



NPDES Permit Program Instructions  
For the  
Discharge Monitoring Report Forms  
(DMRs) Report Year 2010

**2010 DMR Instruction Package for NPDES Permits Issued by the United States  
Environmental Protection Agency Region 1, New England**

**CONTENTS**

- List of changes and additions as of January 2010

**Chapter 1**

- Instructions for Completing EPA's Printed NPDES Discharge Monitoring Report (DMR)
- Authorized signature requirements for permit applications, DMRs, and reports from 40 CFR § 122.22

**Chapter 2**

- Answers to Frequently Asked Questions Regarding DMRs

**Chapter 3**

- Example DMR Calculations - See attachments

**ATTACHMENTS**

- Attachment A, Monthly Monitoring Data (Sample)
- Attachments B, Sample DMRs
- Attachment C, Loading Calculations
- Attachment C1, 12-Month Rolling Average Flow Calculations
- Attachment D, Frequency of Analysis
- Attachment D1, Unit of Measure Codes
- Attachment E, No Data Indicator Codes (NODI)
- Attachment F, Whole Effluent Toxicity Test Summary Sheet
- Attachment G, NPDES Whole Effluent Toxicity Testing, Monitoring and Reporting Tips, Common Pitfalls and Guidance (Updated March 2008), with Whole Effluent Toxicity Test Certification
- Attachment H, Bypass or Sewer Overflow Report Form
- Attachment I, NetDMR National Implementation Pamphlet (NEW)
- Attachment J, Index of NPDES Permit Program Instructions for DMR Forms (NEW)

THIS ENTIRE INSTRUCTION BOOKLET IS AVAILABLE ON-LINE AT:

[www.epa.gov/region01/enforcementandassistance/enfdmr.html](http://www.epa.gov/region01/enforcementandassistance/enfdmr.html)

Important information required to be kept at Facility location/on site:

- NPDES Permit, Fact Sheet, Attachments (if applicable), and the General Conditions;
- Annual DMR letter from the US EPA;
- DMRs for the current year; and
- Applicable Enforcement Action(s).

In regards to your DMR forms notify the US EPA:

- if the covered NPDES facility ceases discharge; ceases discharging through one of its Outfall(s)/Pipe(s)/Feature(s); changes operation practices; submits a Notice of Intent for coverage under a General Permit;
- if there is a change in authorized agent to sign the DMR, report (different from the printed name on the DMR - ATTN: \*); and
- if there has been a change in mailing address (different from the printed address on the top left of your DMR) and/or telephone number.

Notification of all changes, including details, date(s), and certification(s) of said changes in operation, operator, or address must be sent to the address noted on Chapter 1, Page 2 of these instructions. Once EPA receives notification of the changes, the changes will be processed and new DMRs will be mailed, if required.

These instructions supersede previous versions of these instructions and the regulatory contact addresses previously specified in your NPDES permit and/or applicable enforcement action.

**2010 DMR Instruction Package for NPDES Permits Issued by the United States  
Environmental Protection Agency Region 1, New England**

**List of changes and additions:**

- The US EPA Region 1 New England has moved its offices from One Congress Street, Boston, Massachusetts. Please submit all DMRs and NPDES permit and enforcement action reports to our new address:

U.S. Environmental Protection Agency  
Water Enforcement  
OES4-SMR  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912

Please use the Agency's 9-digit ZIP code.

- **ELECTRONIC DMR SUBMISSION IS NOW AVAILABLE**  
All permittees are encouraged to participate in this program. For details please read the attached 2010 letter and pamphlet for information on system qualifications and training;
- As noted above, the address changes included in these instructions supersede previous versions of these instructions and the regulatory contact addresses previously specified in your NPDES permit and/or applicable enforcement action. Please do **not** send mail to our former Post Office box;
- Instructions have been added under the Chapter 3 - Example DMR Calculations for those permittees that use the most probable number method to report bacteria measurements;
- Southeastern Regional Office, MassDEP, compliance contact has been changed to Joy Hilton, 617.918.1877;
- Western Regional Office, MassDEP, Environmental Specialist has been changed to Robin Pearlman, 617.918.1873;
- Attachment E – NODI codes has been updated for easier reference. A copy of the attachment has also been included with the 2010 mailing. Remember, you are responsible for entering the correct NODI Code on the DMR(s);
- Attachment I - NetDMR National Implementation Pamphlet has been added; and
- Attachment J – INDEX NPDES Permit Program Instructions for DMR Forms has been added.

## **CHAPTER 1. INTRODUCTION**

Each month's DMR should be carefully reviewed to familiarize yourself with seasonal reporting requirements and specific sampling that might be required less frequently than monthly, i.e. quarterly, semi-annual and annual requirements. After reviewing these DMRs for completeness, please read these directions in their entirety to be certain that you understand your reporting obligations.

If your printed DMRs include two sets of monitoring requirements to cover different production schemes or climatic considerations for the same Discharge Number (outfall/pipe) or permitted feature, please submit all applicable DMRs for that Discharge Number (outfall/pipe) or permitted feature. Report quantitative data on the applicable DMR or indicate the applicable No Data Indicator Code (See **ATTACHMENT E**).

If you are required to report the results of toxicity testing on the DMR, please include with your submission a copy of the entire laboratory report including chain-of-custody information to the address listed on Chapter 1, Page 2 of this document. In addition, **ATTACHMENTS F and G** 'Toxicity Test Summary Sheet' and 'NPDES Whole Effluent Toxicity Testing, Monitoring and Reporting Tips, Common Pitfalls and Guidance' are included in the instructions. Although submission of **ATTACHMENT F** is not mandatory, we encourage its use to ensure consistency of reporting. Utilization of this summary sheet will accelerate the process of reviewing toxicity test reports. However, this sheet is not to be used as a substitute for the actual laboratory report or the DMR.

If you are required to report the results of sludge sampling, please ensure that the appropriate data is included in the report, and that the entire laboratory report including chain-of-custody information is included, and mailed to the address listed on Chapter 1, Page 2 of these instructions.

## **CONTACTS**

Please contact the following US EPA Environmental Protection Specialist of the Water Technical Unit regarding any comments, questions or any errors that you identify on your DMR forms (see your ANNUAL DMR LETTER for current contacts):

Massachusetts - Northeast - Robin Pearlman, 617.918.1873  
Central - Norma Mason, 617.918.1879  
Southeastern - Marie McDonald, 617.918.1878  
Western - Robin Pearlman, 617.918.1873  
MA General Permits - Marie McDonald, 617.918.1878

New Hampshire - Norma Mason, 617.918.1879  
NH NPDES Individual & NPDES General Permits

Unless otherwise specified by your NPDES Permit (Permit), all original DMR submissions and an explanation of any reported violations shall be postmarked no later than the 15<sup>th</sup> of the month following sample collection. The DMRs shall be mailed to the following address:

**Water Technical Unit (OES4-SMR)  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912**

Questions concerning the permit application process should be directed to the following individuals:

Massachusetts - Olga Vergara, 617.918.1519  
New Hampshire - Shelley Puleo, 617.918.1545

Questions concerning a new permit or an existing permit, and/or modifying an existing permit should be directed to your Permit Writer as noted in the Fact Sheet issued with your Draft Permit. If you do not know who that may be, you may telephone the following:

Massachusetts Permit Unit 617.918.1570  
New Hampshire Permit Unit 617.918.1580

and you will be directed to the appropriate permit writer.

Other Permit-related and/or compliance or oral reporting or compliance questions should be directed to the following:

**GENERAL PERMITS:**

Remediation: Victor Alvarez, 617.918.1572  
Drinking Water Facility Backwash: Mark Voorhees, 617.918.1537  
MS4 (Phase 2): Thelma Murphy, 617.918.1615  
Storm Water Assoc. w/ Construction Activities: Thelma Murphy, 617.918.1615  
Storm Water Assoc. w/ Industrial Activities: Thelma Murphy, 617.918.1615  
Non-contact Cooling Water: Thelma Murphy, 617.918.1615  
Construction Dewatering: Austine Frawley, 617.918.1065  
Non-FERC related Discharges from Hydroelectric Facilities: George Papadopoulos,  
617.918.1579

Sludge/Incinerator: Thelma Murphy, 617.918.1615

**Whole Effluent Toxicity:**

Test methods, David McDonald, 617.918.8609  
Compliance, Joy Hilton, 617.918.1877

Stormwater: Permits - Thelma Murphy, 617.918.1615  
Compliance - Joseph Canzano, 617.918.1763

Bypasses, SSOs, CSOs, DWOP: 24-hour oral reports to the following:

Massachusetts - Northeast - George Harding, 617.918.1870  
Central - Doug Koopman, 617.918.1747  
Southeastern - Joy Hilton 617.918.1877  
Western - George Harding, 617.918.1870

New Hampshire - Joy Hilton, 617.918.1877

Pretreatment Program: Permit, Jay Pimpare, 617.918.1531

Questions regarding the QA/QC and US EPA Testing Methods and procedures: contact the US EPA Laboratory in Chelmsford, MA at 617.918.8300, or, 978.937.8500.

You may also contact any US EPA employee via E-mail using the following format: last name.first name@epa.gov. For other general information regarding EPA Region I, please visit [www.epa.gov/region1/](http://www.epa.gov/region1/).

## **DMR PRINTED FORM**

### **1. Permittee Name/Address**

Verify that the correct corporate/municipal name and mailing address and correct facility name and location appears in the top left corner of the DMR.

### **2. Permit Number**

Verify that the correct NPDES permit (Permit) number appears in the Permit Number block. All correspondence regarding any issues at the Facility including DMR and report submissions must prominently display the Permit Number.

### **3. Discharge Number (Outfall/Pipe) or Permitted Feature & Monitoring Period**

The Region mails DMRs to permittees for an entire year. A separate DMR form has been printed for each monitoring period and for each Discharge Number (outfall/pipe) or permitted feature. Verify that you are reporting the correct measurement information on the correct Discharge Number DMR for the correct Monitoring Period. A narrative description of the Discharge Number also appears in the top right corner of the DMR.

### **4. Parameter**

Each parameter contained in your Permit is listed in the far left column of the DMR. Seasonal Discharge Numbers (outfalls/pipes) or permitted features and seasonal parameters are only included on the DMRs for the monitoring periods stipulated in your Permit. Parameters or entire Discharge Numbers (outfalls/pipes) or permitted features that must be reported less frequently than monthly (i.e. quarterly, semi-annually, etc...) will be included in the DMRs for the last month of the reporting period. Example - unless otherwise specified in the Permit, reporting for the January thru March reporting quarter must be included on the March DMR. However, sampling for these parameters may be performed any time during the reporting period, unless otherwise specified in your Permit.

Please pay particular attention to the narrative description of the sampling location that appears on the bottom of the Parameter block. Multiple monitoring locations may appear for the same parameter on the same DMR form.

### **5. Permit Requirement Row**

The Permit Requirement row lists the Permit effluent limit for each parameter and a description of the statistical basis (i.e. minimum monthly, average monthly, maximum daily, minimum daily, etc.) of the reporting requirement. If the parameter is not limited, but monitoring is required, the DMR lists the word "Report" followed by a narrative description of the statistical basis on which the information must be reported. If no information is required, "\*\*\*\*\*" and no statistical basis code will be printed in the Permit Requirement block.

The Permit Requirement row also lists the Units in which the Sample Measurement Values must be reported, the Frequency of Analysis, and Sample Type specified for each Parameter in your Permit.

## 6. Sample Measurement Row

The results of your analyses (Sample Measurement Values), the Units (See 6.d.) in which the samples were measured; the Number of Exceedances of your Permit limits (See 6.e.); the Frequency of Analysis (See 6.f.) with which you've conducted your sampling and analyses and the Sample Type (See 6.g.) for each parameter must all be reported in this row. It is also important to note the following general rules:

- If Sample Measurement Values are not required to be reported, "\*\*\*\*\*" will appear in the Sample Measurement and associated Permit Requirement block;
- The monitoring frequencies specified in your Permit and included in the Permit Requirement row are minimum monitoring requirements. The results of any additional monitoring of parameters at location(s) designated in the Permit, using approved sampling procedures and analytical methods, must be included in the DMR calculations. Such increases in the frequency of sampling shall also be reported in the Frequency of Analysis block;
- The detection limit of the analytical method used to generate the reported Sample Measurements must be equal to, or less than, the minimum level specified for the particular parameter in your Permit. If a minimum level for the parameter is not specified in your Permit, the detection limit of the analytical method used to generate the Sample Measurement Values must be equal to, or less than, the Permit limit; and
- If measurement information is not available for a specific Discharge Number (pipe/outfall) or permitted feature or parameter, please do not leave blank spaces on the DMR. Under these circumstances, please use the appropriate "No Data Indicator" code included in **ATTACHMENT E**. If any blanks appear on your DMR, EPA's automated violation tracking system will detect these blanks as non-reporting violations for which you may be subject to an enforcement action. A narrative explanation of any "No Data Indicator" codes must accompany the DMR submission.

### a. Sample Measurements Below Minimum Levels

As noted above, the detection limit of the analytical method used to generate the reported Sample Measurement Values must be equal to, or less than, the minimum level specified for the particular parameter in your Permit. If a minimum level for the parameter is not specified in your Permit, the detection limit of the analytical method used to generate the Sample Measurement Values must be equal to, or less than, the Permit limit. If all of the Sample Measurement Values for the reporting period for a specific parameter are below the minimum level(s) specified in your Permit, then report "0" on the DMR. If some of the Sample Measurement Values are below the minimum level, while other Sample Measurement Values that are part of the computation are above the minimum level specified in your Permit, substitute a "0" for the non-detectable (ND) results prior to averaging. The only exception to this rule is the computation of Fecal Coliform results, which is discussed in the Example DMR Calculations. **The analytical method used and the laboratory detection limit of the analytical method used for each parameter in which a value below the permitted minimum value is measured during the monitoring period shall be listed on the cover letter that accompanies the DMR.**

### b. No Data Indicator Code (NODI)

For those months when no sampling occurs for a specific Discharge Number (outfall/pipe) or permitted feature, write "No DATA" and the applicable NODI code across the DMR, or place the appropriate code in the box in the upper right corner of the DMR. If there is a NODI for a specific parameter, then write NODI and the appropriate code in the Parameter block. NODI codes have been updated and can be used to report no data for each individual required value. A single NODI code can be used for an entire parameter, or a NODI code can be used for each parameter value. Available NODI codes are provided in **ATTACHMENT E**.

c. **Other acceptable codes**

Please note that codes of "B", "BDL", "ND", "T" and "TR" are **not** acceptable analytical results. In addition, please refer to the example DMR calculations regarding the protocols for reporting bacteria concentrations that are too numerous to count (TNTC). If the laboratory reports a trace amount, then the laboratory detection limit for the analytical procedure used to determine a trace amount preceded by the "<" sign shall be reported on the DMR. As noted above, the DMR shall also be accompanied by a cover letter which indicates the laboratory detection limit of the analytical method used for **each** parameter in which a trace value is measured during the monitoring period.

d. **Unit of Measure Code**

Enter the actual unit of measure used during the monitoring period in the Units column. The unit code specified by your Permit appears in the Permit Requirement row.

e. **No. Ex. (Number of Exceedances)**

Enter the number of Sample Measurement Values that exceeded the Permit requirement(s) for each parameter. The total of all exceedances measured during the reporting period -- both of loading and concentration limits for each parameter shall be reported. If all samples are measured at, or below, the permit level, enter "0" (zero) on the DMR.

f. **Frequency of Analysis**

Enter the actual frequency that samples were taken and analyzed for each parameter during the reporting period; the minimum frequency is specified in the corresponding Permit Requirement row. Please enter the word or words that most accurately represent the actual sampling frequency.

g. **Sample Type**

Enter the actual Sample Type used during the monitoring period in the Sample Measurement row. Again, the sample type required by your Permit is shown in the corresponding Permit Requirement row. Enter the word or that most accurately represents the actual sample type.

7. **Signature**

The DMR form shall be signed and dated by the principal executive officer or his/her authorized agent designated on the DMR form. **THE SIGNED ORIGINAL DMR FORM SHALL BE SUBMITTED TO EPA.** If an individual other than the one specified on the DMR form is signing the DMR, a written authorization must be provided to EPA. Should a duly authorized agent sign and certify the DMR form, a written authorization must be submitted to the Agency in accordance with 40 CFR §§ 122.22(b)(1), (2), and (3). Any change to an authorization must be submitted in writing in accordance with 40 CFR § 122.22(c). All certifications must be in accordance with 40 CFR § 122.22(d). Following this chapter is a copy of § 122.22 [40 CFR Ch.1 (7-1-99 Edition)].

8. **Comments**

Please note any printed comments or instructions that appear on the bottom of the last page of the DMR form(s).

9. **Transmittal**

a. **To the US EPA:**

All DMRs and other reports required by your Permit shall be mailed to the following address in sufficient time to reach the **US EPA** by the date specified in your Permit:

**Water Technical Unit (OES4-SMR)  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912**

Quality Assurance/Quality Control (QA/QC) submissions shall be mailed to:

US EPA - New England Regional Laboratory  
11 Technology Drive  
Chelmsford, MA 01863-2431

**b. To the New Hampshire Department of Environmental Services:**

For those permittees located in the State of New Hampshire, copies of your DMR must be submitted to:

New Hampshire Department of Environmental Services (NH DES)  
Water Division  
Wastewater Engineering Bureau  
29 Hazen Drive, P.O. Box 95  
Concord, NH 03302-0095

**c. To the Massachusetts Department of Environmental Protection (MassDEP):**

For those permittees located in the Commonwealth of Massachusetts, submit a photocopy of your DMR and all other notifications including overflow or bypass reports, but excluding toxicity test reports, to your local regional office listed below:

\*\*\*\*\*

MassDEP  
Central Regional Office  
Bureau of Resource Protection (POTWs)  
or Bureau of Waste Prevention (Industrial Dischargers, others)  
627 Main Street  
Worcester, MA 01608

\*\*\*\*\*

MassDEP  
Northeast Regional Office  
Bureau of Resource Protection (POTWs)  
or Bureau of Waste Prevention (Industrial Dischargers, others)  
205B Lowell Street  
Wilmington, MA 01887

\*\*\*\*\*

MassDEP  
Southeast Regional Office  
Bureau of Resource Protection (POTWs)  
or Bureau of Waste Prevention (Industrial Dischargers, others)  
20 Riverside Drive  
Lakeville, MA 02347

\*\*\*\*\*

MassDEP  
Western Regional Office  
Bureau of Resource Protection (POTWs)  
or Bureau of Waste Prevention (Industrial Dischargers, others)  
436 Dwight Street  
Suite 402  
Springfield, MA 01103

\*\*\*\*\*

Note that the Region that covers the community in which you are located can be accessed through the "SPOTLIGHT" button for "Regional Offices that appears in the right hand column of the MassDEP website at [www.mass.gov/dep/](http://www.mass.gov/dep/). Alternatively, you may also this information at: <http://www.state.ma.us/dep/cities.htm>.

**NOTE:** Submit Whole Effluent Toxicity tests, as well as an additional copy of DMRs and related notices to:

Massachusetts Department of Environmental Protection  
Division of Watershed Management (DWM)  
627 Main Street, 2nd Floor  
Worcester, MA 01608

Other MassDEP contacts:

If you are seeking information about MassDEP permitting, need application forms, or have questions about annual compliance fees, call the MassDEP Regional Service Center:

Central Region (Worcester)	508-792-7683
Northeast Region (Wilmington)	978-694-3314
Southeast Region (Lakeville)	508-946-2714
Western Region (Springfield)	413-755-2295

If you are reporting an overflow, bypass, or back up, (not including CSOs), provide immediate telephone notification during normal business hours to the appropriate MassDEP Regional Office at these numbers:

Central Region (Worcester)	508-792-2722
Northeast Region (Wilmington)	978-694-3200
Southeast Region (Lakeville)	508-946-2850
Western Region (Springfield)	413-784-2279

If you believe an overflow, bypass, or any other discharge may have resulted in an oil or hazardous material release, in addition to the required reporting to the National Response Center, report it to MassDEP at any time, 24 hours a day, at this toll free number: 1-888-304-1133; Northeast Region Hotline 978-694-3215.

For general information about MassDEP permitting, call the MassDEP InfoLine:

617-338-2255 (From area code 617 and outside MA)  
800-462-0444 (From area codes 413, 508, 781, and 978)

For information on wastewater treatment facility operator certification and training, contact the New England Interstate Water Pollution Control Commission:  
978-323-7927

For information on Residuals Management information at MassDEP:  
617-654-6517

For information about MassDEP grant and loan programs:  
617-292-5779

Permit applications, publications, and compliance information are also available at the MassDEP website: <http://www.state.ma.us/dep/water/>

d. ***SLUDGE/Incinerator - all New England States:***

Permittees in the States of: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Vermont that are required to submit annual Sludge [Section 503 Regulations] reports to the US EPA shall submit the reports by February 19<sup>th</sup> of each year to the address specified on Chapter 1. If sludge DMR forms were mailed to you, submit the DMRs with your annual report.

## Signature Requirements

[Code of Federal Regulations]  
[Title 40, Volume 14, Parts 87 to 135]  
[Revised as of July 1, 1999]  
From the U.S. Government Printing Office via GPO Access  
[CITE: 40CFR122.22]

[Page 745-746]

### PART 122--EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM--Table of Contents

#### Subpart B--Permit Application and Special NPDES Program Requirements

Sec. 122.22 Signatories to permit applications and reports (applicable to State programs, see Sec. 123.25).

(a) Applications. All permit applications shall be signed as follows:

(1) For a corporation. By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding \$25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

Note: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in Sec. 122.22(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under Sec. 122.22(a)(1)(ii) rather than to specific individuals.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

(3) The written authorization is submitted to the Director.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

I certify under penalty of law that this document and all ATTACHMENTS were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(Clean Water Act (33 U.S.C. 1251 *et seq.*), Safe Drinking Water Act (42 U.S.C. 300f *et seq.*), Clean Air Act (42 U.S.C. 7401 *et seq.*), Resource Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*))

[48 FR 14153, Apr. 1, 1983, as amended at 48 FR 39619, Sept. 1, 1983; 49 FR 38047, Sept. 29, 1984; 50 FR 6941, Feb. 19, 1985; 55 FR 48063, Nov. 16, 1990]

## **CHAPTER 2. ANSWERS TO FREQUENTLY ASKED QUESTIONS for DMRs**

### **1. Who do I contact at the US EPA if there are any discrepancies between my Permit and the preprinted DMR Forms?**

If there are any discrepancies, or you have questions regarding the Permit requirements contained on the DMR form, please call the Environmental Protection Specialist listed in the beginning of this manual or your annual DMR cover letter or write to:

**Water Technical Unit (OES4-SMR)  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912**

NOTE: You are required to sample and report the information required by your Permit and/or current enforcement action, if applicable. You are legally obligated to report the information required by your Permit despite any errors or omissions on the printed DMR forms. Any errors or discrepancies noted on your DMR forms shall be reported to the Environmental Protection Specialist for your Permit that is listed in Chapter 1, page 2. You will be notified of any changes in these contacts in the Annual DMR letter.

### **2. What analytical procedures do I use?**

Sampling and analytical procedures must comply with 40 CFR § 136. [See EPA's home page on the WEB at [www.epa.gov/](http://www.epa.gov/) and click on LAWS & REGULATIONS, or go directly to [www.access.gpo.gov/nara/cfr/index.html](http://www.access.gpo.gov/nara/cfr/index.html)]. The procedures are basically the same as those in Standard Methods For The Examination of Water And Wastewater. However, not all Standard Methods procedures are approved for EPA use. To ensure that your analytical procedures meet EPA's requirements, please check the cited EPA regulations.

### **3. Can any symbols other than numerals be entered on the DMR?**

Other valid "No Data Indicator" codes listed on **ATTACHMENT E**, the symbol "<" [less than], which can be used to identified measurement values that are less than laboratory detection limits and "TNTC" and ">" used to indicate a bacteria test count that is too numerous to count are the only other acceptable symbols or acronyms.

### **4. If a calendar week begins in one month and ends in the next month, which sample measurements do I report on my DMR?**

All sample measurement values must be reported on the DMR for the month in which the samples were taken. The exception occurs when a calendar week begins in one month and ends in the next. In this instance, compliance with weekly reporting requirements must be reported for the month in which the calendar week ends.

### **5. What results do I report if I sample more frequently than required by my Permit?**

All monitoring frequencies specified in your Permit are minimum monitoring requirements. The results of any additional monitoring of parameters at location(s) designated in the Permit, using approved sampling procedures and analytical methods, must be included in the DMR calculations. Such increases in the frequency of sampling must also be reported in the Frequency of Analysis block.

### **6. How and where do I report an error on the DMR?**

To correct an error in reporting data on the DMR, or if you need to make a change due to an error in reporting, cross out the value(s), re-enter the correct value, and initial the field/box. Any errors in reporting need to be noted either on the bottom of the DMR or in a cover letter.

7. How and where do I report a bypass?

All bypasses, overflows, discharges without a permit shall comply with the reporting requirements listed in 40 CFR § 122.41 and Part II, Section D.1.e. of the General Conditions attached to your Permit. Specifically, you are required to orally report the following information to EPA within 24 hours of your **discovery** of the bypass, overflow or discharge without a permit. Oral reports shall be made to the following contacts:

Massachusetts - Northeast - George Harding, 617.918.1870  
Central - Doug Koopman, 617.918.1747  
Southeastern - Joy Hilton, 617.918.1877  
Western - George Harding, 617.918.1870

New Hampshire - Joy Hilton, 617.918.1877

Written submissions are required within five (5) days of the time that you become **aware** of the event. The written submission shall contain a description of the non-compliance, including exact dates and times, and if the non-compliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the non-compliance. Written submissions shall be mailed to the EPA address and the applicable MassDEP Regional Office or NHDES addresses provided above in **Chapter 1, Section 9**. Although not required, the format in **ATTACHMENT H: (Bypass or Sewer Overflow Report)** has been successfully used by permittees to report overflows to EPA.

The MassDEP accepts EPA's **ATTACHMENT H** or you may use the **Massachusetts DEP Emergency Overflow/Bypass Notification Form** which can be downloaded at:  
<http://www.state.ma.us/dep/brp/npdes/surffms.htm>

8. To whom do I submit the completed DMR form?

Please complete the DMR in accordance with these instructions, have each page of the DMR signed and dated by the principal executive officer or authorized agent, and mail the signed original DMR to the following US EPA address with copies to the applicable state regulatory agency. One copy of the signed DMR should be retained in your files.

All New England States with Sludge reporting requirements, and for the states of Massachusetts and New Hampshire for all Permit and Special General Permit requirements/reporting shall be mailed to the following **US EPA** address:

**Water Technical Unit (OES4-SMR)  
U.S. Environmental Protection Agency  
5 Post Office Square, Suite 100  
Boston, MA 02109-3912**

9. When am I required to submit and what must be included on a cover letter to my DMR?

A cover letter must accompany your DMR when any of the following occurs:

- ▶ The DMR includes a violation of your Permit. The cover letter must explain the cause(s) of the violation; whether the violation is continuing, and if it is, when you expect to resolve the violation; the actions that you have taken and/or plan to take to remedy the violations; and the date the actions were taken, or plan to be taken.

- ▶ If any reported Sample Measurement Values are less than the minimum level specified in your Permit, the analytical method used and laboratory detection limit of the analytical method used for **each** parameter in which a value below the permitted minimum value is measured during the monitoring period shall be included in the cover letter.

### CHAPTER 3. EXAMPLE DMR CALCULATIONS

Monitoring results for a typical municipal wastewater treatment plant are provided in **ATTACHMENT A**. The resultant Discharge Monitoring Report (DMR) reflecting this information is included as **ATTACHMENT B**. A sample DMR for Whole Effluent Toxicity monitoring is also included as part of **ATTACHMENT B** (also see **ATTACHMENTS F and G**).

The following is an explanation of the derivation of the values that appear on the completed DMR. Minimum, Average, and Maximum column headings have been eliminated on the new DMR forms. For each parameter, the applicable NPDES quantity and concentration permit limits are listed in the Permit Requirement row.

#### 1. Five-day Biochemical Oxygen Demand (BOD<sub>5</sub>) and Total Suspended Solids (TSS)

##### a. Concentration Block Data Entry

**ATTACHMENT A** lists nine effluent BOD<sub>5</sub> sample results for the month. The reported values are 40.6, 57.1, 46.2, 50.3, 10.2, 12.0, 7.1, 10.1, and 45.6 milligrams/liter (mg/l). The monthly average concentration is the arithmetic mean of all sample values measured over the calendar month. The calculation is performed by adding the nine values and dividing by the number of samples to determine a monthly average concentration of 31.0 mg/l. Similarly, the weekly average concentration is the arithmetic mean of all sample values measured over a calendar week. The highest weekly average concentration for the calendar month must be reported on the DMR. For DMR reporting purposes, a calendar week begins on Sunday and ends on Saturday, inclusive. In the specific instance where a calendar week begins in one month and ends in the next, the weekly monitoring results shall be reported on the DMR in which the calendar week ends.

In the specific example, the weekly BOD<sub>5</sub> averages were calculated as follows:

*(PeriodCalculation) Weekly Average(mg/l)*

$$(1/01-1/07) \frac{40.6+57.1}{2} = 48.9$$

$$(1/08-1/14) \frac{46.2+50.3}{2} = 48.25$$

$$(1/15-1/21) \frac{10.2+12.0}{2} = 11.1$$

$$(1/22-1/28) \frac{7.1+10.1}{2} = 8.6$$

The highest weekly average concentration of **48.9 mg/l** occurred during the week of 1/1 - 1/7. (Note that the weekly average concentration for the calendar week beginning 1/29 has not been calculated for the January, DMR. This calculation would be reported in the month in which the calendar week ends - February.) The daily maximum discharge is defined as the highest "daily discharge" that occurs during the calendar month. Daily discharge is defined in your NPDES permit (Permit) as the "discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling." Subsequently, a monthly average concentration of 31.0 mg/l, a weekly average concentration of 48.9 mg/l (1/1-1/7), and a daily maximum concentration of 57.1 mg/l (1/5) have been reported in the respective Sample Measurement blocks. Influent BOD<sub>5</sub>, concentrations and influent and effluent Total Suspended Solids (TSS) concentrations were similarly calculated.

Specifically note the weekly average concentration reporting for TSS. Despite the fact that 62 mg/l of TSS was measured in the January 30<sup>th</sup> sample, and that this value is higher than the 34 mg/l of TSS calculated for the week ending on January 7<sup>th</sup>, 34 mg/l is reported as the highest weekly average concentration on the January DMR. In calculating the weekly averages, the January 30<sup>th</sup> result would be included on the February DMR since the week in which the sample was taken ends in February. Note however, that the January 30<sup>th</sup> result was used in the calculation of the monthly average TSS and is listed on the DMR as the daily maximum Sample Measurement Value for January.

b. Quantity or Loading Block Entry

The "average monthly loading" is calculated by dividing the total monthly load, by the number of days during the calendar month in which the samples were taken. These average quantities or loadings are to be reported in pounds/day (lb/day) or kilograms/day (kg/day) depending on the unit requirement stipulated in the Permit Requirement block using the following equations:

$$\text{Quantity (lb/day)} = \text{Flow (MGD)} \times \text{conc. (mg/l)} \times 8.34 \text{ (conversion)}$$

$$\text{Quantity (kg/day)} = \text{Flow (MGD)} \times \text{conc. (mg/l)} \times 3.79 \text{ (conversion)}$$

In the specific example; the Permit requires that BOD<sub>5</sub> and TSS monthly average influent quantities and the BOD<sub>5</sub> and TSS monthly and weekly average effluent quantities be calculated and reported in lbs/day.

As can be seen by the calculations summarized in **ATTACHMENT C-1**, the monthly average effluent loading was calculated by dividing the sum of the daily discharge loadings for the month by the number of sample measurements taken during the month. Similarly, the weekly average effluent loadings were calculated by summing the individual daily loadings calculated for each calendar week and dividing the sum by the number of samples taken during the week. The monthly average and highest weekly average loading were then reported on the DMR. Subsequently, the monthly average and daily maximum BOD<sub>5</sub> effluent loadings have been reported as 106.5 lbs/day and 178.6 lbs/day (1/8 - 1/14), respectively. The TSS effluent and BOD<sub>5</sub> and TSS influent loadings were similarly calculated.

c. Units

All Sample Measurements must be reported in the same units as the effluent limits stipulated in your Permit. The units in which the sample was measured must be reported in the Sample Measurement Units' block. BOD<sub>5</sub> and TSS concentrations were measured in milligrams/liter (mg/l) and loadings were reported as pounds/day (lbs/day).

d. Exceedances

The total number of exceedances (permit conditions exceeded) for all of the limits of each parameter must be reported in the "No. Ex." Block. In the sample illustration, there were two exceedances of the BOD<sub>5</sub> weekly average permit concentration limits (1/1 - 1/7 and 1/8-1/14) and one exceedance monthly average permit concentration limit. Since there were no exceedances of the BOD<sub>5</sub> quantity limits, the total number of BOD<sub>5</sub> exceedances was reported as "3".

#### e. Frequency of Analysis

The example facility is required to take BOD<sub>5</sub> samples twice per week whereas the required sampling frequency for TSS is once per week. While this represents a highly unusual situation, this example has been used to illustrate different frequency of analyses. Narrative descriptions are now used to describe the Frequency of Analysis. Twice/week has been entered on the DMR for BOD<sub>5</sub> and once/week for TSS.

#### f. Sample Type

This block indicates the actual Sampled Type. Please complete this block whether or not the samples were taken using the correct sample type. In the example, Composite Samples were monitored for both BOD<sub>5</sub> and TSS.

### 2. pH

The Permit Requirement row requires that the minimum and maximum pH Sample Measurement Values shall be reported for the month. The pH Sample Measurement Values listed in **ATTACHMENT A** indicated a minimum pH of 5.33 SU (1/4) and a maximum pH of 8.43 SU (1/31). The Sample Measurement Values were reported in Standard Units (SU). Four exceedances (violations) were reported (three exceedances of the minimum limit - 5.33 SU (1/4), 6.26 SU (1/11) and 6.49 SU (1/12) plus one exceedance of the maximum limit - 8.43 SU (1/31). Note that exceedances of minimum limits are those Sample Measurement Values that are less than the minimum limit contained in your Permit and on your DMR. The Frequency of Analysis was reported as Daily and the Sample Type was Grab. Note that unless otherwise defined in your Permit, "Daily" means that samples shall be taken during all seven days of the calendar.

### 3. Flow

The Permit Requirement row of the DMR indicates that the monthly average and daily maximum flow for each calendar month shall be reported. The monthly average flow from the sample illustration in **ATTACHMENT A** was computed to be 0.44 Million gallons/day (mgd) by dividing the sum of the daily flow values by the number of days in the month. The daily maximum flow is the highest daily flow observed during the monthly reporting period. In the example, the maximum flow of 0.64 million gallons per day occurred on 1/29.

The Permit for this facility established an annual average flow limit of 0.5 million gallons per day (mgd). In this case, the Permit requires that the annual average flow be reported as a 12-month rolling average. The 12-month rolling average is calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows for the previous 11 months.

**ATTACHMENT C-2** illustrates this calculation. The annual average value would be calculated using the monthly average flow for the month in which the DMR information is being reported, in this case January, 2007 and the eleven previous monthly average flows (February, 2006 thru December, 2006). The next DMR - February, 2007 would then report the annual average flow based upon monthly average flows for March, 2006 thru February, 2007.

#### 4. Dissolved Oxygen

The Permit Requirement row of the DMR indicates that the monthly minimum Dissolved Oxygen Sample Measurement Values for the month shall be reported. Again referring to **ATTACHMENT A**, the minimum Dissolved Oxygen Sample Measurement Value for the month occurred on January 30<sup>th</sup> (5.8 mg/l). The Sample Measurement Values were reported in milligrams/liter. Two violations of the minimum limit - 5.9 mg/l (1/2) and 5.8 mg/l (1/30) were reported. The Frequency of Analysis was reported as Daily and the Sample Type was Grab. Note again that unless otherwise defined in your Permit, "Daily" means seven days a week.

#### 5. Total Copper

The Permit Requirement row of the DMR indicates that the monthly average and daily maximum Total Copper Sample Measurement Values shall be reported. From **ATTACHMENT A**, only one Sample Measurement occurred during the month - <3 micrograms/liter (1/9). The "less than" symbol indicates that no Measurement Value was detected; the value of "3" represents the minimum detection level of the analytical method used to analyze the sample. In this case the furnace atomic absorption method was used. Although other Total Copper analytical methods are available, the furnace atomic absorption method is the only EPA-approved analytical method with a detection limit less than the minimum level specified in the Permit. Because the reported values are less than the minimum level specified for Total Copper in the Permit and less than the monthly average concentration limit specified in your Permit, a value of "0" was reported in both the Monthly Average and Daily Maximum Sample Measurement blocks. The DMR cover letter would then note the analytical method that was used to measure the Total Copper concentrations in the composite sample and the laboratory detection limit for the analytical method.

Since only one sample was taken during the month, the single measurement value represents both the monthly average and daily maximum. No exceedances were reported and a Frequency of Analysis of Daily and a Sample Type of Composite were reported on the DMR.

#### 6. Total Chlorine Residual

The Permit for this example facility contains a daily maximum Total Residual Chlorine (TRC) concentration limit of 0.03 mg/l. The Permit also requires the facility to sample the facility's effluent for TRC twice daily. The Permit also notes that the minimum level for TRC is 0.02 mg/l. **ATTACHMENT C-3** lists the raw data upon which the daily discharge results that appear in **ATTACHMENT A** were calculated. Daily discharge is defined in your Permit as the "discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling." Since grab samples are taken for TRC, the daily discharge must be calculated as the **average** of the grab samples results for the **calendar day**. The daily maximum discharge reported on the DMR is the highest daily discharge concentration for the month. In this example, the highest daily discharge of 0.04 mg/l occurred on 1/23. The total number of reported exceedances was two - 0.035 (1/8) and 0.04 (1/23). Sample Type was Grab. Specifically note that on January 13<sup>th</sup> only one grab sample was taken. Since only one sample was taken, the average of all samples over the day was the value of the one sample. **Please note that this violation of the required sampling frequency must be reported on the DMR and noted and explained in the DMR cover letter.** Similarly note that on January 12<sup>th</sup> TRC samples were taken more frequently than required by the Permit (three vs. two). The daily discharge concentration was then calculated as the average of all three samples.

## 7. Bacteria

The Permit Requirement row requires the calculation of the Fecal Coliform monthly geometric mean. The actual computation depends on the type of calculator used.

**Example** - Calculate the monthly geometric mean of all of the fecal coliform analytical results for January (240, 1000, 140, 300, 0, 200, 400, 200, 50):

- Convert all zeros to "1" and drop any "<" symbols (240, 1000, 140, 300, 1, 200, 400, 200, 50)
- Multiply all of the numbers ( $8.064 \times 10^{18}$ )
- Divide "1" by the number of measurements ( $1/9 = 0.1111$ )
- Enter the product of the numbers in the calculator ( $8.064 \times 10^{18}$ )
- Push the  $y^x$  key
- Enter the answer from step #3 into the calculator ( $1/9 = 0.1111$ )
- Push "=" key; Answer: **126.1**

**For those calculators with reverse-polish logic:**

- Convert all zeros to "1" and drop all "<" symbols (240, 1000, 140, 300, 1, 200, 400, 200, 50)
- Multiply all of the numbers ( $8.064 \times 10^{18}$ )
- Divide "1" by the number of measurements ( $1/9 = 0.1111$ )
- Push the  $y^x$  key; Answer: **126.1**

The monthly geometric mean of the nine samples is **126**. The daily maximum Fecal Coliform concentration is **1000** (1/5).

**TNTC:** If any of the sample measurement value is too numerous to count (TNTC), write 'TNTC' in both the **monthly geometric mean** and **daily maximum** block(s). This instruction is a change from prior year instructions. The number of exceedances if any sample measurement value is reported as TNTC is at least two (the monthly geometric mean and daily maximum). Additional exceedances must be reported if any other sample measurement values exceed the daily maximum permit limit. You are reminded that it is your responsibility to ensure that a sufficient number of dilutions are used to allow you to accurately measure the number of coliform that are discharged. You are also reminded that you must submit an explanation of the TNTC in your DMR cover letter including the dilutions used in the test, and if necessary, the measures that were implemented to resolve the problem and the measures that were implemented to eliminate future TNTC reporting. If additional monitoring was performed, report the additional monitoring in the Frequency of Analysis block.

**Most Probable Number Method:** If the most probable number (MPN) method is used, the actual values from the MPN table must be used and should not be rounded. If the reported value is greater than (" $>$ ") the maximum value of the referenced MPN chart, then the daily

maximum reported value shall be reported as ">maximum table value". When calculating the geometric mean, the greater than sign should be dropped and the maximum value shall be included in the geometric mean calculations.

### 8. BOD<sub>5</sub> and TSS Percent Removal Calculations

The monthly average percent removal is not calculated by averaging the daily percent removal values. Instead, the monthly average percent (%) removal is calculated from two numbers; the monthly average influent concentration and the monthly average effluent concentration. The percent removal calculations are performed using the following formula:

$$\% \text{ Removal} = \frac{\text{Monthly Avg. Influent Conc.} - \text{Monthly Avg. Effluent Conc.}}{\text{Monthly Avg. Influent Conc.}} \times 100$$

For this example:

From **ATTACHMENT A**:

Monthly Average Influent BOD Concentration = 197.3 mg/l  
Monthly Average Effluent BOD Concentration = 31.0 mg/l

$$\text{BOD}_5 \text{ \% Removal} = \frac{197.3 - 31.0}{197.3} \times 100 = 84.3\%$$

A TSS% removal of 84.0% was similarly calculated.

### 9. No Analytical Result

Although not displayed on the sample DMR, the occasion may occur where no analytical result can be reported. Refer to **Chapter 1, page 4 and ATTACHMENT E** for a listing of acceptable NODI codes.

### 10. Toxicity Reporting

We encourage your use of **ATTACHMENT F**, the Toxicity Test Summary Sheet. This sheet should be filled out by your biomonitoring laboratory and forwarded along with your complete Whole Effluent Toxicity lab report. Completion of this sheet will facilitate the review of biomonitoring data. Test results should also be included on your DMR, where applicable, i.e. 001T. See **ATTACHMENTS F and G**.

ATTACHMENT A

SAMPLE MEASUREMENT VALUES

			Flow mgd	BOD			TSS			pH SU	TRC mg/l	Fecal #/100 ml	Copper ug/l	DO mg/l
				Inf. mg/l	Eff. mg/l	Week Avg.	Inf. mg/l	Eff. mg/l	Week Avg.					
<b>1st Week</b>		Date												
Day Count														
1	Sun	1-Jan	0.5						7.31	0			6.8	
2	Mon	2-Jan	0.33	192.2	40.6		185.4	34	7.78	0.025	240		5.9	
3	Tue	3-Jan	0.32						7.46	0			7.3	
4	Wed	4-Jan	0.43						5.33	0.015			7.6	
5	Thu	5-Jan	0.33	212	57.1				6.81	0	1000		7.3	
6	Fri	6-Jan	0.34						7.24	0			7.2	
7	Sat	7-Jan	0.25						7.45	0.02			6.8	
<b>Week Avg.</b>						48.9		34						
<b>2nd Week</b>														
8	Sun	8-Jan	0.58						7.61	0.035			7.1	
9	Mon	9-Jan	0.47	186.1	46.2		163.1	33.3	7.42	0	140	<3	6.9	
10	Tue	10-Jan	0.42						7.07	0.03			6.3	
11	Wed	11-Jan	0.41						6.26	0			7.1	
12	Thu	12-Jan	0.42	200.3	50.3				6.49	0.01	300		5.9	
13	Fri	13-Jan	0.32						7.07	0.03			7.2	
14	Sat	14-Jan	0.27						7.08	0			7.2	
<b>Week Avg.</b>						48.25		33.3						
<b>3rd Week</b>														
15	Sun	15-Jan	0.62						7.45	0			6.6	
16	Mon	16-Jan	0.6	206.1	10.2		187	14.2	7.55	0	0		6.5	
17	Tue	17-Jan	0.62						6.97	0			6.5	
18	Wed	18-Jan	0.6						7.31	0.01			6.7	
19	Thu	19-Jan	0.46	183	12				6.84	0	200		6.7	
20	Fri	20-Jan	0.36						7.21	0			7.1	
21	Sat	21-Jan	0.4						7.43	0			7.3	
<b>Week Avg.</b>						11.1		14.2						
<b>4th Week</b>														
22	Sun	22-Jan	0.42						7.09	0			6.2	
23	Mon	23-Jan	0.52	187.2	7.1		172.5	6.5	6.88	0.04	400		6.8	
24	Tue	24-Jan	0.45						7.27	0.025			6.4	
25	Wed	25-Jan	0.38						6.98	0			6.1	
26	Thu	26-Jan	0.4	194.1	10.1				7.03	0	200		6.6	
27	Fri	27-Jan	0.42						7.14	0			6.5	
28	Sat	28-Jan	0.39						7.25	0			6.4	
<b>Week Avg.</b>						8.6		6.5						
<b>5th Week</b>														
29	Sun	29-Jan	0.64						6.85	0.02			7.1	
30	Mon	30-Jan	0.45	215	45.6		230	62	7.24	0.01	50		5.8	
31	Tue	31-Jan	0.44						8.43	0.01			6.8	
<b>Monthly Averages</b>			0.44	197.3	31.0		187.6	30.0						
<b>Minimum</b>									5.33				5.8	
<b>Maximum</b>			0.64						8.43	0.04				

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

**ATTACHMENT B**

Form Approved  
OMB No. 2040-0004

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: EXAMPLE DMR FORM  
ADDRESS: 1111 FIRST STREET  
SPRINGFIELD, MA 02345

FACILITY: EXAMPLE DMR FORM  
LOCATION: 1111 FIRST STREET  
SPRINGFIELD, MA 011022208  
ATTN: Sally Sue Sampson, Dir. DPW

MA0101234  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
07	01	01	07	01	31

DMR MAILING ZIP CODE: 011022208  
MINOR (SUBRW)  
TREATED EFFLUENT  
External Outfall

No Discharge

PARAMETER	SAMPLE MEASUREMENT PERMIT REQUIREMENT	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE			
Flow, In conduit or thru treatment plant		0.44	0.64	M <sup>3</sup> /D				0	Cont	Cont
50050 10 Effluent Gross				Mgal/d						
Chlorine, total residual										
50060 10 Effluent Gross										
Colliform, fecal general										
74055 10 Effluent Gross										
BOD, 5-day, percent removal										
81010 K0 Percent Removal										
Solids, suspended percent removal										
81011 K0 Percent Removal										
Flow, total		0.50		M <sup>3</sup> /d						
82220 10 Effluent Gross				Mgal/d						

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  
**S.S. Sampson, Dir.**

TELEPHONE: 413-555-1111  
AREA Code NUMBER YEAR MO DAY

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT  
**D. A. Sampson**

DATE: 07 02 12

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

**ATTACHMENT B**

PERMITTEE NAME/ADDRESS (Include Facility Name/Location if Different)

NAME: EXAMPLE DMR FORM  
ADDRESS: 1111 FIRST STREET  
SPRINGFIELD, MA 02345

FACILITY: EXAMPLE DMR FORM  
LOCATION: 1111 FIRST STREET  
SPRINGFIELD, MA 011022208  
ATTN: Sally Sue Sampson, Dir. DPW

MA0101234  
PERMIT NUMBER

001A  
DISCHARGE NUMBER

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
07	01	01	07	01	31

DMR MAILING ZIP CODE: 011022208  
MINOR (SUBRW)  
TREATED EFFLUENT  
External Outfall

No Discharge

PARAMETER	QUANTITY OR LOADING			QUALITY OR CONCENTRATION			NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
	VALUE	UNITS	UNITS	VALUE	UNITS	UNITS			
Oxygen, dissolved (DO)	106.5	mg/L	178.6	31	mg/L	48.9	3	Daily	Grab
BOD, 5-day, 20 deg. C	727.0	mg/L	16/d	197.3	mg/L	57.1	0	2/week	Comp24
BOD, 5-day, 20 deg. C	11.2	mg/L	16/d	30.0	mg/L	34.0	0	Weekly	Comp24
Effluent Gross	739.3	mg/L	16/d	189.6	mg/L	0	0	Weekly	Comp24
Solids, total suspended	0	mg/L	16/d	0	mg/L	0	0	Monthly	Comp24
Raw Sewage Influent	0	mg/L	16/d	0	mg/L	0	0	Monthly	Comp24
Copper, total (as Cu)	0	ug/L	16/d	0	ug/L	0	0	Monthly	Comp24
Effluent Gross	0	ug/L	16/d	0	ug/L	0	0	Monthly	Comp24
pH	5.33	SU	16/d	8.43	SU	4	4	Daily	Grab

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER  
**S.S. Sampson, Dir.**

1 certify, under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure the qualified personnel properly gather, analyze, and report the information. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT  
**A.A. Sampson**

TELEPHONE NUMBER  
413 555 1111

DATE  
07 02 12

COMMENTS AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here)





# LOADING CALCULATIONS

ATTACHMENT C-1

1st Week Day Count	Date	Flow mgd	BOD			BOD			BOD			TSS			TSS		
			Influent Conc. mg/l	Conv. Factor	Influent Loading lbs/day	Effluent Conc. mg/l	Conv. Factor	Effluent Loading lbs/day	Influent Conc. mg/l	Influent Loading lbs/day	Effluent Conc. mg/l	Effluent Loading lbs/day	Influent Conc. mg/l	Influent Loading lbs/day	Effluent Conc. mg/l	Effluent Loading lbs/day	
2	Mon 2-Jan	0.33	192.2	8.34	529.0	40.6	8.34	111.7	185.4	510.3	34	93.6					
5	Thu 5-Jan	0.33	212	8.34	583.5	57.1	8.34	157.2									
Week Avg.								134.44									93.6
2nd Week																	
9	Mon 9-Jan	0.47	186.1	8.34	729.5	46.2	8.34	181.1	163.1	639.3	33.3	130.5					
12	Thu 12-Jan	0.42	200.3	8.34	701.6	50.3	8.34	176.2									
Week Avg.								178.6									130.5
3rd Week																	
16	Mon 16-Jan	0.6	206.1	8.34	1031.3	10.2	8.34	51.0	187	935.7	14.2	71.1					
19	Thu 19-Jan	0.46	183	8.34	702.1	12	8.34	46.0									
Week Avg.								48.5									71.1
4th Week																	
23	Mon 23-Jan	0.52	187.2	8.34	811.8	7.1	8.34	30.8	172.5	748.1	6.5	28.2					
26	Thu 26-Jan	0.4	194.1	8.34	647.5	10.1	8.34	33.7									
Week Avg.								32.2									28.2
5th Week																	
30	Mon 30-Jan	0.45	215	8.34	806.9	45.6	8.34	171.1	230	863.2	62	232.7					
SUM								958.9		3696.6		556.0					
AVG.								727.0		106.5		111.2					

## 12-Month Rolling Average Flow Calculations

Reporting Months	Mon. Avg. mgd	Dly. Max. mgd
Feb-07	0.67	0.72
Jan-07	0.44	0.64
Dec-06	0.46	0.74
Nov-06	0.52	0.75
Oct-06	0.54	0.82
Sep-06	0.74	0.93
Aug-06	0.38	0.56
Jul-06	0.39	0.55
Jun-06	0.43	0.61
May-06	0.54	0.73
Apr-06	0.63	0.86
Mar-06	0.52	0.78
Feb-06	0.43	0.78
Feb 06 thru Jan 07 - Sum	6.02	
Mar 06 thru Feb 07 - Sum	6.26	
12-month Rolling average	Jan 07 DMR	<b>0.50</b>
12-month Rolling average	Feb 07 DMR	0.52

## TRC DAILY DISCHARGE CALCULATIONS

			TRC1 (mg/l)	TRC2 (mg/l)		Daily Discharge (mg/l)	Fecal (#/100 ml)
<b>1st Week</b>		Date					
Day Count							
1	Sun	1-Jan	<0.02	<0.02		0	
2	Mon	2-Jan	0.03	0.02		0.025	240
3	Tue	3-Jan	<0.02	<0.02		0	
4	Wed	4-Jan	<0.02	0.03		0.015	
5	Thu	5-Jan	<0.02	<0.02		0	1000
6	Fri	6-Jan	<0.02	<0.02		0	
7	Sat	7-Jan	0.02	0.02		0.02	
<b>2nd Week</b>							
8	Sun	8-Jan	<0.02	0.07		0.035	
9	Mon	9-Jan	<0.02	<0.02		0	140
10	Tue	10-Jan	<0.02	0.06		0.03	
11	Wed	11-Jan	<0.02	<0.02		0	
12	Thu	12-Jan	0.03	<0.02	<0.02	0.01	300
13	Fri	13-Jan	NR	0.03		0.03	
14	Sat	14-Jan	<0.02	<0.02		0	
<b>3rd Week</b>							
15	Sun	15-Jan	<0.02	<0.02		0	
16	Mon	16-Jan	<0.02	<0.02		0	0
17	Tue	17-Jan	<0.02	<0.02		0	
18	Wed	18-Jan	0.02	<0.02		0.01	
19	Thu	19-Jan	<0.02	<0.02		0	200
20	Fri	20-Jan	<0.02	<0.02		0	
21	Sat	21-Jan	<0.02	<0.02		0	
<b>4th Week</b>							
22	Sun	22-Jan	<0.02	<0.02		0	
23	Mon	23-Jan	<0.02	0.08		0.04	400
24	Tue	23-Jan	<0.02	0.05		0.025	
25	Wed	25-Jan	<0.02	<0.02		0	
26	Thu	26-Jan	<0.02	<0.02		0	200
27	Fri	27-Jan	<0.02	<0.02		0	
28	Sat	28-Jan	<0.02	<0.02		0	
<b>5th Week</b>							
29	Sun	29-Jan	0.02	0.02		0.02	
30	Mon	30-Jan	0.02	<0.02		0.01	50
31	Tue	31-Jan	0.02	<0.02		0.01	

ATTACHMENT D

[JANUARY 2009]

UNIT OF MEASURE  
CODEs AND  
DESCRIPTION LIST

CODE	UNIT CODE DESCRIPTION
2L	1000 Gallons per Day
97	Acres
2F	Acute Toxicity
3Y	Alternate Number
1N	Barrels
1T	Barrels per Day
99	Barrels per Hour
5E	Billion Btus per Day
3V	Billion BTU's per Hour
34	BTU's per Day
33	BTU's per Hour
3C	BTU's per Minute
2G	Chronic Toxicity
3Z	Colony Forming Units per 100ml
1E	Color - Admi Units
10	Color - Platinum Cobalt Unit
6K	Conductance - Microohms per Second
18	Counts per Liter
85	Cubic Feet per Day
08	Cubic Feet per Second
2Y	Cubic Meters per Second
2H	Curies per Day
65	Curies per Milliliter
1S	Cycles
5A	Days
84	Days per Month
83	Days per Week
7C	deciSiemens per centimeter

04	Degrees Centigrade	1L	Micrograms per Kilogram
15	Degrees Fahrenheit	28	Micrograms per Liter
98	Degrees Farenheit per Hour	11	micromhos per cm
4L	Dilution Ratio	7D	microSiemens per centimeter
1A	Direction	4U	Microwatt-Seconds per Square Centimeter
4K	Discharges per Month	4I	Microwatts per Square Centimeter
70	Dry Tons	2Q	Milligrams per Day
27	Feet	69	Milligrams per Kilogram
1K	Fibers per Liter	19	Milligrams per Liter
1P	Fibers per Milliliter	72	Milligrams per Square Meter
57	Gallons	25	Milliliters per Liter
53	Gallons per Batch	06	Million BTU's per Day
07	Gallons per Day	05	Million BTU's per Hour
1X	Gallons per Hour	9W	Million Colony Forming Units
78	Gallons per Minute	3R	Million Gallons
8D	Gallons per Month	8H	Million Gallons per 6 Months
8G	Gallons per Week	03	Million Gallons per Day
8E	Gallons per Year	80	Million Gallons per Month
35	Grams per Day	8I	Million Gallons per Quarter
36	Grams per Liter	2A	Million Gallons per Year
64	Grams per Milliliter	8F	Million Gallons per Year
67	Grams per Milliliter	9T	Million Pounds per Day
8A	Hours	71	Million Pounds per Year
79	Hours per Day	2E	Milliosmols per Kilogram
82	Hours per Month	4T	Milliwatt-Seconds per Square Centimeter
61	Inches	4S	Milliwatts per Square Centimeter
2D	Inches per Day	14	Minutes
2B	Inches per Hour	5B	Minutes per Day
5W	Inches per Month	30	Most Probable Number per 100ml
47	Kg per CFS of Streamflow per Day	4C	Most Probable Number per Gram
56	Kilograms	3D	MPN per 4 Grams of Total Solids
02	Kilograms per 1000 Gallons		
01	Kilograms per Day		
3K	Kilograms per Hectare		
2J	Kilograms per Hour		
37	Kilograms per Liter		
1W	Kilograms per Month		
51	Kilograms per Year		
49	Lbs per CFS of Streamflow per Day		
54	Megawatts		
46	Meters		
38	Meters per Second		
4F	Metric Tons per Hectar per Yr		
4A	Metric Tons per Year		
75	Microcuries per Milliliter		
2U	Micrograms per Day		

3M	Nanograms per Liter	1U	Ratio
6L	Nanometers	40	Short Tons per Day
43	Nephelometric Turbidity Units	92	Square Feet
5J	Number	12	Standard Units
4X	Number of Exceedances	3W	State Class # A=1 B=2 None=0
4Y	Number per 100 Liters	3X	Table Number (2, 3 or 4)
13	Number per 100 Milliliters	5D	Tons
1C	Number per Milliliter	2N	Tons per Day
88	Occurrences per Day	5H	Tons per Month
93	Occurrences per Month	5F	Tons per Year
89	Occurrences per Week	73	Toxicity Units
21	Parts per Billion	9X	Yes=0; No=1
20	Parts per Million	9P	Yes=1; No=0
2S	Parts per Quadrillion		
32	Parts per Thousand		
22	Parts per Trillion		
9A	Pass=0 Fail=1		
23	Percent		
3T	Percent Effect		
6F	Percent Fertilization		
2I	Percent Mortality		
2T	Percent Survival		
17	Picocuries per Liter		
3L	Picograms per Liter		
55	Pounds		
1R	Pounds per 1000 Gallons		
90	Pounds per 1000 Gallons		
3I	Pounds per 1000 Pounds Production		
1Y	Pounds per 100 Pounds		
3P	Pounds per Acre		
26	Pounds per Day		
45	Pounds per Half-Ton of Production		
2R	Pounds per Hour		
2P	Pounds per Million Gallons		
2K	Pounds per Minute		
76	Pounds per Month		
29	Pounds per Square Inch		
42	Pounds per Ton of Production		
59	Pounds per Week		
50	Pounds per Year		

ATTACHMENT D1

[JANUARY 2009]

FREQUENCY OF ANALYSIS CODES AND DESCRIPTIONS

CODE	DESCRIPTION
01/01	Daily
01/02	Once Every 2 Days
01/03	Once Every 3 Days
01/04	Once Every 4 Days
01/05	Once Every 5 Days
01/06	Once Every 6 Days
01/07	Weekly
01/08	Once Every 8 Days
01/09	Once Every 9 Days
01/10	Once Every 10 Days
01/11	Once Every 11 Days
01/12	Once Per 12 Days
01/13	Once Every 13 Days
01/14	Once Every 2 Weeks
01/21	Once Every 3 Weeks
01/28	Once Every 4 Weeks
01/2Y	Once Every 2 Years
01/30	Monthly
01/3H	Once Every 3 Hours
01/4M	Once Every 4 Months
01/4Y	Once Every 4 Years
01/5M	Once Every 5 Months
01/5Y	Once Every 5 Years
01/60	Once Every 2 Months

01/6M	Once Every 6 Months	02/5Y	Twice Every 5 Years
01/7M	Once Every 7 Months	02/90	Twice Every Quarter
01/8H	Once Every 8 Hours	02/BA	Twice Per Batch
01/90	Quarterly	02/DA	2 Days Every Week
01/99	Instantaneous	02/DD	Twice Per Drawdown
01/9M	Once Every 9 Months	02/DM	Twice Every Month
01/BA	Once Per Batch	02/DS	Twice Per Discharge Twice Every Discharge Week
01/BD	Once Before Discharge	02/DW	Twice Every Hour
01/DD	Once Per Daily Discharge Once Per Monthly Discharge	02/HR	Twice Per Permit Term
01/DM	Once Every Dsc Quarter	02/PT	Twice Per Rpt Period
01/DQ	Once Per Discharge Once Per Weekly Discharge	02/DP	Twice Every Shift
01/DS	Once Every Permit Cycle	02/SH	Twice Every Season
01/DW	Once Every Event	02/SN	Semiannual
01/EP	Once Per Facility	02/YR	Three Per Day
01/EV	Once/First Year of Permit	03/01	Three Every 5 Days
01/FA	Once Every Hour	03/05	Three Per Week
01/FY	Once Every Harvest	03/07	Three Every 8 Days
01/HR	Once Every Occurance	03/08	3 Per 12 Hours
01/HV	Once Per Permit Term	03/12	Three Per Month
01/OC	Once Per Rn Event	03/30	Three Every 5 Years
01/PT	Once Per Prt Period	03/5Y	Three Every 6 Months
01/RN	Once Per Shift	03/6M	Three Every Quarter
01/RP	Once Per Season	03/90	Three Every Batch
01/SH	Once per Use	03/BA	Three Per Discharge
01/SN	Once Every Weekday	03/DS	3 Days Every Week
01/SN	Once Per Well	03/DW	Three Per Prt Period
01/US	Annual	03/RP	Three Per Season
01/US	Twice Per Day	03/SN	Three Per Year
01/WD	Twice Per Week	03/YR	Four Per Day
01/WL	Twice Every Week	04/01	Four Per Week
01/YR	Twice Every 12 Days	04/07	Four Per Month
02/01	Twice Per Month	04/30	4 Times Every Quarter
02/02		04/90	Four Every Batch
02/07			
02/12			
02/30			

04/HR	4 Times Every Hour	16/01	16 Per Day	N/A	Not Applicable
04/RP	Four Per Rpt Period	16/30	16 Per Month	N/R	Not Reported
04/SN	Four Per Season	17/30	17 Per Month	REPRT	Report
04/YR	Four Per Year	18/01	18 Per Day	WH/DS	When Discharging
05/01	Five Per Day	18/30	18 Per Month	WH/MN	Measured When Monitor
05/07	Weekdays	19/30	19 Per Month	XX/XX	Frequency as Reported
05/08	Five Every 8 Days	20/30	Twenty Per Month		
05/30	5 Times Every Month	21/30	21 Per Month		
05/90	Five Every Quarter	22/30	22 Per Month		
05/BA	Five Every Batch	23/30	23 Per Month		
05/DW	5 Days Every Week	24/01	Hourly		
05/WK	Five Per Week	24/30	24 Per Month		
06/01	Six Per Day	24/HR	24 Times Every Hour		
06/07	Six Every Week	25/30	25 Per Month		
06/30	Six Per Month	26/30	26 Per Month		
06/90	Six Every Quarter	27/30	27 Per Month		
06/SH	6 Every Operating Shift	28/30	28 Per Month		
06/YR	Six Per Year	29/30	29 Per Month		
07/14	7 Per 2 Weeks	48/01	Every 1/2 Hour		
07/30	7 Times Every Month	60/HR	60 Per Hour		
07/WD	Weekly When Discharging	66/66	Wpc Plan		
07/WK	Seven Per Week	77/77	Contingent		
08/01	Eight Every Day	88/88	Cleaning		
08/30	Eight Every Month	99/99	Continuous		
08/BA	Eight Every Batch	AL/EV	All Events		
09/01	Nine Per Day	AL/RN	Alternating Run		
09/30	Nine Per Month	BI/WK	Biweekly		
09/99	See Permit	CL/OC	Chlorination/Occurances		
10/30	Ten Per Month	DL/DS	Daily When Discharging		
11/30	11 Per Month	ED/WL	End Of Well		
12/01	12 Per Day	ESTMT	Estimate		
12/30	Twelve Per Month	EV/2H	Every 2 Hours		
13/30	13 Per Month	LF/PT	Life Of The Permit		
14/30	14 Per Month	MEASD	Measured		
15/30	15 Per Month	MM/WD	Monthly When Discharging		

**ATTACHMENT E****No Data Indicator Code (NODI)**

NODI	ICIS DESCRIPTION	Violation RNC	
		Yes	no
A	General Permit Exemption		no
C	No Discharge		no
D	Lost Sample	Yes	
E	Analysis Not Conducted	Yes	
F	Insufficient Flow for Sampling	Yes	
G	Sampling Equipment Failure	Yes	
H	Invalid Test	Yes	
I	Land Applied		no
J	Recycled - Water-Closed System		no
K	Flood Disaster	Yes	
L	DMR Received but not Entered		no
S	Fire Conditions	Yes	
W	Dry Lysimeter/Well		no
1	Wrong Flow	Yes	
2	Operations Shutdown		no
4	Discharge to Lagoon		no
5	Frozen Conditions	Yes	
9	Conditional Limit not required		no
	Low Level Production		
	Production Based Limits Don't Apply		
	DMR Received - Production Or Flow Related		
	Other		
	Not Applicable During Sludge Period		
	Not Tracked For This Period		

Reportable Non Compliance (RNC) = Yes violation; No violation

[JANUARY 2010]

**ATTACHMENT F**  
**TOXICITY TEST SUMMARY SHEET**

Facility Name: \_\_\_\_\_  
NPDES Permit Number: \_\_\_\_\_

Test Start Date: \_\_\_\_\_  
Outfall Number: \_\_\_\_\_

<u>Test Type</u>	<u>Test Species</u>	<u>Sample Type</u>	<u>Sample Method</u>
<input type="checkbox"/> Acute	<input type="checkbox"/> Fathead Minnow	<input type="checkbox"/> Prechlorinated	<input type="checkbox"/> Grab
<input type="checkbox"/> Chronic	<input type="checkbox"/> Ceriodaphnia dubia	<input type="checkbox"/> Dechlorinated	<input type="checkbox"/> Composite
<input type="checkbox"/> Modified	<input type="checkbox"/> Daphnia Pulex	<input type="checkbox"/> Unchlorinated	<input type="checkbox"/> Flow-thru
<input type="checkbox"/> (Chronic Reporting LC50 Values)	<input type="checkbox"/> Mysid Shrimp	<input type="checkbox"/> Chlorinated	<input type="checkbox"/> Other
<input type="checkbox"/> 24-Hour Screening	<input type="checkbox"/> Sheepshead		
	<input type="checkbox"/> Menidia		
	<input type="checkbox"/> Sea Urchin		
	<input type="checkbox"/> Selenastrum		
	<input type="checkbox"/> Other _____		

TRC conc. \_\_\_\_\_mg/L

Dilution Water

Receiving water collected at a point immediately upstream of or away from the discharge;  
(Receiving water name and sampling location: \_\_\_\_\_)

Alternate Surface Water of known quality and a hardness to generally reflect the characteristics of the receiving water;  
(Surface water name: \_\_\_\_\_)

Synthetic water prepared using either Millipore Mill-Q or equivalent de-ionized water and reagent grade chemicals; or deionized water combined with mineral water;

Artificial sea salts mixed with deionized water;

Other \_\_\_\_\_

Effluent Sampling Date(s): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_.

Effluent Concentrations Tested (in %): \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
\*(Permit Limit Concentration): \_\_\_\_\_

Was the effluent salinity adjusted? \_\_\_\_\_  
If yes, to what value? \_\_\_\_\_ PPT

Reference Toxicant test date: \_\_\_\_\_ Reference Toxicant Test Acceptable Y\_\_N\_\_

Age and Age Range of Test Organisms \_\_\_\_\_ Source of Organisms \_\_\_\_\_

**ATTACHMENT F (Cont.)**  
**TEST RESULTS & PERMIT LIMITS**

Test Acceptability Criteria

A. Dilution water control  
Mean Control Survival: \_\_\_\_\_ Mean Control Reproduction: \_\_\_\_\_  
Mean Control Weight: \_\_\_\_\_ Mean Control % Fertilization: \_\_\_\_\_

B. Receiving Water Control  
Mean Control Survival: \_\_\_\_\_ Mean Control Reproduction: \_\_\_\_\_  
Mean Control Weight: \_\_\_\_\_ Mean Control % Fertilization: \_\_\_\_\_

C. Lab Culture Control Y \_\_\_\_\_ N \_\_\_\_\_

D. Thiosulfate Control Y \_\_\_\_\_ N \_\_\_\_\_

Test Variability

Test PMSD (growth) \_\_\_\_\_

Test PMSD (reproduction) \_\_\_\_\_

Permit Limits and Test Results

Limits:

LC50 \_\_\_\_\_

A-NOEC \_\_\_\_\_

C-NOEC \_\_\_\_\_

IC25 \_\_\_\_\_

IC50 \_\_\_\_\_

Results:

LC50 \_\_\_\_\_

Upper Value \_\_\_\_\_

Lower Value \_\_\_\_\_

Data Analysis \_\_\_\_\_

Method Used \_\_\_\_\_

A-NOEC \_\_\_\_\_

C-NOEC \_\_\_\_\_

LOEC \_\_\_\_\_

IC25 \_\_\_\_\_

IC50 \_\_\_\_\_

Reported Test Results Justification, PMSD Comparison Discussion and Concentration-Response Evaluation :

---

---

---

---

---

---

---

## ATTACHMENT G

### NPDES Whole Effluent Toxicity Testing, Monitoring and Reporting

This guidance is intended to promote compliance and enhance program efficiency and effectiveness. This is not intended to, nor does it, constitute rulemaking by EPA and may not be relied upon to create a right or a benefit, substantive or procedural, enforceable at law or in equity, by any person. This document was prepared for NPDES Permittees to: (1) clarify Whole Effluent Toxicity (WET) testing, monitoring and reporting requirements; (2) provide guidance; and (3) provide a list of EPA contacts available to answer questions.

#### TIPS:

1. **NPDES Permit Requirements**  
The sampling location, sample type, test frequency, test species, monitoring period, and reporting requirements are specified in Part I (and ATTACHMENTS) of the NPDES Permit. Read the NPDES Permit carefully. Permittees and analytical laboratories must adhere to Permit requirements and test protocols. The Permittee is responsible for data quality, data integrity and NPDES reporting. EPA recommends that the Permittee provide its testing laboratory with a copy of the entire NPDES Permit (i.e., Part I and ATTACHMENTS, and Part II "General Conditions") and any subsequent modifications together with any alternate dilution water authorization letters. Mistakes have been made in the past that could have been avoided if the bioassay laboratory had a copy of these documents.
2. **WET Tests Data Quality and Reporting**  
Carefully review bioassay test results and be sure that the data are valid (i.e., the minimum test requirements, test review requirements and test acceptability criteria (TAC) are met for EPA's standard and EPA-New England protocol) and are correctly reported on the DMR.
3. **WET Test Scheduling**  
Laboratories have scheduled WET tests using test organisms that are at or near the oldest acceptable age at test start. If this is done and there is a delay in sample delivery, the test organisms may be too old for use in the bioassay test when the sample arrives. This could create some scheduling difficulties or could require a contingency plan that includes a secondary emergency source of test organisms. It is suggested that Permittees ask whether laboratories have contingency plans for such situations.

#### GUIDANCE:

#### 4. **WET Guidelines and Methods Manuals**

Guidelines Establishing Test Procedures for the Analysis of Pollutants; Whole Effluent Toxicity Test Methods: Final Rule (Federal Register: November 19, 2002, Volume 67, Number 223, Rules and Regulations pp. 69951-69972)

The most current methods manuals, posted at Web address [www.epa.gov/waterscience/methods/wet](http://www.epa.gov/waterscience/methods/wet), are as follows:

- a. Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fifth Edition, October 2002, EPA-821-R-02-012;
- b. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, October 2002, EPA-821-R-02-013;
- c. Short-Term Methods for Estimating Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, Third Edition, October 2002, EPA-821-R-02-014; and
- d. Standard Methods for the Examination of Water and Wastewater, 21<sup>st</sup> Edition, 2005.

5. **WET Monitoring and Reporting**

EPA rejects WET test reports that do not follow Permit requirements, applicable protocols, and meet all minimum criteria for acceptability and variability of test results, and requires tests to be repeated until valid results are obtained. Results, valid or otherwise, must be submitted by the date specified in Part I of the NPDES Permit even if the test has to be repeated. Therefore, EPA recommends that sampling and testing be initiated early in the monitoring period prescribed by the Permit.

If a valid WET test is not completed by the reporting deadline, the Permittee must report the invalid test using the proper No Data Indicator (NODI) code on the DMR; the NODI code is "H." The cover letter must explain the monitoring and reporting violation and indicate when the test will be repeated. A corrected DMR must be resubmitted once valid data are available, and the entire report submitted as required by the Permit. The report shall include, among other things, bench sheets to document that there was an invalid test and that the test was repeated.

In cases where the Permittee is following EPA's revised May 2007 freshwater chronic WET test protocols and the associated chemical analyses do not include total chromium data but the Permit requires this monitoring data, the Permittee must insert the proper NODI code in the DMR box for reporting total chromium; the NODI code is "9."
6. **Sample Dechlorination**

The total residual chlorine concentration of the discharge sample shall be measured and, if detected, the sample shall be dechlorinated in the laboratory prior to WET testing in accordance with Standard Methods for the Examination of Water and Wastewater, 21<sup>st</sup> Edition, 2005 (see also Section VI, Region I Protocol). The total residual chlorine concentration of the discharge sample must be reported and the dechlorination method described. When the sample is dechlorinated in the laboratory, an additional thiosulfate control (with the maximum amount of thiosulfate in the lab control or the receiving water control) must also be run. This information must also be included in the report.
7. **Sample Hold Time**

Sample hold time must be consistent with that specified by test protocol. The holding times for the initial use of original or renewal sample is less than **24 hours** for on-site tests and less than **36 hours** for off-site tests as specified in the protocols unless a waiver is obtained in writing from EPA. In isolated cases where the test cannot be started within 36 hours of sample collection, data must be submitted to EPA and the State to demonstrate that the effluent toxicity of a sample is not reduced by extending the holding time beyond 36 hours. Subsequent to initial use of the original or renewal sample, samples may be used for test renewal at 24, 48 and 72 hours.
8. **Salinity Adjustment of the Effluent Sample**

The Region's test protocols require the use of sea salts for salinity adjustment in every case.
9. **Age of the Test Organisms**

The protocols specify what the age of the test organism must be at test initiation. Evidence to verify test organism age must be included in each report.
10. **Raw Data and Bench Sheets**

Raw data and bench sheets must be included in the full report.
11. **Report Integrity and DMR Accuracy**

WET test data summary tables must be consistent with the report text, data analyses, bench sheets; and DMRs. Report integrity and DMR accuracy are crucial, and are the responsibility of the Permittee.
12. **Data Analyses**

Flow charts in the EPA acute and chronic WET test manuals must be followed so that the correct analyses are performed. Statistical program printouts and graphical displays (e.g. NOEC and

LC50 calculations, etc.) must be submitted.

13. **Chronic *Ceriodaphnia dubia* Survival and Reproduction Test**

The duration of the chronic *Ceriodaphnia dubia* survival and reproduction test must not exceed **eight days**. The minimum acceptability criteria for each test is measured and documented for all test controls. Offspring from the fourth or higher broods must not be included with test results. (See EPA-821-R-02-013, October 2002, p. 161.)

14. **Document Ongoing Laboratory Performance**

As part of an in-house Quality Assurance program, each laboratory must perform reference toxicant tests on the test organisms it uses and must analyze the data for the reported test endpoints. Reference toxicant testing must be performed monthly, or concurrently depending on test frequency, for each test endpoint, in accordance with the EPA Methods Manual. Reference toxicity tests are to be performed and interpreted according to the referenced EPA Method Manuals. (See EPA-821-R-02-013, Section 4.16.1, p. 15.) Reference toxicity test results and applicable control charts must be included in every report.

In the case where a reference toxicity test is performed concurrently with an effluent or receiving water test and the reference toxicity test results fall slightly outside the control limits established by the laboratory for the test endpoint and the primary test meets the test acceptability criteria, the primary test will be considered "conditionally" acceptable. However, if the results of a concurrently run reference toxicity test fall well outside the established upper control limits, the primary test will be considered unacceptable and must be repeated immediately. (See EPA-821-R-02-013, Section 4.16).

15. **Sampling Methods, Holding Times, and Preservation Techniques**

All sampling methods, holding times and preservation techniques must be consistent with 40 C.F.R. Parts 122 and 136. Note that EPA-approved test methods require that samples collected for metals analyses be preserved immediately after collection.

16. **Dilution Water**

The objective of the WET test is to estimate the toxicity of the effluent in uncontaminated receiving water. Ideally, a grab sample of receiving water must be collected immediately upstream and outside of the influence of the outfall for use as dilution water in the tests.

17. **Alternate Dilution Water**

EPA-New England has adopted a **species-specific, self-implementing policy** for switching to alternate dilution water use in WET tests where the receiving water is documented to be toxic or unreliable. The policy authorizes alternate dilution water use in the following two cases: (1) when a WET test is repeated due to site water toxicity; and (2) in future WET tests where there are two recent documented incidents of site water toxicity associated with a particular test species. The details of EPA-New England's species-specific, self-implementing policy is provided below.

**Case (1):** EPA-New England authorizes the use of an alternate dilution water for any WET test repeated due to site water toxicity. Additionally:

- The test must be repeated during the monitoring period specified by the Permit.
- The selected alternate dilution water must have characteristics such as hardness similar to those of the receiving water, and not produce a toxic response.
- A receiving water control must be run in alternate dilution water tests.
- A complete WET test report must be submitted as required by the Permit.
- If the retest documents that the receiving water controls met the TAC, receiving water must be used as diluent in future WET tests.
- If the receiving water controls of the retest failed to meet the TAC, an alternate dilution water may be used in future WET tests using that test organism only after the Permittee submits a written request to EPA and receives written authorization from EPA. (See Case (2) below.)

**Case (2):** Before an alternate dilution water is used in future WET tests, the Permittee must submit a notification letter to EPA of species-specific, site water toxicity. The notification letter shall be sent to the following EPA addresses:

Director  
Office of Ecosystem Protection (CAA)  
U.S. Environmental Protection Agency  
One Congress Street, Suite 1100  
Boston, MA 02114-2023

and

Manager  
Water Technical Unit (SEW)  
U.S. Environmental Protection Agency  
One Congress Street, Suite 1100  
Boston, MA 02114-2023

The letter must include:

1. WET data documenting the two recent incidents of site water toxicity to a test species;
2. Information on the alternate dilution water selected for future WET tests including hardness data and a comparison to the receiving water chemistry; and
3. A list of the controls (e.g., site water control, alternate dilution water control, laboratory culture water control, thiosulfate control) that will be run in future WET tests.

Then, EPA-New England will respond in writing to authorize or to deny the use of alternate dilution water in future WET tests. When EPA-New England authorizes the use of an alternate dilution water in future WET tests, it is for the duration of the life of the Permit. At a minimum, EPA will review alternate dilution water authorizations during Permit reissuance.

EPA reserves the right to revoke this guidance at any time and may immediately require the Permittee to use site water as diluent as EPA deems necessary. Such a determination will be provided in writing to the Permittee.

**18. Site Water Controls in Alternate Dilution Water Tests**

Alternate dilution water WET tests shall be run with a minimum of two controls; a site water control and a toxic free alternate dilution water control. Additional controls such as a laboratory culture control or a thiosulfate control must also be run, if necessary. Chemical data of the receiving water and dilution water samples must be included in the report.

**19. Use of Control Data**

When performing statistical analyses, the dilution water control, whether synthetic alternate dilution water or receiving water, must be used for data comparison.

In alternate dilution water tests, the receiving water control results are "report only" data.

If an alternate dilution water control, the thiosulfate control or the lab culture water control fail to meet the minimum TAC, the toxicity test must be repeated using a fresh sample.

**20. Test Results Review**

Toxicity test controls must meet the minimum test acceptability criteria. Additionally, a dose-response evaluation and a Percent Minimum Significant Difference (PMSD) review of the WET test results must be done as follows and documented in the report:

**a. Concentration-Response Relationship**

The WET data concentration-response relationship is reviewed, and Hypothesis Testing and Point Estimate techniques are used to determine test endpoints. A dose-response review must be performed according to Section 10.2.6 of EPA-821-R-02-013 (for freshwater tests)

or Section 10.2.6. of EPA-821-R-02-014 (for marine tests) to support the reported test endpoint values and to evaluate the reliability of the WET test results. In most cases, the review will draw in one of the following three conclusions: (1) Results are reliable and reportable; (2) Results are anomalous and require explanation; or (3) Results are inconclusive and a retest with a fresh sample is required.

**b. Test Variability**

The within-test variability must be evaluated to determine test sensitivity which is a required part of the chronic WET test review. This review is only applicable to the sub-lethal test endpoints such as growth and reproduction that were determined using hypothesis testing. The test sensitivity evaluation is done by examining the calculated Percent Minimum Significant Difference (PMSD).

The PMSD is calculated for test endpoints which were determined using parametric statistical analysis techniques. For cases where a NOEC was determined using non-parametric technique, the PMSD is only calculated to determine test variability and is calculated using a comparable, parametric statistical analysis technique. As a final step in the evaluation, the calculated PMSD is compared to the upper and lower PMSD bounds shown for freshwater tests in Table 6 of EPA-821-R-02-013, Section 10.2.8.3, p. 52, and for marine tests in Table 6 of EPA-821-R-02-014, Section 10.2.8.3., p. 54.

- 1.) If the PMSD exceeds the upper bound test variability criterion of Table 6, the test results are considered too highly variable to determine the WET of the discharge at the permitted receiving water concentration (RWC). If the test results indicate that the discharge is not toxic at the RWC, then the test is considered insufficiently sensitive and must be repeated using fresh samples within 30 days of the determination of the unacceptable within-test variability. If the test results indicate that the discharge is toxic at the RWC, the results are considered acceptable and the test does not have to be repeated.
- 2.) If the PMSD falls below the lower bound test variability criterion of Table 6, the test is highly sensitive, and the percent relative difference (PRD) between the control and each concentration must be calculated and compared to the lower PMSD boundary. If the PRD for the concentration falls below the lower bound, the difference is considered statistically insignificant. If the PRD for the concentration is above the lower bound, then the concentration is considered statistically significant. (See Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program, EPA 833-R-00-003, June 2002, Section 6.4.2.)
- 3.) When PMSDs fall within the upper and lower bounds of Table 6, the sub-lethal test endpoint determinations shall be reported.

**21. Sign and Certify Each WET Report**

Under 40 C.F.R. §122.41(k), each WET test report submitted to the EPA shall be signed and certified by a person described below or by a duly authorized representative of that person in accordance with 40 C.F.R. §122.22(b)-(d):

- for a corporation, by a responsible corporate officer;
- for a partnership or sole proprietorship, by a general partner or the proprietor, respectively;
- and
- for a municipality, State, Federal or other public agency, the principal executive officer or ranking elected official.

The Permittee is responsible for the data quality that it reports to EPA. When a report is signed and certified, it documents that the NPDES Permittee is certain that the WET test data submitted meet the Permit requirements for testing and reporting. Please include the following certification statement of 40 C.F.R. §122.22(d) in every report:



ATTACHMENT H  
BYPASS OR SEWER OVERFLOW REPORT

DATE OF REPORT: \_\_\_\_\_ TIME: \_\_\_\_\_

DATE OF INCIDENT: \_\_\_\_\_ TIME: \_\_\_\_\_

NAME OF SYSTEM: \_\_\_\_\_

FACILITY NAME: \_\_\_\_\_

NPDES PERMIT No: \_\_\_\_\_

NAME and TITLE of PERSON REPORTING INCIDENT: \_\_\_\_\_

TELEPHONE No: \_\_\_\_\_ ext: \_\_\_\_\_

LOCATION OF OVERFLOW: \_\_\_\_\_

RECEIVING WATER: \_\_\_\_\_

INCIDENT DURATION: FROM (date) \_\_\_\_\_ TIME: \_\_\_\_\_

TO: (date) \_\_\_\_\_ TIME: \_\_\_\_\_

ESTIMATED TOTAL FLOW: \_\_\_\_\_

TREATMENT PROVIDED: \_\_\_\_\_

CAUSE OF INCIDENT: \_\_\_\_\_

MITIGATION MEASURES TAKEN: \_\_\_\_\_

DATE OF LAST INCIDENT AT SAME LOCATION: \_\_\_\_\_

ADDITIONAL INFORMATION / COMMENTS: \_\_\_\_\_

AGENCY / PERSON REPORTED TO:

US EPA: \_\_\_\_\_

STATE: \_\_\_\_\_

## How Do I Get Started?

- Go to the NetDMR website ([www.epa.gov/netdmr](http://www.epa.gov/netdmr)) to learn about the project and how to get started.
- Determine if you can meet NetDMR system requirements.
- Contact EPA Region 1 or MassDEP/NHDES to receive additional information on how to participate in the NetDMR project.

### EPA Contact (Data Issues):

Norma Mason

[normmason@epa.gov](mailto:normmason@epa.gov)  
617-918-1879

### EPA Contact (System Issues):

Ed Kim

[kim.ed@epa.gov](mailto:kim.ed@epa.gov)  
617-918-1945

### MassDEP Contact:

Bryant Firmin

[bryant.firmin@state.ma.us](mailto:bryant.firmin@state.ma.us)  
508-849-4003

### NHDES Contact

Tracy Wood

[tracy.wood@des.nh.gov](mailto:tracy.wood@des.nh.gov)  
603-271-1497

## For More Information...

U.S. Environmental Protection Agency

NetDMR Website:

[www.epa.gov/netdmr](http://www.epa.gov/netdmr)

NetDMR Exchange Network Website:

[www.exchangenetwork.net/exchanges/water/netdmr.htm](http://www.exchangenetwork.net/exchanges/water/netdmr.htm)

## NetDMR Training

Training for NetDMR is provided by EPA. EPA currently has scheduled web conference training for permittees in February 2010. The training will be conducted via web conference and is intended to provide permittees and data providers with an overview of the NetDMR application which will enable the online submission of Discharge Monitoring Reports (DMRs). Attendees should plan to attend all three sessions each lasting 2-3 hours.

- NetDMR Training for Permittees will be held on February 2, 4, and 9, 2010 (1:00-4:00).

Register for the course by emailing EPA Region 1 at [R1.NetDMR@epa.gov](mailto:R1.NetDMR@epa.gov)

Please check the EPA training website for additional information and resources ([www.epa.gov/netdmr/about/training.html](http://www.epa.gov/netdmr/about/training.html) or email [mason.norma@epa.gov](mailto:mason.norma@epa.gov))

ATTACHMENT I

# NetDMR

## National Implementation





## NetDMR National Implementation

### What is NetDMR?

NetDMR is a freely available Web based tool that allows National Pollution Discharge Elimination System (NPDES) permittees to electronically sign and submit their discharge monitoring reports (DMRs) to EPA via a secure internet connection. NetDMR is designed to improve data quality, save paper, and provide cost savings for permittees and regulators. An essential component of NetDMR is the exchange of data with EPA's data exchange network (ICIS-NPDES) allowing permittees to complete a DMR that is specific to their permit limits and outfalls.

### Who can Report?

NPDES permittees required to submit DMRs may use NetDMR. Permittees must receive the appropriate training before requesting and receiving permission to use NetDMR. Once approved, a facility may begin submitting their DMRs electronically to EPA Region 1, the permitting authority for the NPDES programs in NH and MA.

### Why Should I use NetDMR?

- Facility has greater flexibility for reporting data on time
- Improves data quality by automatically error-checking and validating data prior to submission
- Improves timeliness and accessibility of data
- Provides instant confirmation of submission
- Allows for revisions of DMRs to be submitted electronically
- Allows for electronic submittal of attachments and supplemental documentation (e.g., reports)
- Incorporates legal and security encryption measures to ensure the identity of the sender and the integrity of the information
- Allows facility personnel to easily obtain up-to-date reporting requirements
- Serves as a secure electronic filing cabinet

### System Requirements

NetDMR is a web based system and requires a web browser for a facility to gain access. NetDMR requires the facility to have Microsoft Internet Explorer 6.0 or above with javascript, and session cookies enabled, and pop-up blockers disabled.

NetDMR also requires a Pentium III/IV or an equivalent processor, 128 MB RAM (512 MB recommended), and a monitor with a resolution of at least 800 x 600. In addition, the NetDMR application sends the data to ICIS-NPDES via the Exchange Network so the permitting authority must be using ICIS-NPDES.

(Over)

# ATTACHMENT J

## Index of 2010 NPDES Permit Program Instructions for DMR Forms

Additional Monitoring .....	Ch. 2 Pg. 1
Analytical Procedures -What ones to use .....	Ch. 2 Pg. 1
Blank Spaces .....	Ch. 1 Pg. 4
Bypass – Reporting .....	Ch. 2 Pg. 2
Bypass Report .....	Attachment H
Calendar Week .....	Ch. 2 Pg. 1
Codes .....	Ch. 1 Pp. 4-5
Comments .....	Ch. 1 Pg. 5
Concentration Block Data Entry .....	Ch. 3 Pg. 1
Contacts – EPA .....	Ch. 1 Pp. 1-3
Cover Letter – When Required .....	Ch. 2 Pp. 2-3
State DMR Mailing Addresses .....	Ch. 1 Pp. 6-7
Discharge Number (Permitted Feature).....	Ch. 1 Pg. 3
Discharging Without a Permit .....	Ch. 2 Pg. 2
DMR – Example .....	Attachment B
DMR Calculations – Examples .....	Chapter 3
DMR Discrepancies -Whom to contact .....	Ch. 1 Pg. 1, Ch. 2 Pp. 1-2
E. coli .....	Ch. 3 Pp. 5-6
Electronic DMR Submission .....	Attachment I
EPA DMR Mailing Address .....	Ch. 1 Pp. 5-6
Error Correction .....	Ch. 2 Pg. 1
Exceedances .....	Ch. 3 Pp. 2-3
Fecal Coliform .....	Ch. 3 Pg. 5
Flow .....	Ch. 3 Pg. 3
Frequency of Analysis .....	Ch. 1 Pg. 5
Loading Block Entry .....	Ch. 3 Pg. 2
Maximum Daily Discharge .....	Ch. 3 Pg. 1 & 4
Monthly Geometric Mean .....	Ch. 3 Pp. 5-6
No Analytical Result .....	Ch. 3 Pg. 4
No Data Indicator Code (NODI) .....	Ch. 1 Pg. 4 & Attachment E (Rev.)
Number of Exceedances) .....	Ch. 1 Pg. 5
Overflow – Reporting .....	Ch. 2 Pg. 2, Attachment H
Parameter .....	Ch. 1 Pg. 3
Percent Removal Calculations .....	Ch. 3 Pg. 6
Permit Number .....	Ch. 1 Pg. 3
Permit Requirement Row .....	Ch. 1 Pg. 3
pH .....	Ch. 3 Pg. 3
Quantity Block Entry.....	Ch. 3 Pg. 2
Sample Measurement Row .....	Ch. 1 Pp. 3-4
Sample Type.....	Ch. 1 Pg. 5, Ch. 3 Pg. 3
Sampling Frequency.....	Ch. 1 Pg. 5, Ch. 2 Pg. 1, Ch. 3 Pg. 3
Sample Measurements Below Minimum Levels.....	Ch. 1 Pg. 4, Ch. 2 Pg. 1, Ch. 3 Pg. 4
Sewer Overflow Report.....	Attachment H
Sewer Overflow .....	Ch. 2 Pg. 2

Signature Requirements.....	Ch. 1 Pg. 5, Pp. 9-10
Signature.....	Ch. 1 Pg. 5
Sludge (Annual Reports).....	Ch. 1 Pg. 8
Symbols.....	Ch. 1 Pg. 5, Ch. 2 Pg. 1
TNTC Reporting.....	Ch. 3 Pg. 5
Total Chlorine Residual.....	Ch. 3 Pg. 4
Total Coliform.....	Ch. 3 Pg. 5
Toxicity Reporting.....	Ch. 3 Pg. 6
Toxicity Test Summary Sheet.....	Attachment F
Trace Amount.....	Ch. 1 Pg. 5
Transmittal to EPA and States.....	Ch. 1 Pp. 5-9
Unit Codes.....	Attachment D
Unit of Measure Code.....	Ch. 1 Pg. 5
Units.....	Ch. 3 Pg. 3
Whole Effluent Toxicity Testing (WET).....	Attachment G

LAST PAGE OF NPDES INSTRUCTIONS FOR 2010 DMR REPORTING

FINAL: JANUARY 2010

JANUARY 2010