Region and at site remediations. The variety of activities covered by this RGP make it impractical to prescribe standard BMPs or a plan for every discharger. Many covered discharges only occur for short time periods or may not have personnel on site at all times overseeing the operation. BMPs and/or a written BMP plan can be tailored to the requirements of the facility or site. EPA-NE is, however including a number of specific BMPs in the RGP which are consistent with standard operating practices. Significant additional information on BMPs and pollution prevention (P2) plans can be found in several EPA nationwide general permits including the Storm Water Multi-Sector General Permit (FR/Vol. 65, No. 210/Monday, October 30, 2000).

B. Implementing BMPs and Development of BMP Plan

Under the RGP, all permittees must implement BMPs, including any applicable BMPs in the permit and or other BMPs needed to minimize the discharge of pollutants to the environment during the life of the discharge or until submission of a notice of termination of discharge.

All operators overseeing discharges (including existing discharges) which are or plan to continue for **greater than 180 days** from approval of coverage under the RGP, are required to develop and implement a written BMP Plan (BMPP) within **30 days** after receiving notification from EPA of coverage under the RGP. The BMPP must be

maintained on-site or at the location of the principal operator identified in the RGP and made available for inspection. Operators overseeing discharges of **less than 180 days**, must be able to demonstrate that BMPs are in place and being implemented prior to discharge.

The BMPP may be a stand alone document or may be incorporated into any other BMPP, Pollution Prevention (P2), or Spill Control and Counter Measures (SPCC) plan required under other permits or programs. The BMPP must address all of the specific RGP BMP requirements and include any other BMPs which may be necessary to minimize the discharge of pollutants. The BMPP must be maintained on-site or at the location of the principal operator identified in the RGP and made available for inspection.

Annually, no later than February 15th, the permittee submit a certification to the State and EPA-NE which certifies that the previous calendar year's inspections and maintenance activities were conducted, results recorded, and records maintained and the facility is in compliance with the BMP Plan. Annual certifications should be submitted to the addresses listed in Section VIII.A.7 above.

In addition to prevention and reporting of releases, specific BMPs include but are not limited to:

1. Site Security - Typically, treatment systems are brought to a site or facility as mobile units and remain on site for the duration of the discharge or treatment facilities are constructed on site in either temporary or permanent arrangements. Some permanent or semi-permanent treatment systems are often automated and do not require qualified personnel to be present on a regular basis (for example, a gasoline station with a small system extracting contaminated groundwater over several years). Other temporary systems only have personnel on-site during regular work hours (for example, construction sites). For this reason, EPA-NE is recommending a special condition regarding site security specific to the systems integral to maintaining the quality of the discharge authorized by the RGP.

Operators who have separate security provisions should either insure that the security for the treatment and other systems related to the NPDES discharge is either incorporated into the overall site security plan or has separate site security provisions as part of a BMP plan. Site security provisions will insure that system failure, vandalism, or other incidents shall be addressed in a timely manner, preventing the discharge of oil or hazardous materials exceeding the requirements of this permit. BMPs may include; security fencing, lighting, local or remote equipment failure alarms transmitted to a manned location, automatic shutdown systems, routine inspection and maintenance schedules, and other measures.

2. Management of Generated Wastes - Activities associated with the proper operation and maintenance of treatment or other systems associated with the discharge(s)

authorized by the RGP will generate solid and/or hazardous wastes which are regulated under federal, state, and local laws, regulations, or other requirements. The RGP contains a special condition requiring operators of facilities covered by this permit to adhere to proper waste management practices as part a BMP for the facility. Typically, solid wastes generated from facilities covered by this permit can include:

- i) spent activated carbon from both water and air pollution units containing removed contaminants;
- ii) solids and sludges from sedimentation tanks and filtration units (including waste filters);
- iii) collected “free product” or other concentrated non-aqueous phase contaminants such as oil or gasoline from an oil/water separator;
- iv) collected waste from cleaning pipes and tanks before hydrostatic testing;
- v) waste treatment chemical additives and spent chemicals used for sampling and analytical purposes; and
- vi) other miscellaneous wastes.

Solid and hazardous wastes are regulated under the Resource Conservation and Recovery Act (RCRA) 40 CFR Part 261. Under RCRA, EPA-NE has authorized the Commonwealth of Massachusetts and the State of New Hampshire to manage the solid and hazardous waste programs. In Massachusetts, solid wastes generated at sites listed under the MA Contingency Plan (MCP) (314 CMR 40.0000) are termed “Remediation Waste” and are required to be managed under 314 CMR 40.0030. These wastes, and wastes generated as a result of actions to comply with this RGP at any other Massachusetts facility or site not covered by the MCP, are also regulated under 310 CMR 30.000, “the Massachusetts Hazardous Waste Regulations.”

In the State of New Hampshire, Part Env-Wm 412, Reporting and Remediation of Oil Discharges, and Env-Wm 100-1100, Hazardous Waste Rules are the primary regulations for waste management at facilities or sites covered by the RGP. All operators of systems generating solid and hazardous wastes under the RGP are expected to familiarize themselves with the appropriate federal, state, and local rules for proper handling and disposal of such wastes and to insure compliance with them. Submission of a Notice of Termination (NOT) of the NPDES discharge described in Section VI.A.5. of this Fact Sheet and Part I.J. of the RGP does not relieve the operator of any requirement for proper management of solid and hazardous waste generated as a result of complying with the RGP.

3. Prohibition of Discharge Exceeding Design Flow - Wastewater treatment facilities/systems and individual components within the facility/system are designed and constructed with a margin of safety to allow for adequate treatment of the wastewater within certain hydraulic limitations or “design flow” of the facility/system. The design of a facility/system utilized for many discharges covered by this RGP might not be site specific. For example, a mobile treatment system brought to a site or components assembled for the period of discharge may each have differing design flow capacities.

For the purposes of this RGP, the “system design flow” is the unit operation or segment of the treatment train with the lowest capacity for adequate treatment.

In other words, when the control efficiency of the treatment system is calculated, the individual piece of equipment with the lowest design flow in the treatment system would set the design flow limit for the site. For example, if the control system consists of a settling tank with the anticipated control efficiency at a flow of 10,000 gallons per day attached to a carbon adsorber with a anticipated control efficiency at a design flow of 5,000 gallons per day, the design flow of the system would be 5,000 gallons per day. Therefore, for the control system to work as needed to comply with the effluent limits in the general permit, the design flow of the system must be monitored with a continuous flow meter. The NOI instructions in Appendix V of the RGP requires inclusion of the treatment system design flow in the NOI for coverage under the RGP. The RGP prohibits discharge at a flow in excess of the system design flow of the facility/system.

4. Preventative Maintenance Required - The RGP, Part II, Section B., Operation and Maintenance of Pollution Controls, establishes the requirements for properly operating and maintaining water treatment equipment installed for compliance with this permit. Water treatment equipment installed for the purposes of complying with the RGP might or might not be manned full time or have trained personnel on-site at all times. Proper preventative maintenance is critical to insure compliance with the permit and prevention of bypass or upset of the water treatment equipment.

Specifically, the operator is required to develop and include with the BMP plan, a preventative maintenance plan (PMP) to insure a schedule is in place of regular activities to operate and maintain any water treatment equipment used at the site. For example, many remediation systems covered under this permit utilize activated carbon treatment typically enclosed in drums or tanks arrayed in series such that the first unit receives the bulk of the pollutant load until “breakthrough” occurs (usually a predetermined increase in pollutant in the effluent from the unit) with the second or third units serving as polishing units. At breakthrough, the first unit must be replaced or the flow reversed such that the last unit becomes the first unit, etc. until new or regenerated carbon is installed. Preventative measures include change out of carbon on a regular schedule based on operating experience to provide an added margin of safety between routine inspections and scheduled maintenance visits.

5. Employee Training - Any BMP plan developed for the facility covered by the RGP must include a program for informing personnel at all levels of responsibility of the requirements contained in the RGP and the BMP plan, including, but not limited to those requirements specifically addressed by the various Parts of the RGP. Where appropriate, contractor personnel should also be trained in relevant aspects of the BMP plan and the requirements of the RGP. A program for training new employees and for refresher training for other employees who have direct or indirect responsibility for insuring compliance with the RGP should be included in the BMP plan.

The training program may be tailored to the specific permit situation. For example, a consulting firm conducting a short-term pump test under the RGP must be able to demonstrate that employees involved in the pump test, and subsequent treatment and discharge of water under the RGP, have adequate knowledge of the permit requirements and treatment system operations. For long term dischargers where constructed treatment facilities are maintained, and potential changes in operators and/or employee turnover, may occur, the owner and operator(s) should insure that transitional training is provided. In certain cases, the States require operators of water treatment equipment to be certified at a particular level to operate the system.

6. Management of Run-on and Runoff - Any BMP plan developed for the facility covered by the RGP must include actions to control extraneous run-on and runoff of uncontaminated waters which may co-mingle with contaminated waters requiring treatment and discharge. EPA-NE recognizes that in many circumstances, especially at contaminated construction sites, incidental storm water or groundwater may mix with contaminated flows, however the degree to which this occurs must be minimized to the greatest extent practicable. Use of structural controls such as berms, sheet piling, diversion channels, temporary covers over work areas, and other means should be considered. Minimization of the volumes of water needing treatment will reduce the size of treatment facilities needed, reduce the costs involved, and minimize the overall environmental impacts of the discharge. In cases where the site or facility is large and may be covered by other permit requirements (such as the EPA Phase I or II construction permit for storm water) the run-on/runoff controls may be integrated with the overall site requirements.

7. Erosion, Scouring and Sediment Control - State adopted surface water quality standards contain requirements for solids, turbidity, and other factors for certain classes of waters. An important element of any BMP plan is to insure that the discharge(s) covered by the RGP do not adversely affect existing water quality by preventing any erosion, stream scouring, or sedimentation caused directly or indirectly by the discharge. High volume pumping tests, large volume hydrostatic testing, contaminated construction dewatering and other activities covered by the RGP have the potential to cause water quality degradation. Structural and other controls such as energy dissipation techniques, controlled discharges, etc. can be implemented to minimize these impacts.

X. Special Permit Conditions Common to All Categories of Discharges

A. Compliance with Municipal Separate Storm Sewer (MS4) Requirements and Storm Water Management Programs (SWMPs)

Many communities are currently finalizing or implementing Storm Water Management Programs (SWMPs) under EPA's Phase I and II Municipal Separate Storm Sewer (MS4) permit. As part of that program, subject communities may be the permitting authority for discharge activities to their MS4 system, including some of the activities covered by the

RGP. Dischargers covered by the RGP who discharge indirectly into surface waters through MS4 collection systems must comply with local requirements for discharge to that system. Similarly, operators who are utilizing a non-municipal storm sewer system at a facility covered by the EPA Multi-Sector Storm Water General Permit for Industrial Activities must comply with any applicable SWPPP.

In many cases, the owner of the facility covered by the multi-sector permit and by this RGP may be the same. However, in the case of separate ownership and/or different operators, the owner/operator of the facility covered by the RGP must notify the owner/operator of the facility covered by the multi-sector permit. Also, any local permit, monitoring, or other information regarding the operator's compliance with the local requirements shall be maintained with the compliance records for this permit.

The sites authorized to discharge under the final general permit will receive written notification from EPA-NE with State concurrence. It is important to note that an authorization to discharge under this general permit, where the activity discharges to a municipal or private storm drain owned by another party, does not convey any rights or authorization to connect to that drain.

B. Category specific requirements for hydrostatic testing dischargers

1. Background - Hydrostatic testing is performed by sealing the segments to be tested at both ends, filling the segment with water, pressurizing the segment, and then checking the integrity of the segments for some duration of time. Following the test, the pressure is released and the pipeline is dewatered. The test water discharges are, therefore, batch discharges. Since the test water discharges are batch discharges of short term duration, the limits in the permit are in terms of daily maximum concentrations, as allowed by 40 CFR Sections 122.45 (e) and (f).

The fill water used in hydrostatic testing of pipelines may come from a wide range of sources. These sources include rivers, streams, lakes, ponds, wells, municipal water supplies and, for offshore portions of pipelines, marine waters. Often the hydrostatic test water is discharged back into the same water body from which it was taken. In these cases, the pollutants of concern are those added to the fill water during the hydrostatic test. Where the fill water is discharged into a different water body from which it was taken, the pollutants of concern are not only those added during the pipeline test, but also those contained in the fill water prior to the test.

New pipelines should be relatively free of pollutants that could be discharged along with the hydrostatic test water. Pollutants in the pipeline prior to the hydrostatic test may include construction debris, suspended solids from soil and welding solids, and lubricating oil. Existing natural gas pipelines have the potential for containing contamination in the discharged hydrostatic test water, including hydrocarbon condensates and residues left by the natural gas. Hydrocarbons typically found in gas

pipeline condensates which may contaminate the test water include benzene, toluene and xylenes. Large molecular weight petrochemicals in the gas pipeline tend to deposit on the internal pipeline walls due to retrograde gas condensation.

2. Best Management Practices for Pipelines and Tanks - Conventional pollutants that might be discharged in the hydrostatic test water from new and existing natural gas pipelines are typically TSS, hydrocarbons, and pH. The current, widely practiced pollution control technology for discharges of hydrostatic test water from new pipelines consists of pre-cleaning, such as mechanical scouring, or "pigging," and/or rinsing with water or a detergent solution, of the pipeline segment(s) before hydrostatic testing. Additional treatment of hydrostatic test waters may or may not be needed depending on the situation and potential pollutants involved, e.g., depending if tank testing or pipeline testing. The necessity of additional treatment may also change depending on whether the testing is for existing pipe or new pipe construction.

The 1996 Gas Research Institute study (see discussion of the Benzene limit for hydrostatic testing in section VI above) gathered data on benzene, BTEX, oil and grease and total suspended solids (TSS) in hydrostatic test water both before and after treatment. The results of the information in the GRI study indicate pre-pigging to be the most effective way of lowering benzene, BTEX and oil and grease levels, as well as TSS levels, in the test water discharges. Although a pre-cleaning/rinse solution was not used in the actual tests, the study agreed that using a pre-cleaning/rinse solution would also enhance the lowering of these pollutants.

Wastewater from hydrostatic testing may contain a wide variety of toxic pollutants that were removed from the pipeline during the pre-cleaning or treatment operations. It should be noted that the RGP prohibits the discharge of any sludge generated in the pre-cleaning nor any rinsing solutions used in the pre-cleaning of the pipelines. The RGP also prohibits the discharge of hydrostatic test water to which treatment chemicals, corrosion inhibitors or biocides have been added. Therefore, EPA expects that those wastewaters will be collected and shipped offsite for proper disposal.

In addition to meeting the numerical limits and other general BMPs, hydrostatic testing dischargers must insure that certain BMPs are followed and certain minimum testing requirements are met. The RGP contains a number of BMPs as well as appropriate sampling and analysis requirements. For example, the RGP requires the following BMP's: 1) basic cleaning/removal of scale, soil, residues, etc.; 2) control of site source water vs. receiving water (ie. concern with discharge of possible high volumes of low quality water to a higher quality water source); 3) identification and control of chemical additives; and 4) the use of de-watering structure to dissipate energy and control erosion.

3. Hydrostatic Testing Discharge Sampling and Monitoring Requirements - EPA-NE is establishing separate sampling requirements for hydrostatic test waters due to the unique nature of these activities. Historically, EPA-NE has issued individual permits,

including oil terminal permits, which contain requirements for monitoring of hydrostatic test discharges. Additionally, EPA-NE has established monitoring policies for other hydrostatic tests including gas and oil pipeline construction and repair. These types of monitoring requirements are being carried forward in the RGP. *NOTE: Facilities for which hydrostatic testing is covered under an individual permit are not covered under the RGP unless requested and approved.*

Additional sampling and monitoring requirements for these activities include:

a. *For New and Existing Tanks:* The operator must take a minimum of six (6) representative grab samples.

- 1) For influent sampling, the operator must take one (1) sample of the fill (source) water during the first 10% of the fill segment time and one (1) sample during the last 10% of the fill-segment time.
- 2) For in-process sampling, the operator shall take samples of the tank water following depressurization: one (1) at top and one (1) at bottom. The operator shall analyze and evaluate in-process samples prior to discharge and if the analysis demonstrates that the water quality is not consistent with the effluent limits established in this permit, the operator shall not discharge the effluent prior to treatment.
- 3) For effluent sampling, the operator must take one (1) sample of the discharge water during the first 10% of discharge and one (1) sample during the last 10% of discharge. If at anytime the analysis demonstrates that the discharge water quality is not consistent with the effluent limits established in this permit, the operator shall cease discharging the effluent until further treatment achieves the effluent limits.
- 4) All effluent sampling shall be taken prior to the combination with wastewaters of any type.

b. *For New and Existing Pipelines:* The operator must take a minimum of six (6) representative grab samples:

- 1) For influent sampling, the operator must take one (1) sample of the fill (source) water during the first 10% and one (1) sample during the last 10% of the fill-segment time;
- 2) For in-process sampling, the operator shall take two (2) samples of the pipeline water following depressurization. The operator shall analyze and evaluate in-process samples prior to discharge and if the analysis demonstrates that the water quality is not consistent with the effluent limits established in this permit, the operator shall not discharge the effluent prior to treatment;
- 3) For effluent sampling, the operator must take one (1) sample of the discharge water during the first 10% of discharge and one (1) sample during the last 10% of discharge; and
- 4) All effluent sampling shall be taken prior to the combination with wastewaters of any type.

XI. Administrative Requirements

A. Notification of Change of Conditions

The RGP contains provisions for a change in certain conditions which do not require submission of a new NOI, but do require submission of a notice of change (NOC) to the Director with a copy to the state agency (see Appendix V of the RGP). This is *not* a permit modification as allowed under 40 CFR Section 122.62. A general permit, due to its broad coverage, cannot be modified to accommodate changes for an individual permittee. However EPA has identified several parts or conditions within the RGP which allow for limited changes to be made by the operator upon submission of a NOC. These provisions are noted within the permit and consist of:

1. Reduction in certain monitoring requirements- Certain monitoring requirements may be reduced upon demonstration by ongoing sampling and analytical data that the effluent either no longer contains a limited parameter or does not demonstrate any toxicity in the case of whole effluent toxicity testing, where required. To be eligible for a reduction in **influent** monitoring, the permittee must provide **6 months** of data. To be eligible for a reduction in **effluent** monitoring of a pollutant that is present in the discharge, the permittee must provide **12 months** of data demonstrating compliance. This type of change requires prior approval by the Director. Prior to receiving written approval, the permittee must continue to monitor at the frequency specified in the RGP.

2. Change in flow conditions - A NOC can be used to notify of a change in flow conditions which may increase the daily average or maximum flow rate by more than twenty-five (25) percent, provided the permitted flow design capacity of the treatment system is not exceeded.

3. Change in treatment - An NOC can be used as notification of a change in treatment which: 1) affects the design flow of the system by either increasing or decreasing the design flow, and/or, 2) adds or removes any major operable unit of the system.

4. Chemical additives - The permittee may propose the use of chemical treatment additives (e.g., foam control, emulsifiers, chelating agents, flocculating agents, pH adjusting chemicals, etc.) to enhance the treatment system performance and demonstrate that the addition of such agents will not add any pollutants which may cause a violation of receiving water standards or cause the overall effluent to violate effluent limitations. The permittee must attach, with the NOC, the material safety data sheets (MSDS) for the chemical(s) proposed to be added and receive written approval from the Director before use.

5. Change of discharge location - Providing that the receiving water information submitted with the original NOI (or for applicants covered by a prior application for individual permit) remains the same (for example, outfall moved from storm drain to

drainage ditch, etc.), location of the discharge may be modified. For changes in receiving water, a new NOI is required.

6. Temporary cessation of discharge - For any temporary interruption or cessation of discharge planned to extend greater than 90 days, the permittee must submit a NOC including; i) the reasons for the interruption or cessation of discharge, ii) the estimated time frame when the discharge will cease and be re-started, and iii) an acknowledgment that “start-up” monitoring will be resumed when the discharge is re-started as required the RGP. The Director may notify the permittee in writing by certified mail, that the authorization to discharge under the RGP will be revoked on a certain date and provide the reasons for revocation. If authorization to discharge is revoked, a new NOI form or an application for individual permit must be submitted and discharge authorized prior to recommencing discharge.

7. Change in pH range in MA - In Massachusetts, the permittee may make a demonstration that the pH range may be widened due to naturally occurring conditions in the receiving water or the naturally occurring source water is unaltered by the permittee’s operation. However, in no case can the permittee discharge with a pH outside of the range 6.0 - 9.0 s.u. The scope of any demonstration must receive prior approval from the MA DEP. An NOC must be submitted to the Director upon approval from the State.

8. Change to administrative information - Certain administrative information may be changed via an NOC, including: 1) changes in addresses or contact information and 2) transfer of ownership according to 40 CFR Section 122.61(b) which requires: i) notice to the Director at least 30 days prior to the transfer date; ii) inclusion of a written agreement between the new and existing permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and iii) the Director does not notify the existing and proposed new permittee of his or her intent to revoke coverage under the RGP.

9. NOC Forms - A copy of the suggested NOC form is included in Appendix V of the RGP. Either the suggested form or an official correspondence may be used providing it contains the information required by the NOC instructions. See Appendix V of the RGP.

10. Submittal of Forms - Completed NOC forms must be submitted to EPA-NE at the following address as well as a copy to the State agency (see addresses in Appendix V):

US Environmental Protection Agency
RGP-NOC Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100,
Boston, MA 02114-2023.

B. Notice of Termination

1. Requirement to Notify - Operators of facilities and/or operations authorized under this permit shall notify the Director of the termination of discharge(s) authorized under the RGP. A copy of the suggested Notice of Termination (NOT) form and instruction for completing the suggested NOT are contained in Appendix V of the RGP. Either the suggested NOT or other official correspondence must be completed and submitted within **30 days** following cessation of discharge(s) authorized by the RGP, unless cessation is temporary as described in the NOC section above.

2. NOT Forms - Either the suggested NOT form in Appendix V of the RGP or alternative correspondence must include the following information:

- 1) Name, mailing address, and location of the site for which the notification is submitted;
- 2) Name, address and telephone number of the operator addressed by the NOT;
- 3) The NPDES permit number assigned;
- 4) An indication that the discharge has been permanently terminated.
- 5) Signature according to 40 CFR Section 122.22, including the following certification by the permittee:

I certify under penalty of law that all discharges from the identified facility that are authorized by the "Remediation General Permit" in Massachusetts and New Hampshire, the RGP, have been terminated. I understand that by submitting this Notice of Termination (NOT) I am no longer authorized to discharge waters covered by the RGP and that discharging pollutants from the activity covered by the RGP is unlawful under the Clean Water Act where the discharge is not authorized by a permit. I also understand that the submission of this NOT does not release an owner/operator from liability for any violation of the RGP or the Clean Water Act.

3. Submittal of Forms - Completed NOT form or alternative correspondence must be submitted to EPA-NE at the following address as well as a copy to the state agency (see addresses in Appendix V):

US Environmental Protection Agency
RGP - NOT Processing
Municipal Assistance Unit (CMU)
1 Congress Street, Suite 1100
Boston, MA 02114-2023

XII. Standard Permit Conditions 40 CFR Sections 122.41 and 122.42

Permittees must meet the standard permit requirements of 40 CFR Sections 122.41 and 122.42, as applicable to their discharge activities. Specific language concerning these requirements is provided in Part II of the permit.

XIII. Summary of Response to Comments [Reserved]

XIV. Other Legal Requirements

A. Coastal Zone Management Act

The Coastal Zone Management Act (CZMA), 16 U.S.C. Sections 1451 *et seq.*, and its implementing regulations [15 CFR Part 930] require that any federally licensed activity affecting a State's coastal zone be consistent with the enforceable policies of approved state management programs. In the case of general permits, EPA has the responsibility for making the consistency certification and submitting it to the State for concurrence. EPA-NE is in the process of seeking the state consistency certifications for this general permit from the Executive Office of Environmental Affairs, Massachusetts CZM, 251 Causeway Street, Suite 800, Boston, MA 02114; and New Hampshire Coastal Program, located at the New Hampshire Department of Environmental Services, P.O. Box 95, Concord, NH 03302-0095.

B. Environmental Impact Statement Requirements

This general permit does not authorize discharges from any "new source" as defined under 40 CFR Section 122.2. Therefore, the National Environmental Policy Act, 33 U.S.C. Sections 4321 *et seq.*, does not apply to the issuance of these general permits. Potential permittees and others reviewing this document should take careful note of the distinction between "new discharge" and "new source" (see definitions) since most discharges covered by this permit will be considered new discharges.

C. Executive Order 12866

EPA has determined that this general permit is not a "significant regulatory action" under the terms of Executive Order 12866 and is therefore not subject to OMB review.

D. Paperwork Reduction Act

The information collection requirements of this permit were previously approved by the Office of Management and Budget under the provisions of the Paperwork Reduction Act, 44 USC 3501 *et seq.* and assigned OMB control number 2040-0086 (NPDES permit application) and 2040-0004 (Discharge Monitoring Reports).

E. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA), 5 USC 601 *et seq.*, requires that EPA prepare a regulatory flexibility analysis for rules subject to the requirements of 5 USC 553(b) that have a significant impact on a substantial number of small entities. The permit issued today, however, is not a "rule" subject to the requirements of 5 USC 553(b) and is therefore not subject to the Regulatory Flexibility Act.

F. Unfunded Mandates Reform Act

Section 201 of the Unfunded Mandates Reform Act (UMRA), Public Law 104-4, generally requires Federal agencies to assess the effects of their “regulatory actions” (defined to be the same as “rules” subject to the RFA) on tribal, state and local governments and the private sector. The permit issued today, however, is not a “rule” subject to the RFA and is therefore not subject to the requirements of UMRA.

G. Executive Order 12898, Environmental Justice

Executive Order 12898 (59 Fed. Reg. 7629, February 11, 1994), entitled “Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations” (“EJ Order”), requires federal agencies to identify and address environmental justice issues in all actions that, “substantially affect human health or the environment.” EPA defines environmental justice as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including any racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies. EPA-NE is committed to promoting and supporting environmental justice, and we encourage all the New England States to do the same.

One of the most effective ways to address environmental justice is to ensure that all communities have an opportunity for meaningful involvement in the regulatory process. To this end, EPA-NE has worked with the States and many communities in New England to: (1) facilitate public access to information on the localized impacts and health risks associated with environmental programs, (2) enhance public outreach efforts to groups and coalitions most interested in local environmental quality issues, as well as to communities that may have less access to publicly available information (for example, due to language barriers or lack of access to the internet), and (3) utilize to the fullest extent existing mechanisms for public participation in the regulatory decision making process. In addition, EPA actively encourages the States to develop and implement environmental justice policies in their environmental programs.

EPA is today proposing the remediation general permit (RGP). In the development of this permit, EPA worked to identify and to advance efforts and to implement directives to ensure fair and equitable treatment of all MA and NH citizens with respect to matters involving public health and the environment. EPA and both NH and MA have active EJ programs, including policies and activities that ensure that programs, permits, policies and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies and

activities, because of their race, color, national origin or economic status.

XV. References

The following is a list of references used to develop the Remediation General Permit. References are to the major groupings of information used to support this permit and are not a complete listing of individual references: for example, the standards used to develop the “existing standards” table for the permit are a file collection of many individual EPA and State of NH and MA standards.

1. 40 CFR Parts 122, 124, 131 (NPDES), July 2000, and Parts 401 - 471 (effluent guidelines), July 2001.
2. Various Standards for Water Quality (see listing included in Appendix with the tables for the available standards for the permit parameters and also the notebook with all the standards extracted for use in this permit):
 - a. National Recommended Water Quality Criteria: 2002; *EPA-822-R-02-047*; November 2002.
 - b. 2002 Edition of the Drinking Water Standards and Health Advisories; EPA 822-R-02-038, Summer 2002 and EPA 816-F-01-007, March 2001.
 - c. Notice of Availability, Revision of National Recommended Water Quality Criteria; 67 FR 79091 - 79095, December 27, 2002.
 - d. Water Quality Criteria for Methylmercury, updated August 13, 2003.
 - e. Methylmercury Criteria Document, EPA-823-R-01-001, January 2001.
 - f. State of New Hampshire Surface Water Quality Regulations, Chapter 1700; December 3, 1999.
 - g. Drinking Water Standards and Advisories, EPA, 2002.
 - h. National Primary Drinking Water Standards, EPA 816-F-01-007, March 2001.
 - i. Current Drinking Water Standards, www.epa.gov/safewater/mcl.html, April 8, 2002.
 - j. New Hampshire Groundwater Quality Standards, Env-Wm 1403, adopted Feb. 23, 1999.
 - k. New Hampshire Soil Standards - Petroleum, Env-Wm 412, adopted Nov. 20, 1996.
 - l. Massachusetts Method I Groundwater Standards, 314 CMR 40.0974(2), draft Dec. 20, 2001.
 - m. New Hampshire Water Quality Criteria for Toxic Substances, Env-Wm 1703.21, adopted Dec. 3, 1999.
 - n. Massachusetts Surface Water Quality Standards, 314 CMR 4.00; July 2001, (corrected May 12, 2000).

3. Compilation of Data on Chemicals extracted from the “Toxnet” web site of the National Library of Medicine and the National Institute of Health. Web site is www.toxnet.nlm.nih.gov, and the most used section of the site is the “Hazardous Substances Data Bank” or HSDB.

- a. 2- chloronaphthalene
- b. 2-mthylnaphthalene
- c. (2-ethylhexl)phthalate
- d. dimethylphthalate
- e. diethylphthalate
- f. butyl benzyl phthalate
- g. phenol
- h. pentachlorophenol
- i. tetrachloroethylene
- j. methyl ethyl ketone
- k. tetrahydrofuran
- l. chlorinated organics
- m. dichlorodiflouromethane
- n. chlorodibromomethane
- o. bromodichloromethane
- p. chlorobromomethane
- q. trichloroflouromethane
- r. dichlorotriflouroethane
- s. 2,2-dichloro2,2,2-triflouroethane
- t. dichloromethane
- u. 1,1,1-trichloro-2,2,2-triflourethane
- v. 1,1,1-trichlorethane
- w. beryllium compounds
- x. antimony compounds
- y. acrylonitrile
- z. 1,1,2,2-tetrachloroethane
- aa. 1,2-dichloropropane
- bb. Methyl t-butyl ether
- cc. Trichloroethylene
- dd. 1,2-dichloroethylen
- ee. acetone
- ff. 1,4-dioxane
- gg. Styrene
- hh. Polycyclic Aromatic Hydrocarbons (PAH) - Group I
 - i) benz(a)anthracene
 - ii) benzo(a)pyrene
 - iii) benzo(b)flouranthene
 - iv) benzo(k)flouranthene
 - v) chrysene
 - vi) dibenz(a,h)anthracene
 - vii) ideno(1,2,3-cd)pyrene
- ii. Polycyclic Aromatic Hydrocarbons (PAH) - Group II
 - i) acenaphthene
 - ii) Acenaphthylene
 - iii) Anthracene
 - iv) Benzo(ghi)perylene
 - v) flouranthene
 - vi) flourene
 - vii) phenanthene
 - viii) pyrene
- jj. T-Butyl Alcohol
- kk. ethylene dibromide
- ll. tetramethyl lead
- mm. tetraethyl lead
- nn. potassium cyanide

4. Existing General Permits including:
 - a. "Stormwater Multi-Sector General Permit for Industrial Activities," Federal Register, Monday, October 30, 2000.
 - b. EPA Construction General Permit, dated July 1, 2003.
 - c. "Construction Dewatering Activity Discharges in MA and NH, general permit issued by Region I, September 23, 2002 (67 FR 59503).
 - d. Assorted documents, including: "Background for Hydrotesting General Permit."
 - e. EPA's "Model NPDES Permit for Discharges Resulting From The Cleanup of Gasoline Released From Underground Storage Tanks," June 1989.
 - f. Various state issued permits including:
 - i. New Jersey, permit #NJ0102709, Dec. 1, 1998;
 - ii. Rhode Island, general permits for: gasoline contaminated groundwater, June 23, 1998, and groundwater contaminated with #2 fuel oil, June 1, 1999;
 - iii. Vermont, permit #VTG910001, Sept. 13, 2002;
 - iv. Connecticut, draft, Feb. 5, 2004;
 - v. NPDES General Permits for Discharges Resulting from Implementing Corrective Action Plans for the Cleanup of Petroleum Underground Storage Tank Systems in Texas (TXG830000), Louisiana (LA830000), Oklahoma (OKG830000), and New Mexico (NMG830000); 62 FR 61116 - 61125, Nov. 14, 1997, renewed Oct. 2, 2002; Final.
 - vi. Arkansas, permit #ARG790000;
 - vii. Pennsylvania, general permit PAG-5, August 1999;
 - viii. West Virginia, permit #WV0113727.
 - ix. Proposed NPDES General Permit for Discharges from Hydrostatic Testing of New and Existing Natural Gas Pipelines in Texas (TXG670000) , Oklahoma (OKG670000), and New Mexico (NMG670000).
 - x. Statewide General NPDES Permit of Discharges from Utility Vaults and Underground Structures to Surface Waters, California General Permit CAG990002.
 - xi. General Permit for the Discharge of Groundwater Remediation Wastewater Directly to Surface Water, Draft, Feb. 5, 2004.
5. Applications (primarily from June 2002 to present, approx. 300 files) and associated discharge monitoring reports received from discharge activities pursuant to approved site remediation projects (over 1000 reports) (see Program Guidance Binder Dec 2003 and other files as well as the individual files for discharge activities).
6. Massachusetts Contingency Plan (310 CMR 40.0000), Chapter 21E MA state laws, MADEP volatile petroleum hydrocarbons/extractable petroleum hydrocarbons (VPH/EPH) Method for Petroleum Contaminated Sites. "Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the Massachusetts DEP's VPH/EPH Approach," Final Policy, October 31, 2002.

7. New Hampshire Permits and Regulations, including: Temporary Surface Water Permits and Applications; NH Rules Part Env-Ws 412, Reporting and Remediation of Oil Discharges; NH Rules Part Env-Ws 401-401, Surface Water Discharge Permit Regulations; NH Rules Part Env-Wm 1403, Groundwater Management and Groundwater Release Detection Permits.
8. "Basics of Pump and Treat Ground Water Remediation Technology," EPA/600/8-90/003; March 1980.
9. Various articles and data collected to support Gasoline Oxygenate discussion and background on gasoline in general, including:
 - a. "Evaluation of the Health Effects From Exposure to Gasoline and Gasoline Vapors, Final Report," Northeast States for Coordinated Air Use Management (NESCAUM), Air Toxics Committee; August 1989.
 - b. "Summary Report and Compiled Results of the Survey of State Experiences with MtBE and Other Oxygenate Contamination at LUST Sites (March-April 2003)," A Project of the New England Interstate Water Pollution Control Commission (NEIWPCC); August 2003.
 - c. L.U.S.T.Line, "A Report On Federal & State Programs to Control Leaking Underground Storage Tanks," Bulletin 44, New England Interstate Water Pollution Control Commission (NEIWPCC), July 2003.
 - d. L.U.S.T. Line Bulletin 34, "Tertiary Butyl Alcohol (TBA), MtBE May Not Be the Only Gasoline Oxygenate You Should Be Worrying About," New England Interstate Water Pollution Control Commission (NEIWPCC), February 2000.
 - e. L.U.S.T. Line Bulletin 37, "A Circle Vicious, What Do We Know About the Other Oxygenates?" New England Interstate Water Pollution Control Commission (NEIWPCC) March 2001.
 - f. L.U.S.T. Line Bulletin 42, "Analytical Methods for Fuel Oxygenates," New England Interstate Water Pollution Control Commission (NEIWPCC); October 2002.
 - g. Drinking Water Action Levels: Chemicals with Recent Detections; California Dept. of Health Services; June 12, 2003.
 - h. Memorandum re: "Interim Drinking Water Action Level for tertiary-butyl alcohol (TBA)," from Stewart Chute and Gary Ginsberg, Toxicologists, Connecticut Dept. of Health to Elsie Patton, Acting Director, Connecticut Dept. of Environmental Protection; July 2, 2003.
 - i. TBA discharge limit in "Temporary Surface Water Discharge Permit TSWP-198903003-N-001 (DES#198903003-LUST-WLP-1)," Sept. 11, 2003.
 - j. July 19, 2002 Telephone Facsimile from GeoInsight, Inc., to John Hackler, US EPA-NE, re: NPDES Exclusion Application oxygenate removal at Peterborough Oil Company, Inc., Dover, NH.
 - k. July 26, 2002 Letter from Roger Janson, Associate Director, Surface Water Programs, US EPA, Region I, to GeoInsight, Inc., re: the Peterborough Oil Company site in Dover, NH.
 - l. Compilation of Groundwater Oxygenate Cleanup Levels for LUST Sites; Delta

- Environmental Consultants, Inc., Sept. 20, 2002.
- m. "Achieving Clean Air and Clean Water: The Report of the Blue Ribbon Panel on Oxygenates in Gasoline," EPA 420-R-99-021; Sept. 15, 1999.
- n. July 26, 2002 Permit Closeout Letter from ExxonMobil in Hampton, NH, to Bronislav Karnauck, Surface Water Permit Coordinator, New Hampshire Dept. of Environmental Services, re: Permit TSWP 199812237-01 - Elevated Concentrations of the oxygenates TBA and TAME.
- o. MTBE Fact Sheet #2: Remediation of MTBE Contaminated Soil and Groundwater; EPA 510-F-97-015; January 1998.
- p. Fact Sheet: "Drinking Water Advisory: Consumer Acceptability Advice and Health Effects Analysis of Methyl Tertiary-Butyl Ether (MTBE)," EPA-822-F-97-009.
- q. EPA's Reformulated Gasoline (RFG) Property and Performance Averages for Boston-Worcester, MA, and Manchester, NH; www.epa.gov/otaq/regs/fuels/rfg/properf, 9/12/03.
- r. EPA Information on Methyl Tertiary Butyl Ether (MTBE) in Gasoline; www.epa.gov/mtbe/gas.htm, 9/16/03.
- s. Electronic mail from Donald Gonyea, Connecticut Dept. of Environmental Protection, to John Hackler, US EPA-NE, re: Proposed bill to eliminate MTBE as a gasoline additive in CT by July 1, 2004; Oct. 30, 2003.
- t. Electronic mail from Hal White, US EPA, Office of Underground Storage Tanks, re: the timing and probability of EPA developing a drinking water standard for MTBE; 10/30/02.
- u. Environmental Behavior and Fate of Methyl tertiary Butyl Ether (MTBE); US Dept. of the Interior - US Geological Survey, National Water Quality Assessment Program; Fact Sheet FS-203-96; revised Feb. 1998.
- v. MtBE Treatment Profiles at various facilities around the United States; http://clu-in.org/products/mtbe/usersearch/mtbe_search.cfm; EPA Office of Technology Innovation and the Office of Underground Storage Tanks; May 10, 2002.
- w. Electronic mail from Christine Hawk, US EPA, to Jane Downing, US EPA - Region I, re: Examples of MTBE water contamination and large scale studies; 11/27/01.
- x. EPA Consumer Fact Sheet on Ethylene Dibromide (EDB); www.epa.gov/safewater/dwh/c-soc/ethylene.html July 18, 2002.
- y. ToxFAQs for 1,2-Dibromoethane; Agency for Toxic Substances and Disease Registry (ATSDR); www.atsdr.cdc.gov/tfacts37.html; July 18, 2002.
- z. Material Safety Data Sheet (MSDS) for Gasoline; T.W. Broin Oil Company, Inc., Ventura, CA; <http://www.brownoil.com/msdsgasoline.htm>; Oct. 21, 2002.
10. Toxicological Profile for Fuel Oils, ATSDR, Nov 29, 1993.
11. Application of Metals Limitations (from various Region I issued individual permits using dilution factors, hardness, etc.)
12. Reporting Levels for Data and Test Methods (from monitoring data sent to Region I).
13. Treatment Technology (examples contained in applications and monitoring reports).

14. Endangered Species (ESA) and Essential Fish Habitat (EFH) (see marked file), including:
 - a. May 10, 2000 EPA Memorandum from Michael B. Cook, Director of the Office of Wastewater Management, Office of Water, to Water Division Directors, Regions I - X .
 - b. "Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act," EPA-823-F-01-002, February 2001.

15. Anti-Degradation, including:
 - a. EPA's Antidegradation Policy, 40 CFR Section 131.12;
 - b. "Policy Guidance on Massachusetts' Surface Water Quality Standards (314 CMR 4.00), Antidegradation Provisions in Section 4.04," effective July 20, 1990; ~~and~~
 - c. "Massachusetts Antidegradation Review Procedures for Discharge Requiring a Permit Under 314 CMR 3.03," Revised 1993.
 - d. New Hampshire's antidegradation provisions found in Chapter 1700 Part ENV-Ws 1708 SURFACE WATER QUALITY REGULATIONS.

16. Toxicity or WET testing, including:
 - a. March 2, 1994 EPA-NE Policy Memorandum, re: "Minor POTW Toxicity Policy," from Edward k. McSweeney, Chief of the Wastewater Management Branch, Office of Ecosystem Protection, to Wastewater management Branch Section Chiefs and Permit Engineers/Writers.
 - b. March 3, 1995 EPA-NE Policy Memorandum, re: "Whole Effluent Toxicity Testing Strategy for High Dilution NPDES Permits," from Edward k. McSweeney, Chief of the Wastewater Management Branch, Office of Ecosystem Protection, to Ronald Manfredonia, Chief of the Water Quality Branch, Larry Brill, Chief of the Compliance Branch, David Fierra, Director of the Water Division.
 - c. May 12, 1995 EPA-NE Policy Memorandum, re: "Reduction in WET Frequency," from Edward K. McSweeney, Chief of the Wastewater Management Branch, Office of Ecosystem Protection, to Wastewater management Branch Section Chiefs and Permit Writers.
 - d. May 24, 1994 EPA-NE Policy Memorandum, re: "Monitoring Frequency WET Tests," from Edward K. McSweeney, Chief of the Wastewater Management Branch, Office of Ecosystem Protection, to Wastewater Management Branch Section Chiefs and Permit Engineers/Writers.

17. Region I policy on Dredging Drainback Waters (see file), including: July 24, 2002 Letter from Roger Janson, Associate Director, Surface Water Programs, Office of Ecosystem Protection, Region I, to Ms. Christine Godfrey, Chief of the Regulatory Division, US Army Corps of Engineers, and Mr. Glenn Haas, Director of the Division of Watershed Management, MA Department of Environmental Protection, re: Discharge of Dredged Material Drainback Waters at MA 21E Remediation Sites.

18. Excerpt from “How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites, A Guide to Corrective Action Plan Reviewers,” EPA 510-B-95-007; May 1995.
19. EPA Drinking Water Fact Sheet, Advisory for MtBE; EPA 822-F-97-009.
20. Ambient Water Quality Criteria for Cyanide - 1984; EPA 440/5-84-028; January 1985.
21. Article Re: flame retardants, e.g., polybrominated diphenyl ethers (PBDEs); USA Today; Oct. 27, 2003.
22. Ambient Water Quality Criteria for Naphthalene; EPA 440/5-80-059; Oct. 1980.
23. “EPA’s Emergency Planning and Community Right to Know Act - Section 313: Guidance for Reporting Toxic Chemicals: Polycyclic Aromatic Compound (PAC) Category,” EPA 260-B-01-03; August 2001.
24. EPA-NE’s “Optimum Minimum Levels (M.L.s) for Inorganic Priority Pollutants,” March 27, 2002.

XVI. Fact Sheet Appendix A - Existing Water Quality Standards