Attachment A

Example Monthly Project Report

and

Example Monthly Activity and Spending Report

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Attachment A – Example Monthly Project Report

June 30, 2001

Project Director
NMS/e-DMR
Surface Water Quality Division
Michigan Department of Environmental Quality
P.O. Box 30273
Lansing, MI 48909-7773

Subject: Project Activity Report for Period from 06/01/2001 to 6/30/2001 (MDEQ contract number: #####)

Dear Director:

This letter provides a highlight of the NMS/e-DMR project for the month of June 2001.

Activity Highlights for June, 2001

A summary description of the project progress for the reporting period is provided here. An example is shown in the following table:

Milestone or Task Description	Progress Report (Percent Completed)			
	FRS or GDS	Database Design	Screen Dev.	Report Dev.
1. NMS				
(1.a) Migrate NMS to VB plus group 1 & 2 enhancements	80 %	50 %	20 %	-
(1.b) Develop Permit Limit, DMR Data Entry, and Task Tracking modules	75 %	50 %	20 %	-
2. e-DMR				
(2.a) Pilot Stage	80 %	-	-	-

In addition, major project highlights and accomplishment will be identified below. For example:

- Project General:

o MDEQ approved a Project Work Plan submitted by enfoTech.
o EnfoTech conducted 2 site visits and worked with the project team to develop Functional Requirement Specifications (both new and revised) for the NMS system and e-DMR projects.

- Functional Requirement Specifications:

  - NMS system (existing system and group 1 & 2 enhancements)
    - Completed revision of the Facility Information Tracking module
    - Completed revision of the Outfall and Monitoring Point Tracking module
    - Completed development of DMR data entry module
    - Completed development of the Permit Limit Tracking module
    - Completed revision of the Task Tracking module

- e-DMR system – Pilot Stage

  - Developed a draft Facility Participation Guide
  - Developed a draft transmission protocol
  - Identified the e-DMR web page screen changes required for MDEQ

- Database Design:

  - Completed draft revision of the NMS database design to support revised functional specifications (existing system, group 1 & 2 enhancements, permit limit, DMR data entry, and task tracking)

Tasks Planned for July, 2001

A summary description of the tasks planned for July, 2001 is provided here.....

Spending for this reporting period:

Description	Cost
1. Professional Service Fees	
2. Expenses (traveling and others)	
Total:	

Supporting document will be attached. Example of supporting documents are shown below:

Invoices:

One invoice (MDEQ-e-DMR-001) is enclosed for your approval.

e-DMR Project Account Balance As of June 30, 2001:

Description	Project Funding	Available Fund as of 06/01/2001	Invoice Amount This Period	Available Fund as of 06/30/2001	Percent Funding Available
NMS (1a) Migrate NMS to VB plus group 1 & 2 enhancements (1b) Permit limit, DMR Data entry, and task tracking module (1d) Compliance Evaluation and Enforcement Tracking					
e-DMR (1a) Pilot Stage (1b) State-wide Implementation					
Total:					

Thank you.

Sincerely,

Tony Jeng

TJ:jh
cc: File – MDEQ

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Attachment B

Projects Schedule

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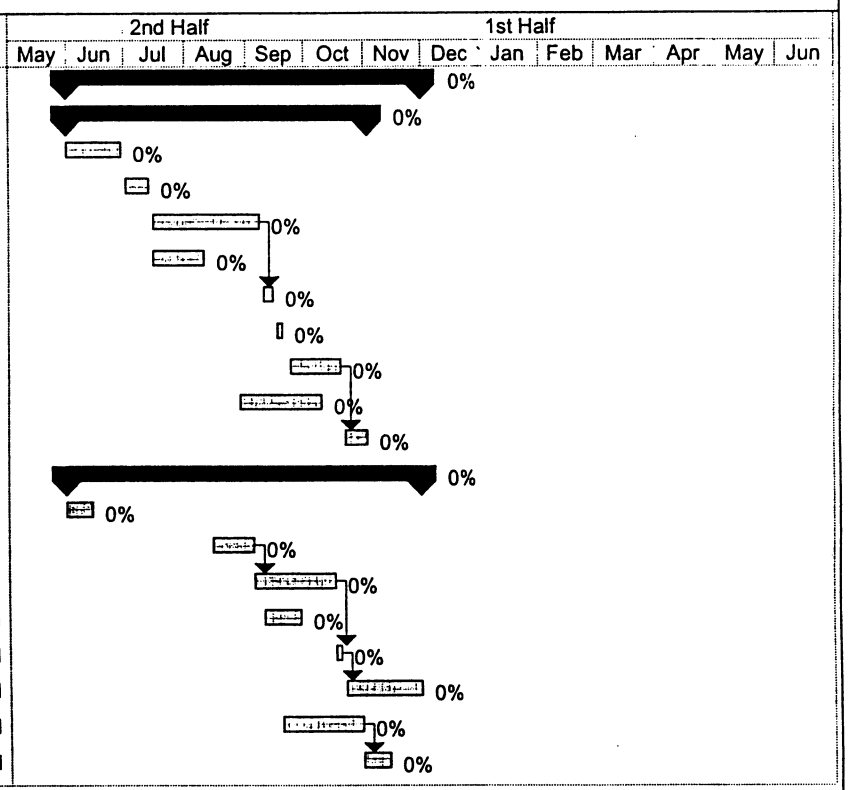
Michigan DEQ NMS Enhancements and e-DMR Projects - Draft Schedule

ID	Task Name	Start	Finish
1	**1. NMS Project**	**6/1/2001**	**11/30/2001**
2	**(1.a) Migrate & enhance NMS**	**6/1/2001**	**11/2/2001**
3	-revise & develop specifications	6/1/2001	6/29/2001
4	-develop prototype	7/2/2001	7/13/2001
5	-complete coding cycle	7/16/2001	9/7/2001
6	-reports (15 reports)	7/16/2001	8/10/2001
7	-data migration	9/10/2001	9/14/2001
8	-installation	9/17/2001	9/19/2001
9	-testing	9/24/2001	10/19/2001
10	-documentation & online help	8/29/2001	10/9/2001
11	-training	10/22/2001	11/2/2001
12	**(1.b) Permit Limit, DMR Entry, Task Tracking Mod.**	**6/1/2001**	**11/30/2001**
13	-issue a DB design & draft FRS	6/1/2001	6/14/2001
14	-develop a prototype	8/15/2001	9/4/2001
15	-complete coding cycle	9/5/2001	10/16/2001
16	-reports (5 reports)	9/10/2001	9/28/2001
17	-installation	10/17/2001	10/19/2001
18	-testing	10/22/2001	11/30/2001
19	-documentation	9/19/2001	10/30/2001
20	-training	10/31/2001	11/13/2001

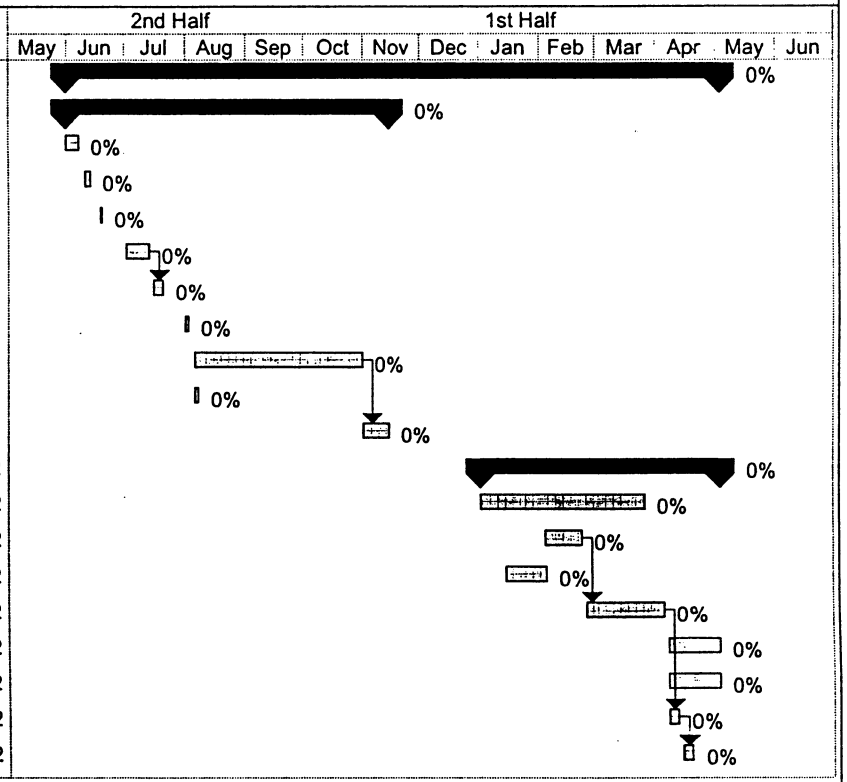


Project: MDEQ NMS & e-DMR Project
Date: 3/21/2001

Critical		Baseline Milestone	◇
Critical Split		Milestone	◆
Critical Progress		Summary Progress	
Task		Summary	
Split		Project Summary	
Task Progress		External Tasks	
Baseline		External Milestone	◆
Baseline Split		Deadline	

Michigan DEQ NMS Enhancements and e-DMR Projects - Draft Schedule

ID	Task Name	Start	Finish
21	**2. The EDMR Project**	**6/1/2001**	**5/3/2002**
22	**(2.a) Pilot Phase**	**6/1/2001**	**11/14/2001**
23	-develop a transmission protocol	6/1/2001	6/7/2001
24	-develop a draft facility package	6/11/2001	6/13/2001
25	-document cosmetic EDMR changes	6/19/2001	6/19/2001
26	-customize EDMR (cosmetic & trans. protocol)	7/2/2001	7/13/2001
27	-populate EDMR with RR for 10 facilities	7/16/2001	7/20/2001
28	-installation	8/1/2001	8/2/2001
29	-assist MDEQ to conduct EDMR pilot	8/6/2001	10/31/2001
30	-training	8/6/2001	8/7/2001
31	-prepare a final report for the pilot phase	11/1/2001	11/14/2001
32	**(2.b) State-wide implementation**	**1/2/2002**	**5/3/2002**
33	-integrate EDMR with NMS for Data Exchange	1/2/2002	3/26/2002
34	-final system guides (app. pack, protocol, imp. Guide	2/4/2002	2/22/2002
35	-finalize FRS, Business Diagrams, etc.	1/15/2002	2/4/2002
36	-make EDMR according with final FRS	2/25/2002	4/5/2002
37	-integration testing	4/8/2002	5/3/2002
38	-documentation (sys. doc., guide, & online help)	4/8/2002	5/3/2002
39	-installation	4/8/2002	4/12/2002
40	-training	4/15/2002	4/19/2002



Project: MDEQ NMS & e-DMR Project
Date: 3/21/2001

Critical		Baseline Milestone	◇
Critical Split		Milestone	◆
Critical Progress		Summary Progress	
Task		Summary	
Split		Project Summary	
Task Progress		External Tasks	
Baseline		External Milestone	◆
Baseline Split		Deadline	⇩

Attachment C

Overview of the Proposed e-DMR System

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1 Overview of the Proposed e-DMR System

The e-DMR system will be a Web-based application using a SQL Server database on a Windows 2000 platform. Wastewater facilities will access the e-DMR server via the Internet. A **Staff** and **Application Administer** website will be available for MDEQ access via the Intranet or Internet.

The system will serve as an electronic file cabinet to manage DMR reporting requirements provided from the NMS database, and to receive/store DMR reports submitted by wastewater facilities.

Wastewater facility access privileges will be administrated through the use of a PIN, username, and password. All DMR submissions will be verified via PIN authentication with software security to ensure that the content of the data is original, truthful, legitimate, and unaltered. A complete chain-of-custody of all the records will be maintained in the e-DMR server.

The system will make available up-to-date reporting requirements from the SWQD's centralized data system (NMS), allow wastewater facilities to submit original or revised DMRs, and allow for reviewing previously submitted reports on-line. SWQRD employees will be able to manage wastewater facility account information and monitor the system performance.

DMRs received at the Server will be uploaded to the Data Exchange system for use by the NMS database to support compliance, permitting, and environmental planning programs. If reporting requirements have been added or changed for any wastewater facility participating in the e-DMR program, such changes will be recorded in the NMS database and then downloaded to the Data Exchange System to be used by the e-DMR server.

In summary, the e-DMR system will:

- Make regulatory reporting requirements available on-line
- Receive secure Electronic DMR submissions of regulatory data from wastewater facilities
- Make the submitted data available to the NMS database

2 e-DMR System Description

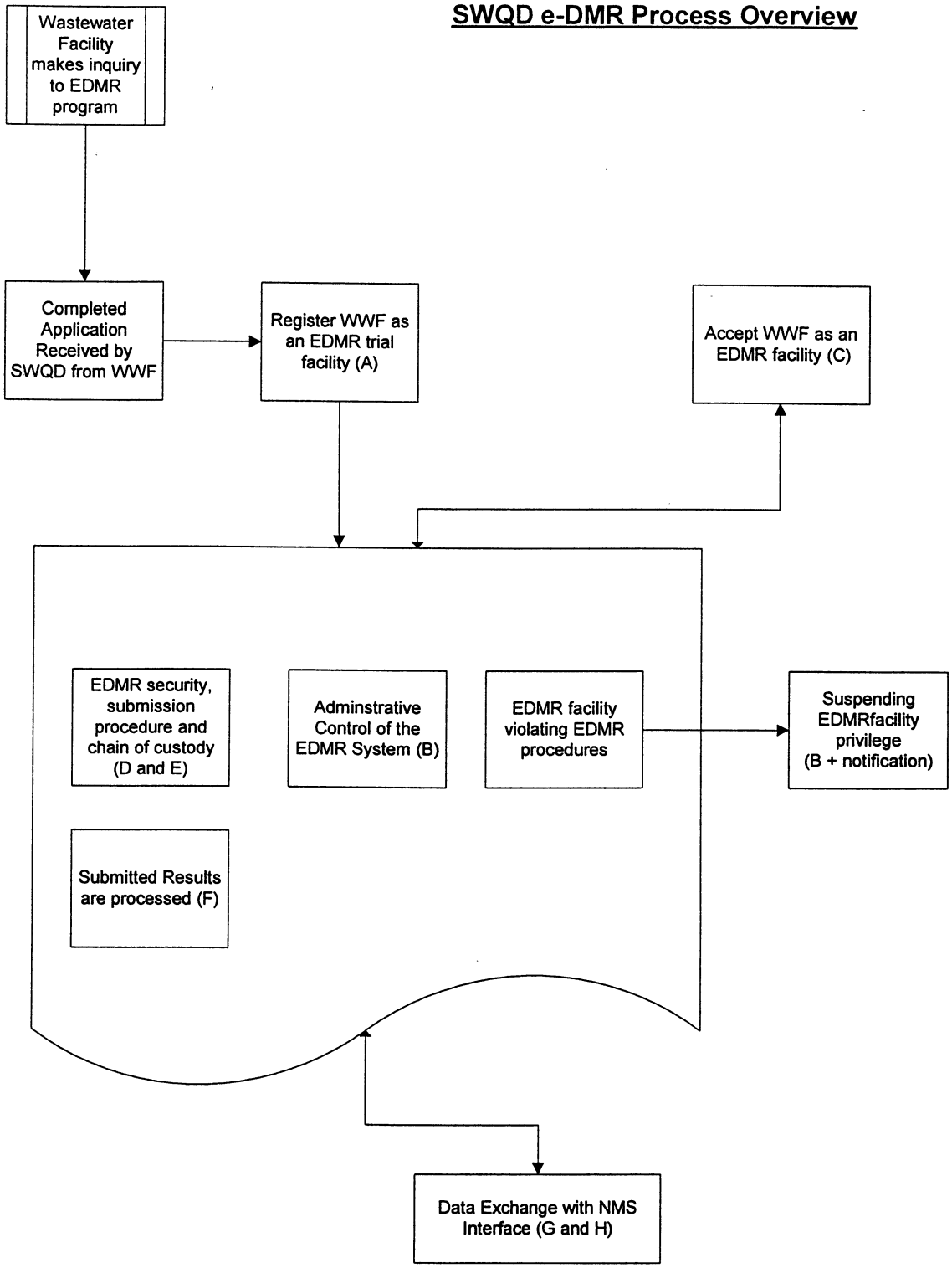
As with regular paper filing cabinets, the e-DMR electronic filing cabinet is surrounded by a number of procedures that guarantee the available information is up-to-date and accurate. Information must be categorized and placed in the correct places. Keys to the locked drawers must be given out to the appropriate people. Some files must pass across a number of desks to get signed off on. This section covers the procedures that keep the e-DMR system running and ensure that valid DMR regulatory data is available to everyone using the system.

2.1 Overview

The block diagram on the following page shows how a number of the major processes of the e-DMR system interact with each other. A detailed description of each of the processes shown in the diagram is provided in later sections of the appendix. The table on the following page lists each of the processes along with the section number:

Process	Section
A. Register WWF facility	3.1.1
B. Administrative Control of the e-DMR System	2.2.4
C. Accept WWF as an e-DMR facility	3.1.2
D. e-DMR security	2.3.2
E. e-DMR submission process	3.1.4
F. e-DMR processing steps	3.1.5
G. Data Exchange and NMS interface	3.1.3
H. Data Exchange	

SWQD e-DMR Process Overview



2.2 Access to the e-DMR System

Three groups of people will have access to the data in the e-DMR system. Each group has a different set of access privileges controlled through a separate website.

2.2.1 Wastewater Facility Website

Wastewater facilities participating in the e-DMR system can register any of their staff as either a "Viewer" or as a "Certified" for the e-DMR system. Certifiers must be the permittee or an authorized representative.

User Type	Account Privileges:
Viewer	Viewing and obtaining reporting requirements. Viewing the status of submitted e-DMRs. Viewing submitted data.
Certifier	All viewer privileges. Submit e-DMR X.12 files containing regulatory data.

Each account holder will be given a WWF user account logon name and password. Each certifier will also receive a Personal Identification Number. The security procedure for issuing the account information is described in Section 2.3.2, **WWF Account Submission Security**.

User accounts can be created in two ways:

- Using the application administer website to create a new user account. These accounts can only be used for View privileges.
- Obtaining the information from NMS. All permittees and authorized representatives in the NMS database system will be sent to the data exchange system. Any updates to this table will be sent to the data exchange system as well. All records received in this manor will be added to the e-DMR system and can be activated using the application administer website. All certifiers must be created in this manner.

2.2.2 SWQD Staff Website

The Staff website will allow all SWQD employees access to most of the data in the e-DMR system. This information includes:

- Wastewater facility information and status
- Viewer and Certifier account information
- Reporting Requirements
- Submitted e-DMR Data

In general, Staff access will be limited to searching, viewing, and printing the data in the e-DMR system. The business process diagram describing SWQD access to the e-DMR system functions follows the next section.

Security for this website is controlled using integrated windows security.

2.2.3 SWQD Application Administer Website

The application administer website will have all of the functionality of the staff website along with some additional abilities:

- Update the e-DMR status of facilities and WWF accounts
- Add new viewer and certifier accounts to the e-DMR system
- Assign access rights to the certifier and viewer accounts
- Manage the Data Exchange System
- Change system settings

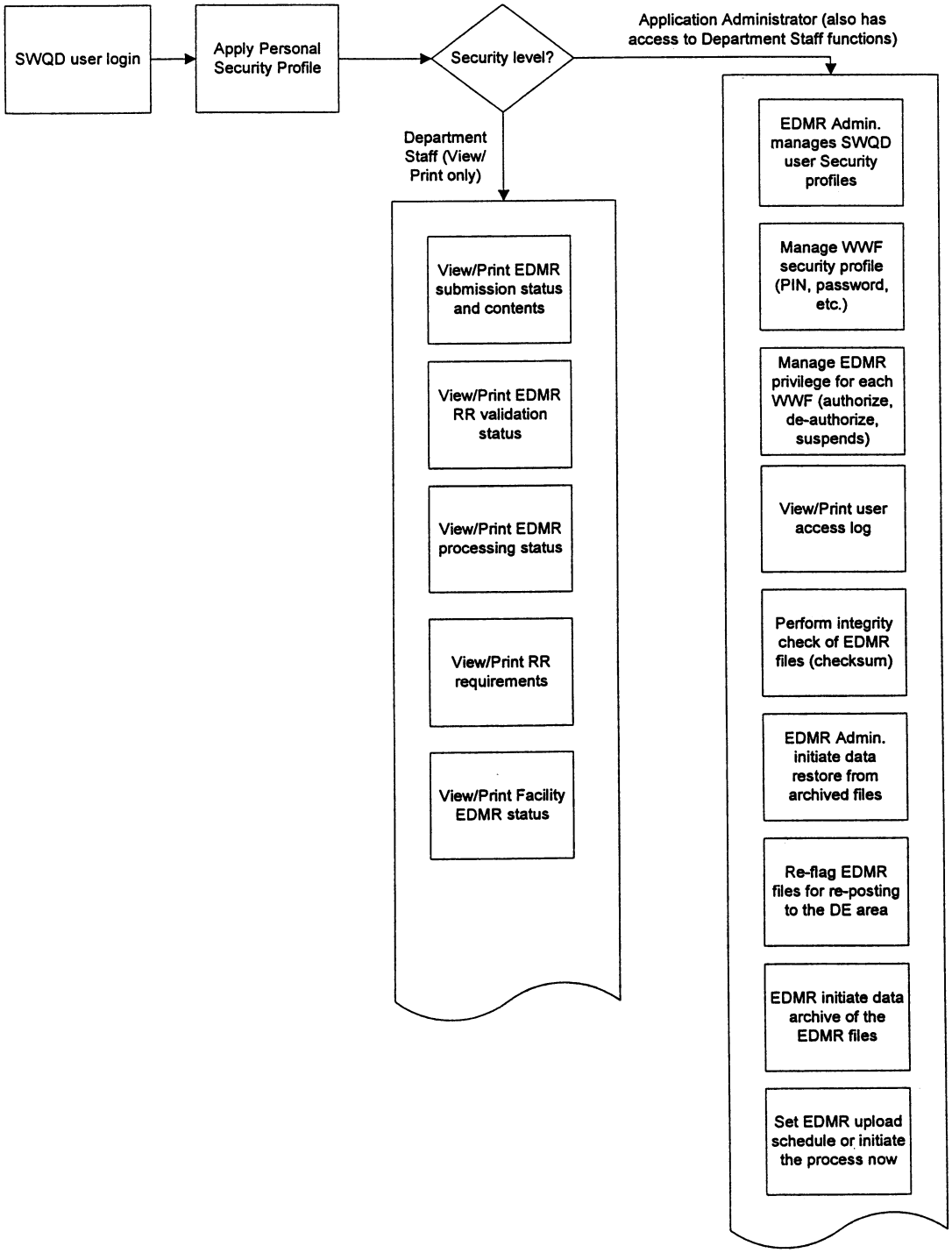
Security for this website is controlled using integrated windows security. Only specific MDEQ accounts will be allowed to access the system.

The business process diagram describing access to the e-DMR system functions is illustrated in the next section.

2.2.4 SWQD Website Functionality

Administrative Control Process (B)

Additional information about these functions is in the functional specifications.



2.3 Example Processes

Once a facility has been participating in the e-DMR system for some time, very little maintenance and involvement will be required by the SWQD. The WWF will continue submitting regulatory data that will automatically be uploaded into the NMS database. All data will be available for review, but no actions will be required by the SWQD.

The initial set up of a WWF will require involvement by a number of SWQD employees to ensure that all required information (facility information, reporting requirements, and related party roles) are correct in the NMS database. WWF users accounts will be created and the information passed on to the account holders. During the initial trial period, the electronic and paper versions of the DMRs must be checked for accuracy.

2.3.1 Wastewater Facility Participation Procedures:

Step 1: The facility submits an e-DMR application to the SWQD. The application contains the terms for participating in the e-DMR system. Each certifier must also submit a notarized Electronic Signature Agreement. Please see the registration process diagram described in Section 2.5.2.

Step 2: The SWQD reviews and approves the application. District staff validates the reporting requirements stored in NMS. The SWQD establishes a user account for the facility on the e-DMR Server and assigns a PIN to the authorized representative(s). The SWQD issues a notice, or permit modification as appropriate, to the facility about the e-DMR account, PIN for authorized representative, and the starting date of the trial period.

Step 3: When first accessing the e-DMR system, the user will be required to change their password and PIN

Step 4: The wastewater discharge facility begins to submit e-DMR data. During the trial period, the facility must also submit paper-based DMRs to the SWQD.

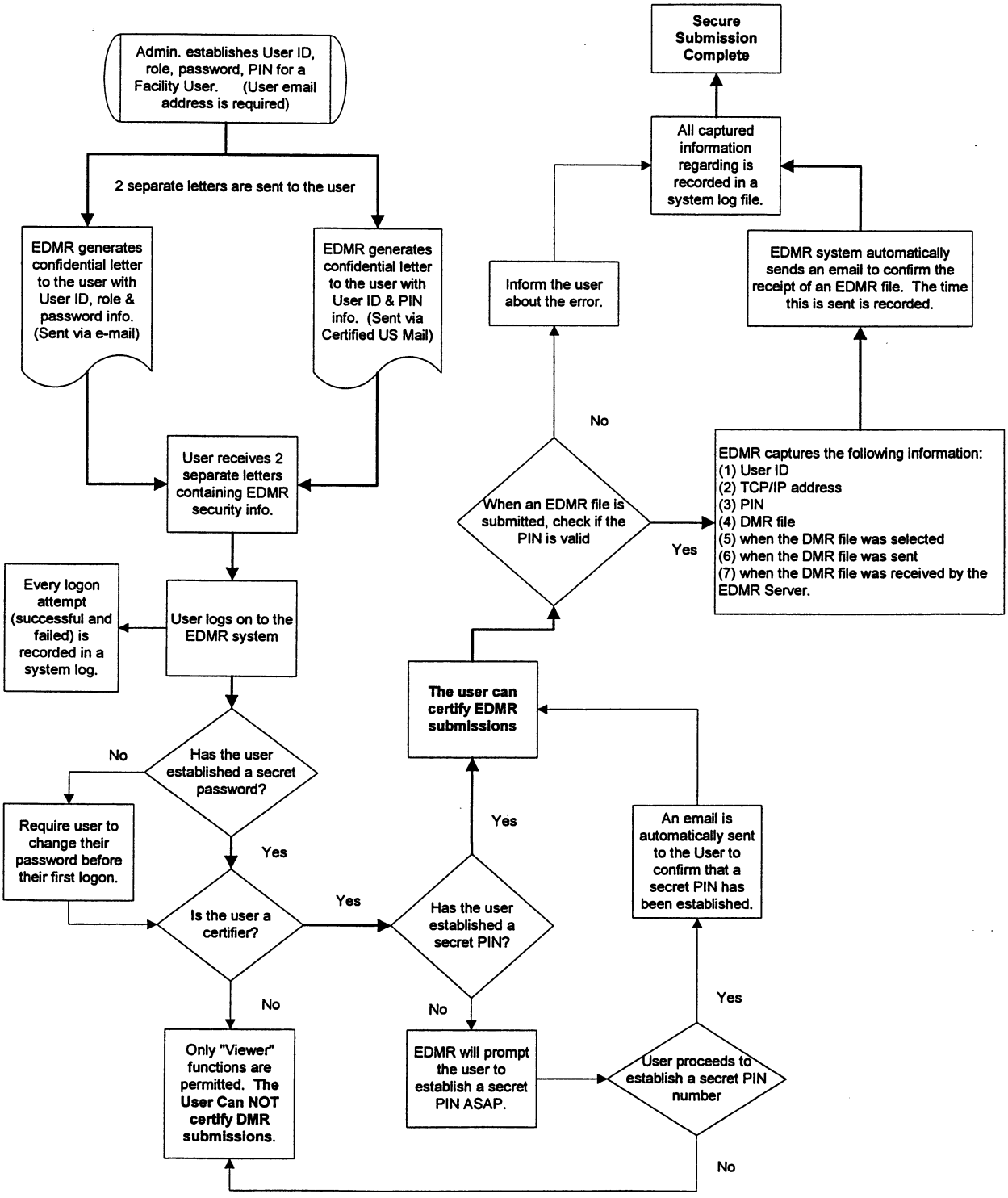
Step 5: The wastewater discharge facility will query the e-DMR process status. If the previous submission was rejected by the SWQD, the facility will fix the problems and submit revisions.

Step 6: After three consecutive, successful e-DMR submission periods, the SWQD will notify the wastewater discharge facility in writing of the cutover date to switch to electronic reporting. After the cutover date, the facility is not required to submit the paper-based DMRs.

Step 7: After the wastewater discharge facility is accepted into the e-DMR system, the facility will not receive paper-based DMR forms from the SWQD, unless it specifically requests the form from the SWQD.

2.3.2 WWF Account and Submission Security

Business Schema for the EDMR System Security (Rev. 5/2001) (D)



2.3.3 Data Flow Example

Step 1: Download reporting requirement(s) from the e-DMR server

Step 2: Facility prepares DMR data file in accordance with reporting requirements

Step 3: Facility logs in to the e-DMR server via the Internet

Step 4: Facility selects the e-DMR file and certifies its contents and submits it to the server.

Step 5: The server receives the file, and issues a receipt of confirmation to the facility

Step 6: The Server verifies that the data file conforms to the reporting requirements stored in the Server. If it does, the submission is noted as such on the Server for reference. If not, the submission will be noted, as "rejected" and the facility will be notified via e-mail. The facility must cure the problems and submit revisions to the e-DMR server.

Step 7: SWQD Department staff can access the e-DMR server to review submission status, browse DMR reports, and perform general Administrative or SWQD Department Staff functions. **Original e-DMR files cannot be altered by any person in any situation.**

Step 8: Using the DMR Process Module, SWQD Administrative staff can specify frequencies for or initiate the DMR data uploading process to send it to the Data Exchange system (which is available to the NMS database). After sending, the DMR reports will be marked as "processed" and remain in the e-DMR server for future chain-of-custody reference.

3 SWQD Staff

The SWQD Staff website is available to all people with proper privileges granted by the system administrator. This website can be used to access much of the information in the e-DMR system, including:

- Summary information and statistics about the e-DMR system, including the number of participating facilities and how many e-DMRs have been submitted to the system.
- All electronically submitted DMR data.
- Basic facility information, including their regulatory reporting requirements.
- WWF User account and contact information

This website will also be used during the process of checking the electronic DMR data against the paper submission.

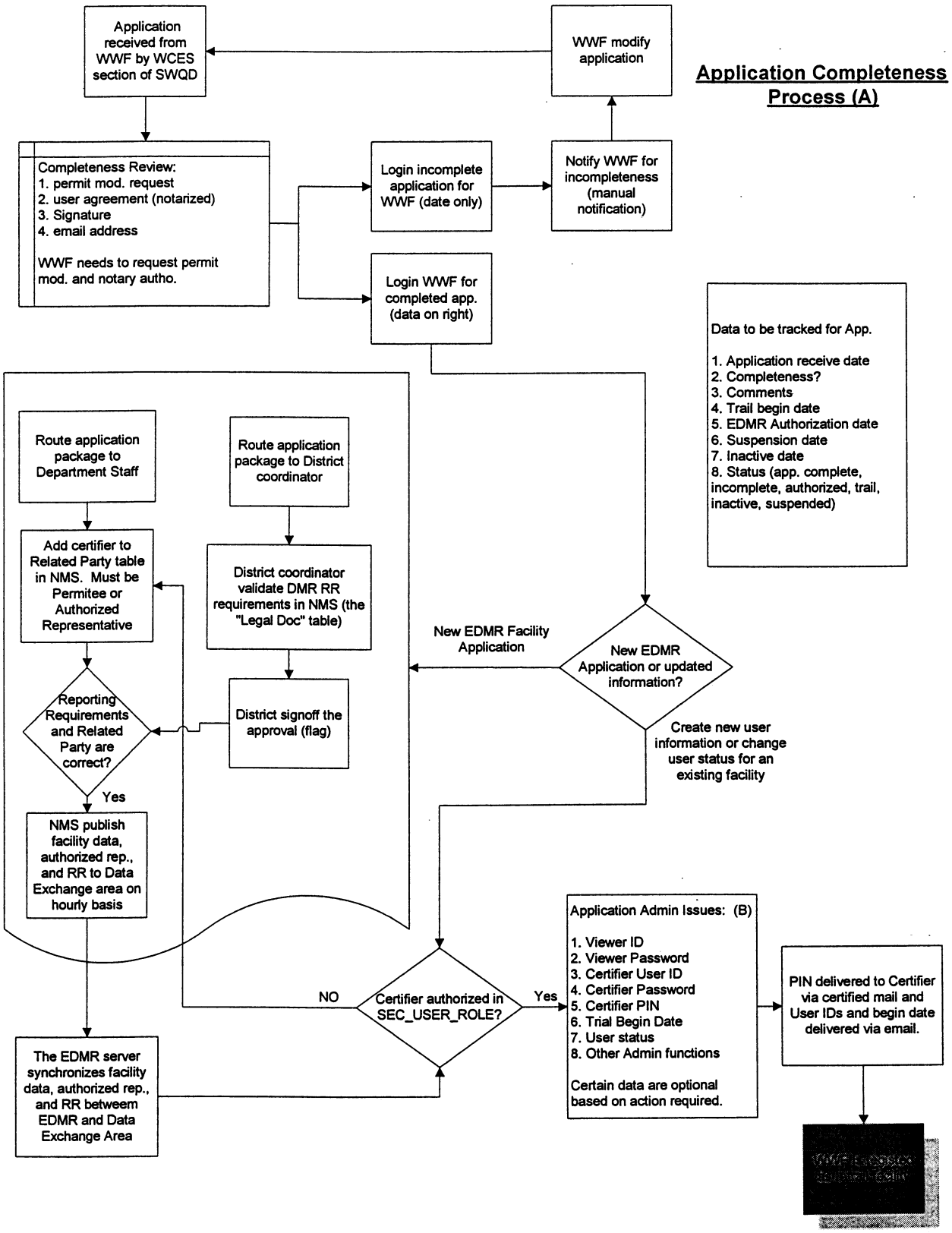
The SWQD staff website is one of three major e-DMR websites. The other two are, the SWQD Administrator website, and the WWF website.

3.1 Business Process

The initial set-up to allow a WWF to participate in the e-DMR system will require involvement by a number of SWQD employees to ensure that all required information (facility information, reporting requirements, and related party roles) are correct in the NMS database. Section 3.1.1 describes this process.

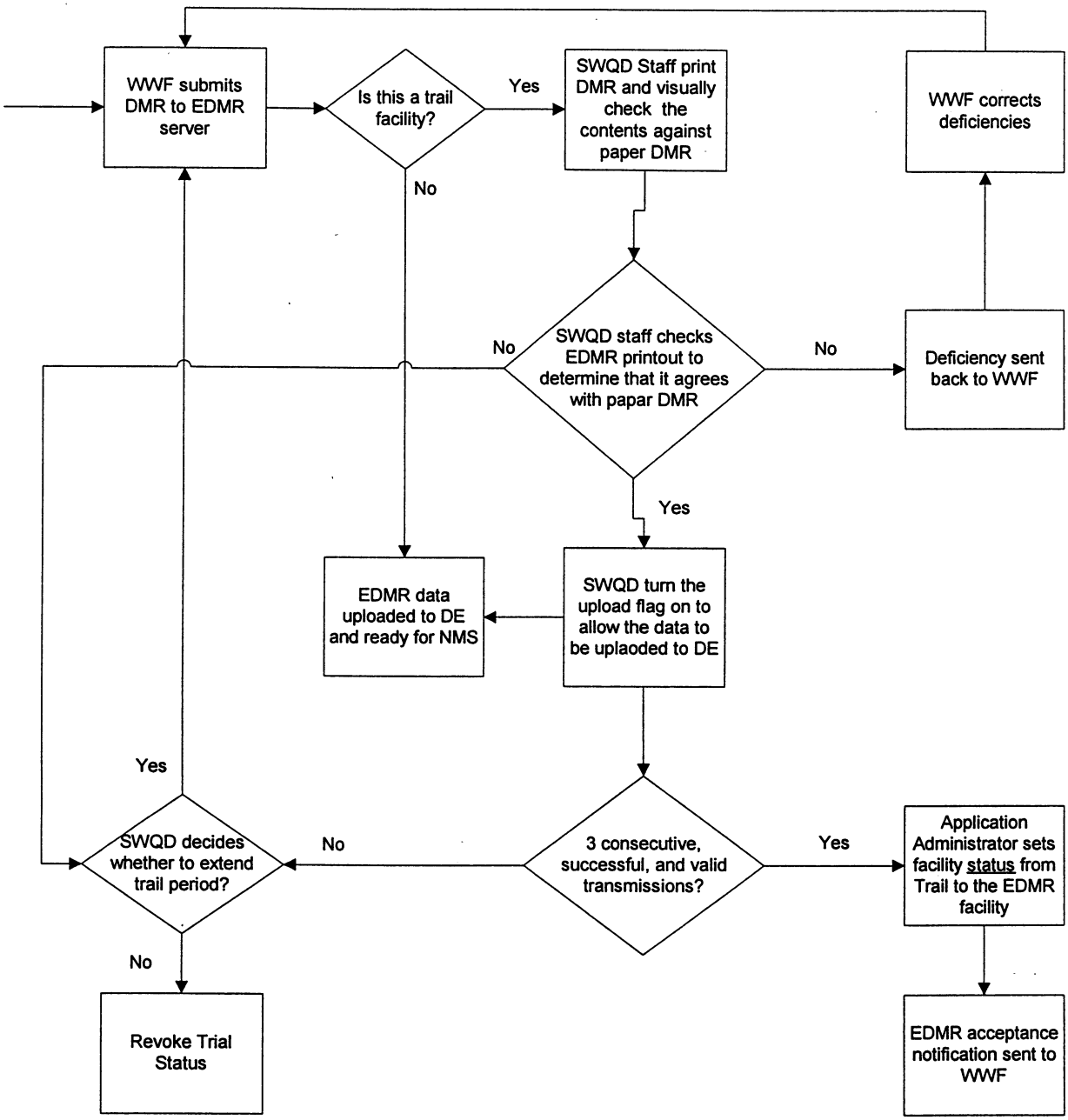
During the initial trial period, the electronic and paper versions of the DMRs must be checked for accuracy. A facility must successfully submit a number of e-DMRs before they are fully brought into the e-DMR program. Section 3.1.2 describes this process.

3.1.1 Facility Application

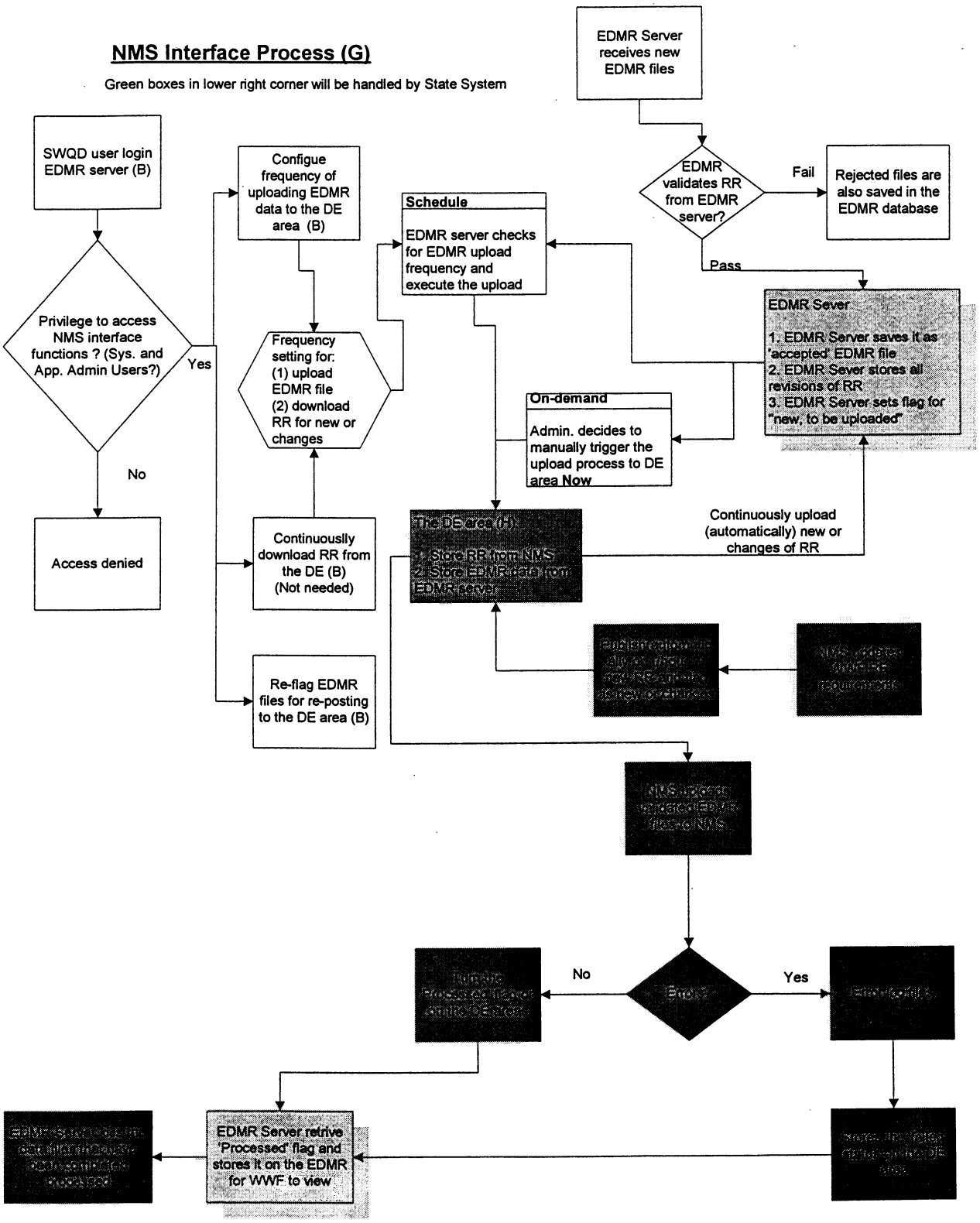


3.1.2 Acceptance of a Full e-DMR Facility

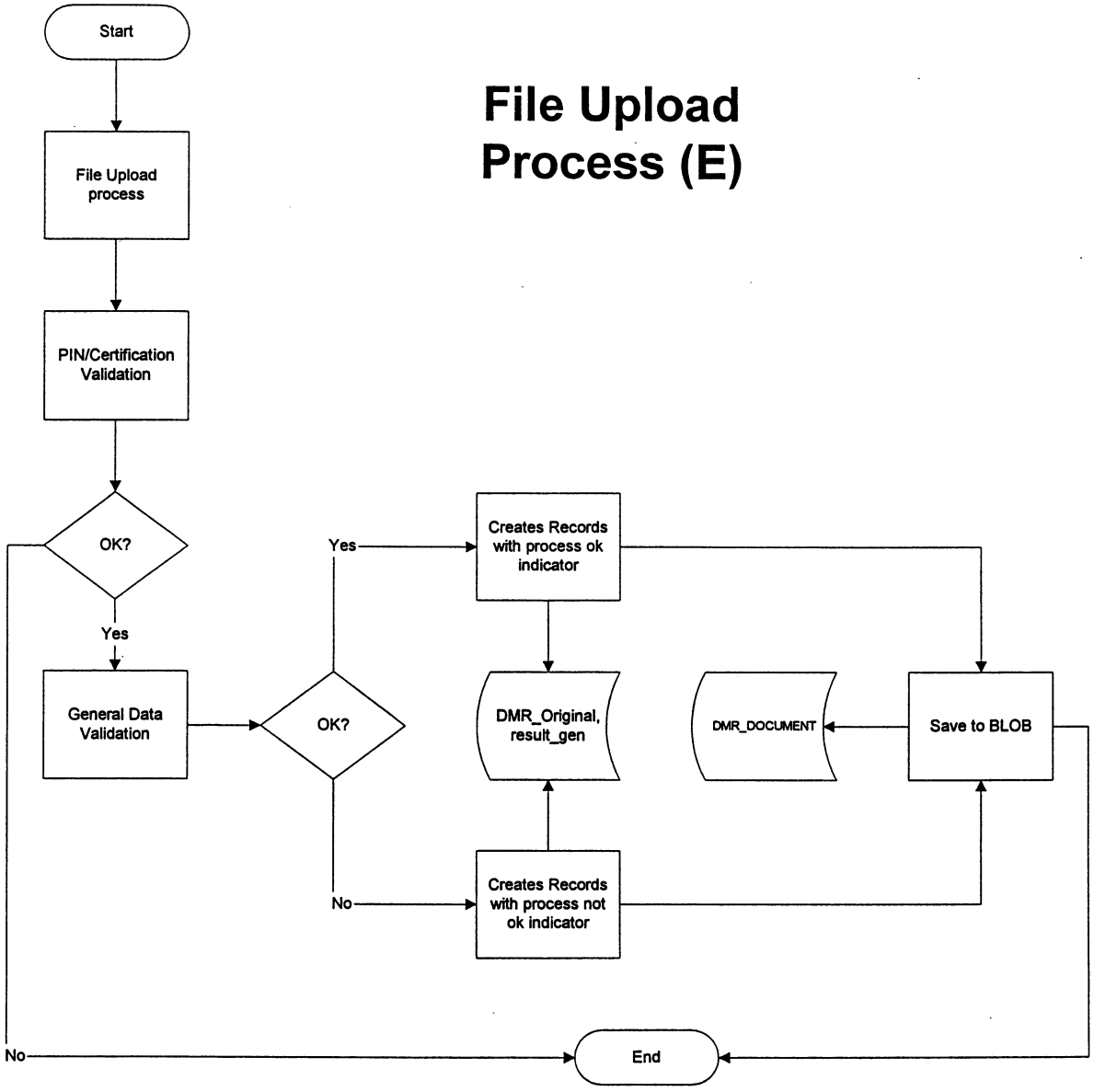
Accept WWF as a EDMR facility (C)



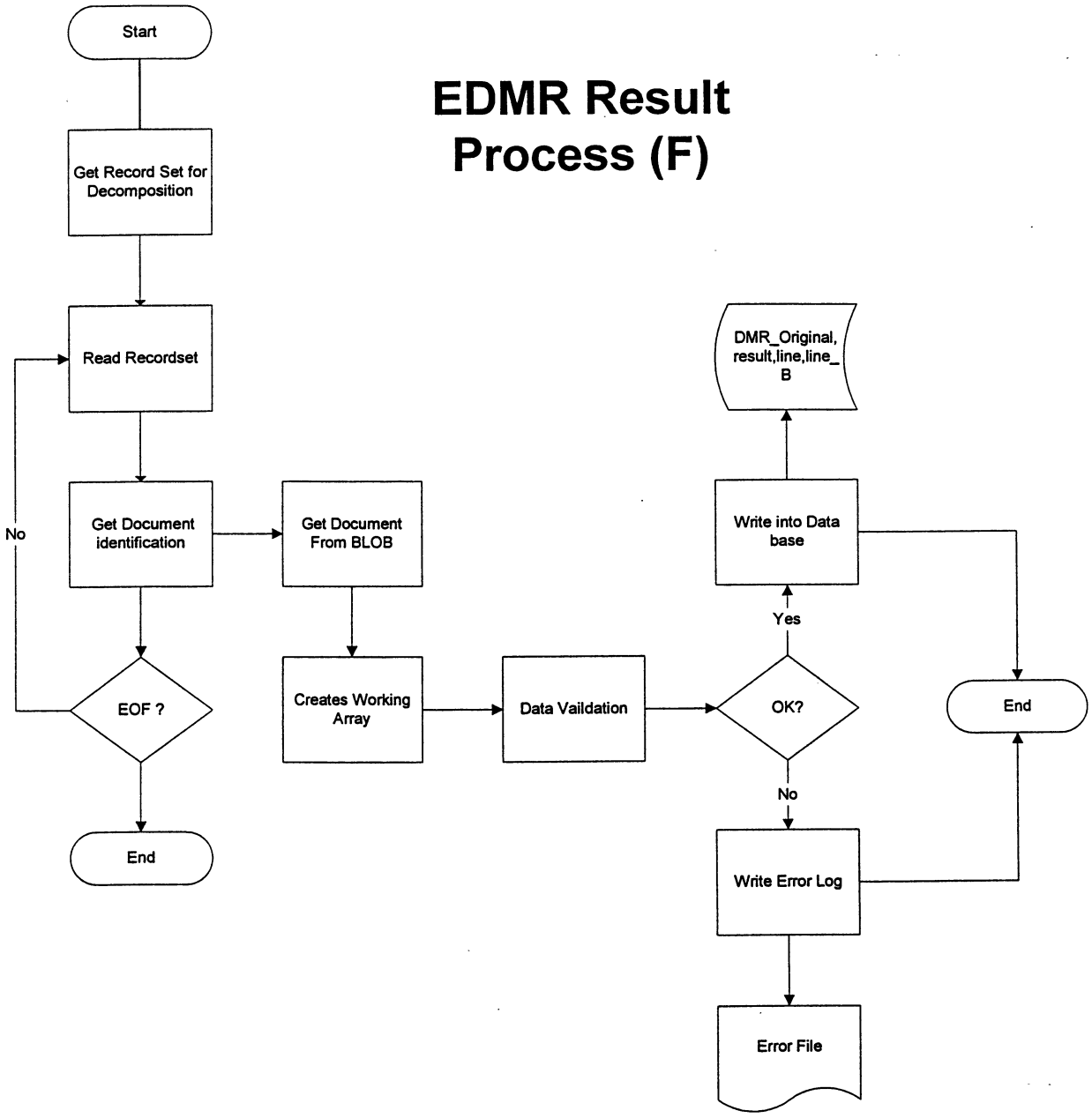
3.1.3 Data Exchange Area Interface Process



3.1.4 e-DMR Submission / Upload X.12 File



3.1.5 Process X.12 File



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Attachment D

Preliminary Storage Space Estimate for the NMS/e-DMR Project

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Preliminary Storage Space Estimate for the NMS/e-DMR

e-DMR Component

Facilities	Parameters/ DMR Report	DMR Reports (outfall) / Month / Facility	Parameters/DMR Report	EDMR Results (KB/Report)	Giga Byte per Month for all facilities
1200					
Part A (X.12 file) - Summary	15	2	30	16.3	0.01865387
Part A (DB format) - Summary	15	2	30	32.6	0.037307739
Part B (X.12 file)-Daily	15	2	30	43.2	0.049438477
Part B (DB format)-Daily	15	2	30	86.4	0.098876953
Receipt acknowledge					0.003433228
		Sub-total GB / Month (DMR submissions):			0.207710266
		Sub-total GB / Year (DMR submissions):			2.49
Report Req. changes per year (assuming 30 % permit changes/year)					0.03
		Sub-total GB / Year (DMR + RR changes):			2.52
Data Exchange Server space per year					1.63
		Sub-total GB/Year (DMR+RR changes+DE):			4.16
Others (Audit trail, administrative function log, etc.) / year					0.83
		Sub-total GB/Year (DMR+RR+DE+Audit Trail):			4.99
Report Req. per year (initial loading for alll facilities)					0.20
		Grand Total GB for 5 Years (DMR+RR+DE+Audit Trail):			**25.15**

NMS Component

Module	FDEP Records	FDEP HD Space (MB)	MDEQ Records		MDEQ HD Space (GB)
Facility	15,819	4.2		1,200	0.00031
Party	21,334	1.9	N/A		0.00186
Role	27,679	1.9	N/A		0.00186
Party Address	15,819	1.5	N/A		0.00146
Permit	24,984	2.4		9,900	0.00093
Outfalls	12,147	1.2		1,855	0.00018
Monitoring Points	11,095	1.1	N/A		0.00107
Parameters	141,795	21.1	N/A		0.02061
Limits	162,702	17.5	N/A		0.01709
Parameter Codes	2,828	0.2	N/A		0.00020
	Intial Database Size (GB):				0.05
	Additional GB for data changes/Year:				0.01
	Subtotal GB for facility+permit for 5 Years:				0.10
DMR Data (Daily + Summary)/Month					0.14
	Subtotal GB for 5 years:				8.17
	Grand Total GB for facility_permit_DMRs for 5 years:				**8.27**
	Grand Total GB for NMS and e-DMR for 5 years:				**33.42**
	Contigency (20%):				**6.68**
	Grand total (GB) for 5 years of operation:				**40.10**

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Attachment E

Responses to Questions Raised by the State of Michigan

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(1) How does the program work from technical aspects?

The "Proposed e-DMR Overview" provided in attachment D is an abstract version of the e-DMR User's Guide. Although the Guide needs to get updated for the Michigan project, it will provide a brief explanation for:

- Overview of the e-DMR system
- Procedure for the wastewater facility to participate in the program
- How the e-DMR administrator will manage the program
- How the SWQD staff will use the system
- How the NMS will interface with the e-DMR server

EnfoTech will provide additional explanations as requested.

(2) EPA has approved a X.12 protocol, but has not yet finalized a XML schema for EDMR application. What impact will it have on the e-DMR phase of the project?

The focus of the e-DMR pilot is to work with the MDEQ and pilot facilities to develop and test a workable procedure for electronic submission. This includes:

- Development of business flow diagrams, facility package, transmission protocol
- Making cosmetic changes to e-DMR web pages
- Assisting pilot facilities to submit e-DMRs

As of today, we have an EPA approved X.12 protocol. We have a preliminary draft "interim XML" protocol through a multi-state/EPA workgroup which Michigan and enfoTech are parts of. We propose the following project approach:

During the pilot stage

1. Publish both X.12 and draft "interim XML" transmission protocol (if the multi-state/EPA effort is ready) during the pilot phase
2. Publish reporting requirements in X.12 at the e-DMR server
3. Offer the e^2 reporting utility (electronic environmental) to allow facilities to convert X.12 requirements to Excel data entry form. Facilities could enter their data in Excel file format, and use the utility to convert their data from Excel to X.12.
4. Facilities will submit X.12 files to the e-DMR server

During the State-wide implementation stage

1. Publish final XML transmission protocol (subject to availability from multi-state/EPA effort)
2. Publish reporting requirements in XML at the e-DMR server
3. Offer the e^2 reporting utility (electronic environmental) to allow facilities to convert XML requirements to Excel data entry form. Facilities could enter their data in Excel file, and use the utility to convert their data from Excel to XML.

4. Facilities will submit XML files to the e-DMR server

The recommended approach will provide certain benefits as follows:

- The final e-DMR system is based on XML transmission protocol endorsed by the USEPA
- Utilize the e^2 reporting utility and Excel data entry form to make the transmission protocol transparent to wastewater facilities. This is especially important to small facilities.
- For large facilities, the "interim XML" protocol will provide a head start for their IT resources to develop data exporting utilities

(3) How will the JetForm requirement be addressed in the project?

EnfoTech proposes to perform a detailed review of the JetForm software in the Functional Requirement Specifications stage in order to determine its applicability to the e-DMR project. Such recommendations have been included in page 23 of the proposal.

(4) EnfoTech needs to agree to a standard traveling expense CAP approved by Michigan State for hotel and meals.

EnfoTech will agree to Michigan's request, and will include a statement of understanding in the final proposal.

(5) Need a cost estimate for maintenance and annual technical support from enfoTech. When will the support plan start?

After the final system installation, enfoTech will provide a total of 4-months of technical support to Michigan without charge. During the 4-month period, the parallel testing/acceptance testing will be completed.

After the 4-month free support, enfoTech offers an option for Michigan to enroll in annual technical support contract. The cost of support contract will be determined based on a proper "percentage" and total project cost excluding training and traveling expenses. The following table lists percentage for various cost brackets.

Total Project Cost[1]	Percentage
< 250,000	15 %
From $ 250,000 to $ 500,000	13 %
From $ 500,000 to $ 750,000	10 %
Above $ 750,000	7 %

[1] For estimating support contract cost, the "Total project cost" shall exclude the training and traveling expenses.

BUSINESS REQUIREMENTS SPECIFICATION

NPDES Management System/e-DMR

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

SURFACE WATER QUALITY DIVISION

Produced by:
The Information Architecture Group

Version 1.3
May 25, 2001

TABLE OF CONTENTS

INTRODUCTION

Executive Summary

The following document is a specification of the business requirements resulting from an in-depth analysis for the NMS and Electronic Discharge Monitoring Report (DMR) systems development project. The intention is to develop applications to streamline the efforts of collecting wastewater discharge monitoring data, as required by the Michigan Department of Environmental Quality (DEQ) Wastewater Program.

The e-DMR system will allow the Department to electronically receive required daily and monthly DMR data, validate the data for meeting regulatory and other permit requirements, acknowledge receipt of the data, and upload the DMR data to the Data Exchange System, which is available to an enhanced NMS database. This will also allow for the transfer of DMR data from the DEQ to U.S. EPA's Permit Compliance System (PCS).

Business Objectives

- The capability to electronically submit both monthly and daily DMRs from a regulated facility to the Department's NMS database. Transfer capabilities to PCS will be included.
- An unambiguous and legal alternative for receiving self-monitoring data from a regulated facility.
- Improve accuracy of compliance data by eliminating potential errors that otherwise would be introduced through manual and/or redundant data entry

In Scope

- Create the e-DMR system including:
  - File transfer protocol (e-Michigan)
  - Automated data screening and validation of daily monitoring data (DEQ,SWQD / Consultants)
  - Routines to generate the monthly data from daily and calculated source data (DEQ,SWQD / Consultants)
  - Database to store system administration data (DEQ,SWQD / Consultants / OAC)
  - Application to administer and screen the raw data (DEQ,SWQD / Consultants)
  - Method of sending notifications to Permittees (OAC)
  - Develop a data entry application for use by the Permittee
  - Development of end user documentation and quick reference guides (DEQ,SWQD / Consultants)
  - Development of system administration documentation (DEQ,SWQD / Consultants)
  - File archiving methodology (OAC)

- Enhancements to the NMS system:
  - Add the tables necessary to store the monthly and daily monitoring data as supplied by the Permittee (DEQ,SWQD / Consultants)
  - Add the tables and screens to create and maintain monitoring requirement data and automate the creation of permit data (DEQ,SWQD / Consultants)

- Enter parameters and limits once (DEQ, SWQD / Consultants) for use in multiple applications (and eliminate duplication of data entry).

Out of Scope

- Automation of the permit issuing process

Constraints (Time, Budget, Environmental, Legal, Cultural, Political)

- Limited budget defined at this time
- Limited number of internal staff with application development expertise
- Potential future standards from OAC or e-MI
- Competing priorities with other projects

Assumptions (Conditions that may occur for this to work)

- The procurement process must operate in a timely manner
- Must have a high degree of participation from the Permittees
- There will be adequate training provided to the administrative staff, stakeholders, program management
- There will be a data entry or importing process for the Permittee locations

Dependencies (Things that must be in place prior to implementation)

- Must have electronic signature capability and federal and state legal acceptance of an electronic signature
- NMS enhancements, for which the electronic data transfer component depends, must be complete
- Servers, network connections, backup hardware must be in place and supported by OAC

Benefits (Quantifiable Business Gain)

- The new application processing will provide more data that is available with quicker turnaround
- The accuracy of the data will be improved due to less re-keying of data
- Reduction in the number of coding operators
- Better compliance monitoring by having more data available (Trending and Monitoring)
- Annual cost reduction to DEQ estimated to be $225K (this is not related to 'reduction in the number of coding operators, cited above)
- Improved efficiencies and cost reductions at Permittee sites
- More accurate data entry and transmission at the Permittee site
- Reduction in postage from Permittee locations
- Permittees would be able to download forms and reporting requirements immediately
- The Permittee would receive immediate confirmation that data has been received and accepted
- Improved communication between DEQ and the Permittee through new email communication
- Process and systems help available online

Risks if you implement

- Electronic data tampering
- Not enough Permittees participate to realize cost savings
- May be forced to ask for legal changes to make the program mandatory
- Long term support of the new application may be challenging with internal resources
- It will be a challenge developing a custom application without an approved methodology
- The governing laws or federal systems change requiring substantial rework to the new system

Risks if you don't implement

- Data entry costs may increase to meet increased data requirements
- Become further behind in the trend towards electronic data entry and processing
- Daily monitoring data will not be available electronically
- Will require re-prioritization of staff resources
- Staff turnover due to tedious tasks

Permittee Risks

- Time and cost to implement a new system
- May duplicate / re-enter / convert to the new required format
- The new system may make a larger amount of data available to the public electronically
- The Permittee may have to purchase new hardware

PROJECT PHASES AND TIMELINE

Project Phase	Typical % of time and budget	Best Practice % of time and budget
	2 %	
	5 %	
	10 %	
	15 %	
	50 %	
	10 %	
	8 %	

Proposed High Level Timeline for System Development

01/26/2001	Final draft of Business Requirements Document
04/15/2001	Complete Business Requirements Document
08/15/2001	Complete Systems Requirements
09/15/2001	Complete technical and functional design
09/30/2001	Begin the NMS enhancements and pilot e-DMR system with
12/30/2001	Complete System, Performance, and User Testing
01/15/2002	Begin pilot of new system with select Permittees
04/01/2002	Begin rollout of complete system to ready Permittees

Note: The above dates are aggressive and make the assumption that this project will continue without approval delays between phases. This requires that the approval process for a future phase must begin well before that phase is scheduled to start. If this is not realistic in the DEQ culture, then add an appropriate amount of approval time prior to each phase.

SOFTWARE & HARDWARE REQUIREMENTS

PERFORMANCE REQUIREMENTS

- This system is not a real time application and an acceptable response time will be sufficient for the majority of screens.

RELIABILITY AND BACKUP STRATEGY

- The e-DMR system and NMS enhancements become core tools for the Department of Environmental Quality, Surface Water Quality Division. At this time, the participation in this new electronic process is voluntary and is an alternative to the current paper submission process. The companies and municipalities that rely on this system to satisfy government regulations must have confidence that their files are handled with accuracy and timeliness.
- The system should be backed up nightly. The storage space will be designed using RAID or Mirroring technology to protect against data loss between the full backups.

AVAILABILITY

- The DEQ team would like the system to be available 24 hours by 7 days. All regular outages should occur outside of the operating hours. Any extended outage will be scheduled with the DEQ / OAC Information Technology staff.
- Submissions can be accepted on a 24-hour, 7 days a week schedule.

SECURITY AND VIRUS PROTECTION

- Portions of the system will require group level security where read, change, delete rights may be set based on the user's membership in the appropriate group.
- The access to the e-DMR system from outside users will be governed by the guidelines set forth by the Office of Automation Coordination and the e-Michigan team and will utilize the security provisions that are being established concerning user IDs, passwords, and PIN (Personal Identification Numbers).
- As specified by the DEQ Information Technology Manager, A Virus Protection Plan will be required to guard the e-DMR Server from virus infection. The plan shall include a selection of commercial software that is capable of detecting viruses, eliminating viruses, and providing the system administrator with the ability to monitor and control the entire virus Protection program. Virus Protection software shall be acquired separately from software vendors.

MAINTAINABILITY

- The system must use tools that require a reasonable level of maintenance. The development tool used to build the related NMS system is MS Visual Basic 6.0 and utilizes a SQL Server 7.0 database. Other 'front-end' tools will be considered if a valid argument is presented.

PORTABILITY

- The system should be written in such a way that utilizes standard coding conventions that enable the application to be ported to alternate platforms without a complete re-write of the system.

TECHNICAL CONSIDERATIONS

The scope of the Business Requirements phase of this project **does not involve technical design and implementation issues.** However, during the course of our discussions on Business Requirements, the following technical issues were raised.

- NMS (National Pollutant Discharge Elimination System Management System) will utilize a Visual Basic user interface and a Microsoft SQL Server 7.0 database.
- The e-DMR system is targeted to use a SQL Server database and reside on a Windows 2000 platform.
- There are several options being discussed for file transfer protocol. They include X.12, and XML.
- There is an assumption that any access to the e-DMR system through the Internet will occur through the e-Michigan portal and follow their security standards.
- NMS will need to be enhanced to support the e-DMR system as part of the project scope.
- The e-DMR system must comply with the proposed Cross Media Electronic Reporting and Records Rule (CROMERRR) issued by U.S. EPA in July 2000 that sets forth criteria for voluntary electronic environmental reporting and record keeping by the regulated community. This rule will be soon published in the Federal Register.
- The system must meet U.S. EPA authorization and security standards for e-DMR submissions.

SYSTEM INTERFACE REQUIREMENTS

- As shown in the Context diagram in the next section of this document, the system must be able to interface with an enhanced NMS system and the PCS system.
- The e-DMR system will accept files from Permittee locations.
- The e-DMR system sends email confirmations and notifications to Permittees.

USER INTERFACE REQUIREMENTS

The user base can be divided into four groups:

- The first group that will utilize the new systems is the technical administration staff of the Department of Environment Quality, Surface Water Quality Division (SWQD). This group will be responsible for the maintenance of the system. This group is approximately 6 individuals.
- The next group of users (approximately 120) are the other additional members of DEQ, SWQD such as those in the Lansing and District offices, permit staff, and Great Lakes Environmental Assessment Section and will use the system as one of the tools to perform their job.
- A third group of users (approximately 1200) is those who hold a Wastewater Discharge Permit who are currently required to submit Discharge Monitoring Reports. These users are remote users and will access the system through file submission and data viewing.
- The last group of users is classified as the general public. This may include individual citizens, environmental groups, universities and companies. Their access will be limited to data viewing through the Internet access as allowed under the Freedom of Information Act.

HARDWARE REQUIREMENTS

The following hardware is recommended by the DEQ for both the initial and statewide e-DMR implementation:

- A minimum of two Pentium IV dual processor (expandable to four processor) servers, which will provide clustering for minimizing downtime, and providing disaster tolerance, as needed. Initial load sharing will be provided by dedicating both web and database functions to the two individual servers with fail-over capability to the alternate server.
- Each server shall provide a minimum RAM of one (1) GB, expandable to four (4) GB. Each server shall provide 20 GB of internal RAID storage.
- The server cluster shall provide a total storage capacity of at least 100 GB for keeping an estimated of six years worth of e-DMR data online. This disk unit will be configured in a RAID 5 or Mirroring configuration.

The actual hardware to be acquired for the e-DMR system will be determined jointly by the Department's Office of Automation Coordination (OAC), SWQD storm water management program staff, and the consultant(s) after considering the following:

- Disaster tolerance and the ability to expand hardware using the scalable features provided by Windows 2000 Advanced Server system.
- The Department, SWQD and their consultants should jointly specify a plan for hardware phase-in to meet initial needs and gradually expand as the additional processing needs arise in the future.

COMMUNICATIONS INTERFACE REQUIREMENTS

- The e-DMR system will reside at a central OAC server room and connect to the network through a secure network.

DATA RETENTION

- The data transferred to the e-DMR system will be stored locally at the DEQ for three months. The raw data files can be archived after this time.
- The data loaded into the NMS database will be stored for six years. After this time, the data will be archived to tape, CD or other acceptable media and stored in record storage.

CONVERSION

- The monitoring reporting requirements must be entered or loaded into an enhanced NMS.
- The current method of submitting monitoring data is a paper-based system. There are no plans to convert past data to the new database.

DOCUMENTATION

- The systems project will include several levels of documentation. The most widely used will be online help and instructions available to all users. For select groups, written documentation will be produced including manuals and quick reference cards. User manuals focusing on respective user types will be developed for four different users, including 1) DEQ administrative, 2) DEQ program staff, 3) facility viewers (those who can view but cannot submit their facility's data), and 4) facility certifiers (those registered with NMS to submit electronic DMR data).

TRAINING

- The type and amount of training required will be based on the user group and their use of the system.

SITE REQUIREMENTS

- The main servers and storage media for this application will be located at a central server location administered by the Office of Automation Coordination.

FUTURE SYSTEM CONSIDERATIONS

- The vision of the DEQ Systems team is to enhance the NMS system and move away from a dependency on the Permit Compliance System (PCS).

PILOT PROGRAM NOTES

The Pilot will run in two phases:

Phase 1 would be a representative selection of Permittees from each of the three major areas:
- Highly Technical Permittees such as Ford, GM, etc.
- Mid-level Technical Permittee such as WWTP, etc.
- Low Technical Permittee

Phase 1 would require volunteers that:
- are interested in being the first to get involved
- have a desire to test their present/planned procedures
- have a say in the look and feel of the interface

Incentives might include:
- Free Hardware
- Free Excel spreadsheets with macros
- Other incentives geared toward the size of site

General requirements of the pilot would include:
- Submission of data in both paper and electronic format
- Daily submissions of test scenarios
- Willing to go through up front training
- Be actively involved for a period of 2-3 months

Phase 2 could include up to 20 Permittees with a similar regiment

MONITORING REPORTING DATA COLLECTION HEIRARCHY

Data Relationship Rules

- A facility can have multiple permits
- A facility can have multiple outfalls
- A permit can be linked to only one facility
- A permit can have multiple outfalls
- A permit can have multiple monitoring points
- An outfall can be linked to only one facility
- An outfall can be linked to multiple permits
- An outfall can have multiple monitoring points
- A monitoring point can be linked to only one permit
- A monitoring point can be linked to only one outfall
- A monitoring point can have multiple monitoring requirements
- An instance of a monitoring requirement can be linked to only one monitoring point

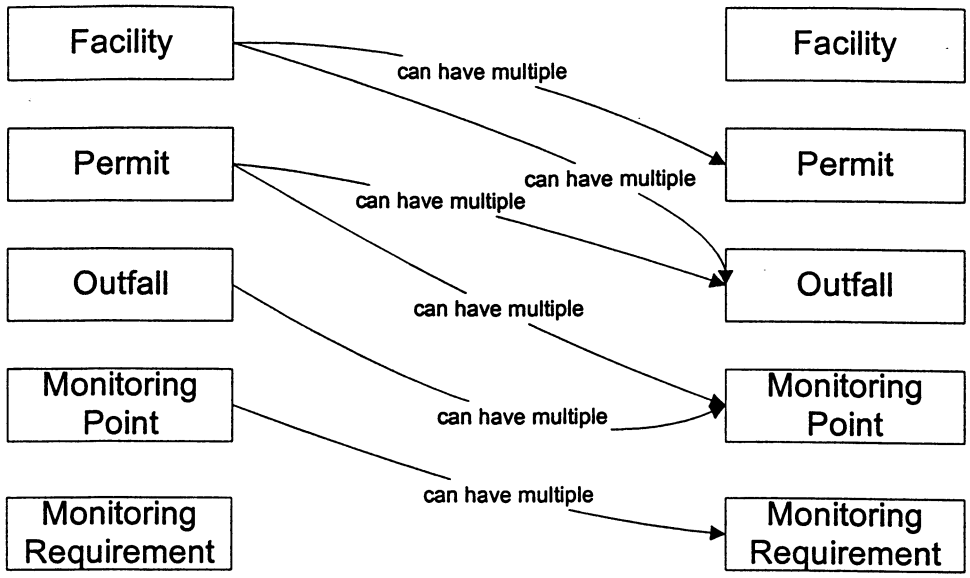
	FACILITY	PERMIT	OUTFALL	MONITORING PT.	MON. RPT REQ.
Facility	X	Multiple	Multiple	X	X
Permit	1	X	Multiple	Multiple	X
Outfall	Can be linked to 1	Multiple	X	Multiple	X
Monitoring Pt.	X	Can only link to 1 permit	Can only link to 1 outfall	X	Multiple
Mon. Rpt. Req.	X	X	X	1	X

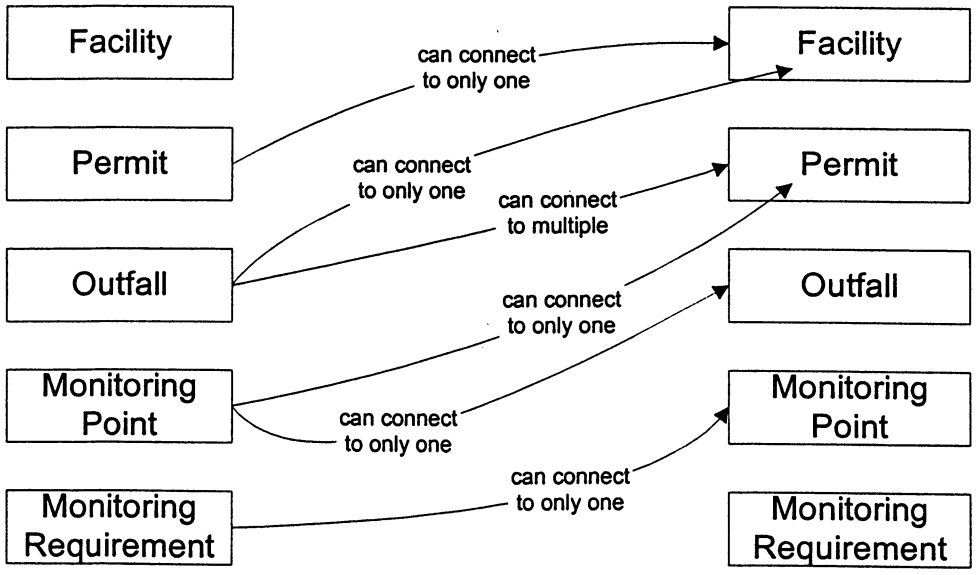
Relationships are to be read row to column

X = not applicable

1 = one to one relationship (when read row to column)

DATA COLLECTION RELATIONSHIPS





Project Team

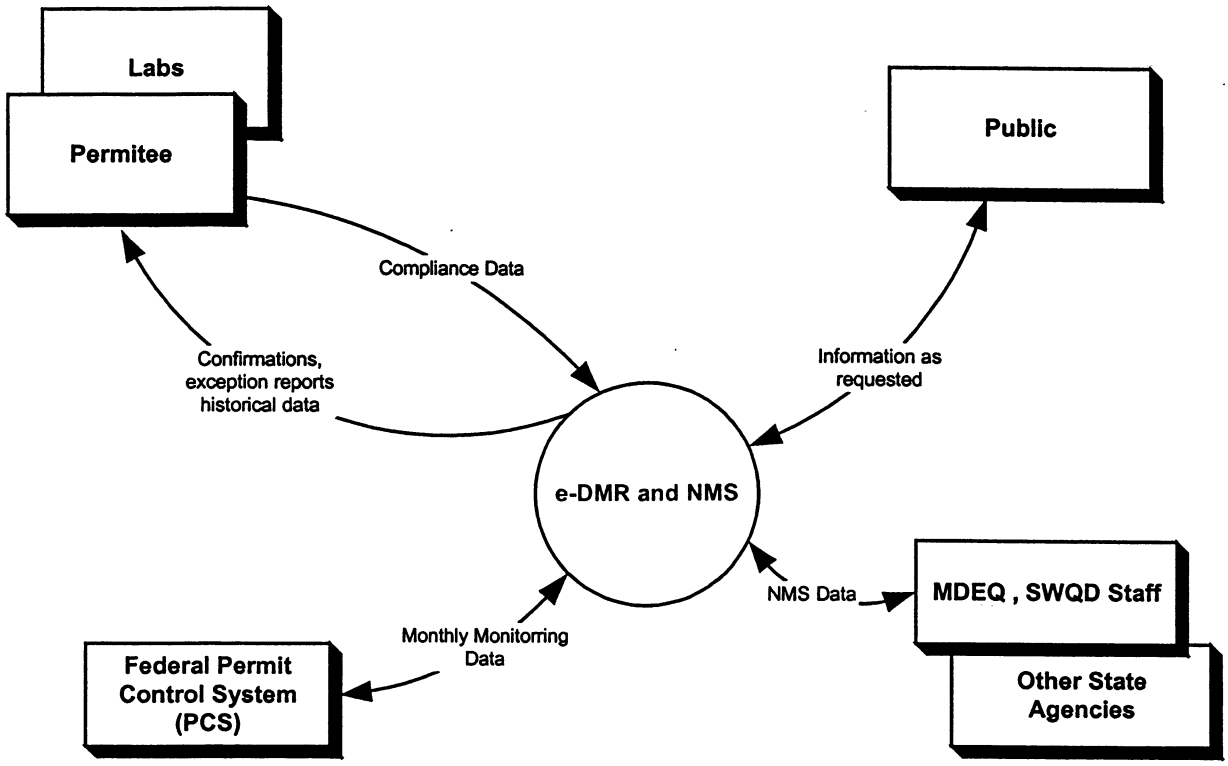
The collective knowledge of the following team is represented in this specification:

NAME	TITLE / DEPARTMENT
Lynn Greene	CIO, MDEQ
Michael Beaulac	Information Technology Manager, MDEQ- SWQD
Jeff Jones	Environmental Quality Specialist, MDEQ-SWQD
Peter Ostlund	Permit Section Unit Chief, MDEQ-SWQD
Michael Durgan	Programmer / Analyst, MDEQ-SWQD
Anne Hart	Programmer / Analyst, MDEQ-SWQD
Bill Geake	Programmer / Analyst, MDEQ-SWQD
Hae-Jin Yoon	SE MI District Office, Unit Supervisor, MDEQ-SWQD
Bob Morgan	Information Architecture Group
David Reed	Information Architecture Group

Definitions, Acronyms, Abbreviations

DMR	Discharge Monitoring Report
MDEQ	Michigan Department of Environmental Quality
NMS	(National Pollutant Discharge Elimination System) Management System
PCS	Permit Compliance System
NODI	No Discharge code. Gives a reason why there was no sample taken.
Outfall	Physical point where the discharge joins the waters of the state
Permittee	An entity that that holds a permit for wastewater discharge
SWQD	Surface Water Quality Division
Monitoring Point	A description of where data collection occurs
FOIA	Freedom of Information Act
GLEAS	Great Lakes Environmental Assessment Section
OAC	Office of Automation Coordination
Tier	Conditional reporting requirements that may be based on conditions such as production levels or the levels of other parameters.
Permit #	NPDES assigned number
Permit ID	NMS unique identifier for a permit
Permit Version #	A number assigned to a permit ID to designate revisions
Entity Name	Company, facility or municipality associated with an individual
NPDES	(National Pollutant Discharge Elimination System)

CONTEXT DIAGRAM



Primary Scenario:

- A permit is requested by an entity who has a wastewater discharge
- The DEQ reviews the request and issues a permit
- A Permittee downloads permit specific information to local client software system
- The data entry employee (Permittee) checks the data to verify that it meets sampling requirements set forth in the permit
- The daily measurement data is entered at Permittee site
- The system summarizes the data to produce monthly reports
- Data not meeting permit requirements triggers explanation requirements.
- The data is approved by the authorized approver (Permittee)
- The data is placed in proper format
- The Permittee submits information
- The e-DMR system receives the data and send the Permittee confirmation of receipt
- The Permittee receive confirmation from e-DMR system
- The e-DMR system and DEQ staff screen the submitted data for errors and completeness
- The screened data is loaded into the expanded NMS
- The data is reviewed by DEQ employees in the district offices and checked for exceedances

BUSINESS AREA

Permittee Feature Brainstorming

On Monday, January 22, 2001, the DEQ and approximately 25 representatives from industry and municipalities joined the systems team. During this session, the group was asked to brainstorm on potential features in the new system that would assist them in the data reporting task. Following is a list of features requested but does not imply that any of these items will be included in the new system.

- The system should create a summary report to show approver what they are approving
- The data input format needs to be flexible or utilize a simple screen
- The Permittee still needs a hardcopy method of sending data
- The system should return a confirmation of receipt following monthly data submission
- The system could create a calendar that would warn the Permittee of upcoming due dates
- The Permittee would be able to download a set of parameters used in a form specific to their permit
- The system should provide help translating the data from their format to the DMR format
- The Permittee would like to retrieve and print past submitted reports (up to 5 years)
- The system should allow a Permittee to submit corrections after the monthly submission has occurred
- The monthly report should have a place to explain exceedances and actions taken
- The system should allow a Permittee to print permit requirements and a copy of permit. Allow all permits from a company to be selected and printed at once.
- The Permittee should only have to input data once, no double entry of data
- The system should give real time warning of exceeding limits
- The system should allow for a place to give additional data
- The Permittee would like to see the form and requirements at least one year in advance
- The Permittee would like to enter daily data and the local computer could calculate monthly averages and exceedances
- The Permittee would like to download permit information to a local machine to work offline
- The system should allow the Permittee to review totals and electronically approve or add comments and corrections after data is calculated
- The system should provide the ability to electronically sign and submit the reports
- The system should provide help on what action is required
- The system should allow the editing of data if an error is found
- The system should allow flexible entry of data (could be daily, every few days, etc) with a monthly submission of data.
- The system should facilitate the sharing of data with other groups (i.e. the district office)
- The data view option should for summation by selection dates
- The system should support viewing of public domain data
- The system should provide flexible use of units. (i.e. GPD, MGD) Maybe a dropdown choice?
- The system should retain the unit values used and make them the default units to values used in future months
- The system should provide online help and contact information
- The Permittees should be able to maintain the list of approvers online, accounting for vacations and replacement approvers.
- The data reporting should support selection and grouping by the following: Permit #, date range, exception reports, by parameter, online log of submissions, graph a parameter, year over year trends
- The system should allow the public to look up data of others by name, county, industry, exceeds, parameter
- Once the data is approved, the file should be locked for future changes.

INFORMATION REQUIREMENTS

Permit Master Table

Definition

The information associated with a permit

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Permit ID	Sequential number assigned by system (NMS)	Y	1	Next available number
Version	Sequential number for each permit to record a revision to the permit	Y	1	Sequential integer for each permit #
Permit #	A number assigned by NMS	Y	1	
Version	Sequential number for each permit to record a revision to the permit	Y	1	Sequential integer for each permit #
Entity name	Entity name who holds the permit	Y	1	
Type Code	What type of permit	Y	1	
Status Code	Current status (in effect, pending, etc.)	Y	1	
Category Code	Captures category code for COC	Y	1	
Effective Date	Date and time the permit takes effect	N	1	Date/Time field
Expiration Date	Date and time the permit will expire	N	1	Date/Time field
Issued Date	Date and time the permit was issued	N	1	Date/Time field
Retired Date	Date and time the permit was retired	N	1	Date/Time field
Application Due Date	Six months prior to the expiration of the permit	N	1	Date/Time field
Compliance Responsibility Code	Primary compliance agency. (95 % are SWQD)	Y	1	

Approver

Definition

An individual with the signature authority to approve data for submittal

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Last name	Last name of an authorized approver	Y	1	
First name	First name of an authorized approver	Y	1	
Entity name	Name of company or municipality	Y	1	
Title	Professional title or job position	N	1	
Date added as approver	Date this individual was added to the approver list	Y	1	MM/DD/YYYY
Status code	Code showing	Y	1	Active, Inactive
Permit ID	Permit number assigned by NMS	Y	N	Latest version is active
Version #	Version # assigned during permit issuance or revision	Y	N	
Login ID	Login ID assigned during e-DMR registration	Y	1	
Password	Password chosen by approver during account setup	Y	1	
PIN	May be used as part of an electronic signature	Y	1	Defined by e-Michigan

Log file (Submission)

Definition

A file that tracks when DEQ receives a data file from a Permittee.

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Submission ID	Sequential number	Y	1	System generated
Submission Version #	Version of daily data submission	Y	1	System generated. If a version has already been submitted, the Version # is incremented by 1.
Approver ID	Login ID of approver	Y	1	
Date	Date stamp when file was received	Y	1	MM/DD/YYYY
Time	Time stamp when file was received	Y	1	24 hour, HH:MM:SS
Permit ID	Permit ID as exists in NMS	Y	1	
Version	Version of the permit ID	Y	1	
File Name	Contains the file name of the raw data file	Y	1	Naming convention TBD
Reporting Period	The date range associated with the reported data	Y	1	

Original Submitted Data

Definition

Raw data received from the Permittee.

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Submission ID	Sequential number	Y	1	Generated upon receipt
Submission Version	Version of the permit	Y	1	
Raw data	Daily data – defined as another object	Y	N	

Log File (Validated Data)

Definition

A file that tracks when DMR data has been validated.

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Submission ID	Sequential number	Y	1	System generated upon receipt
Submission Version #	The version number of the daily submission. This allow for a Permittee to submit corrected versions.	Y	1	
Date	Date stamp of when the data was validated	Y	1	MM/DD/YYYY
Time	Time stamp of when the data was validated	Y	1	24 hour, HH:MM:SS

Input Log File (at Permittee site)

Definition

Record of who entered or edited the data at the client site (optional).

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Last Name	Last name of person entering the data at a Permittee site	Y	1	
First Name	First name	Y	1	
Permit ID	Permit ID assigned by DEQ	Y	1	
Version	Version of the permit	Y	1	
Date	Date stamp of when the data was validated	Y	1	MM/DD/YYYY
Time	Time stamp of when the data was validated	Y	1	24 hour, HH:MM:SS
Monitoring Period	Month or date range that covers the collection and reporting of data	Y	1	

Edit Log (at Permittee site)

Definition

A report at the Permittee site that tracks data changes (optional).

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Last Name	Last name of person entering the data at a Permittee site	Y	1	
First Name	First name	Y	1	
Permit ID	Permit # assigned by NMS	Y	1	
Permit Version	Version of the permit	Y	1	
Date	Date stamp when the change was made	Y	1	MM/DD/YYYY
Time	Time stamp when the change was made	Y	1	24 hour, HH:MM:SS
Changes made	Text field containing the name of the field that was changed	Y	1	
Who requested change	Name of individual requesting the change	Y	1	

Sender Log (at Permittee site)

Definition

This is a log at the Permittee site that tracks who sent the data file (optional).

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Last Name	Last name of person sending the data at a Permittee site	Y	1	
First Name	First name	Y	1	
Permit #	The permit # corresponding to the data being sent.	Y	1	
Permit Version #	The version # of the permit	Y	1	
Date	The date the file was sent	Y	1	MM/DD/YYYY
Time	The time the file was sent	Y	1	24 hour time (HH:MM:SS)

Raw Daily Data

Definition

This is the daily monitoring results and monthly-calculated values from the Permittee locations. (There is one record for each parameter reporting day and one record containing the monthly data)

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Parameter	The element or item being monitored	Y	1	
Units	The unit of measure used to report the data	Y	1	
Reported Value	Load or concentration of reported value.	Y	1	
Limit Value	Limit as set forth in permit requirements.	Y		
Detection level	If the value is not detectable, the detection level must be entered.	N	1	Only required if less than detectable level
Monitoring Point	Physical location for sample collection	Y	1	
Permit ID	Permit ID for the data being reported.	Y	1	
Permit Version	Version of the permit	Y	1	
Exception code	NODI codes. Gives a reason why a sample was not taken.	N	1	
Daily Exceedance comments	If this parameter exceeded the daily limit, an explanation is entered here.	N	1	
Monthly exceedance comments	If this parameter's monthly average exceeds the monthly limit, an explanation is entered here.	N	1	
Monthly calculated values	The monthly average calculated from the daily data	Y	1	

Monitoring Reporting Requirements

Definition

The parameters, collection intervals and levels as specified in the NPDES Permit. This information is used to create the permit requirements document that is sent to the Permittee. (There is a single header record followed by one record for each parameter)

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Header Information	**This information occurs once at the beginning of the file**			
Monthly alerts	This field is used by the DEQ to send alerts and information messages to each Permittee	N	1-N	
Reporting period	The reporting period covered by the parameter requirements	Y	1	
Permit ID	The permit ID for this requirements file	Y	1	
Permit Version	Version of the permit	Y	1	
Monitoring Point ID	The monitoring point for the outfall for these parameters	Y	1	
Parameter Information	**The following items will be repeated for each parameter**			
Parameter	The element or item being measured	Y	1	Will be chosen from a list of options
Location	The location(s) where the parameter is sampled	Y	1-N	
Tiered dependency	Could be production levels or other parameters	N	1	
Tiered limits	These conditional reporting requirements may be based on conditions such as production levels or the levels of other parameters	N	1-N	There can be multiple choices of conditional reporting requirements
Frequency of collection	How often the parameter must be samples	Y	1	Will be chosen from a list of options
Collection method	Contains the method of collection for the sample	N	1	Will be chosen from a list of options
Max Load	The maximum load allowed for parameter	Y	1	
Avg. Load	The average load allowed for this parameter	Y	1	
Min. Concentration	The minimum concentration allowed for this parameter	Y	1	
Max. Concentration	The maximum concentration allowed for this parameter	Y	1	
Avg. Concentration	The average concentration allowed for this parameter	Y	1	
Min. detection level	The minimum detection level in place for detecting this parameter	Y	1	
Default unit	The default unit applied to this parameter.	Y	1	If the Permittee chooses a different unit, it then

				becomes the default.
Monitor only flag	This is a flag indicating that this parameter is to be monitored, but no limits are in place.	N	1	Flag: Y/N

Confirmation Data

Definition

The information DEQ returns to the Permittee to acknowledge the receipt of monthly data.

Data

The system shall provide for the following data elements and business rules:

Data Element	Description	REQ?	(1/N)	Rules
Received date	The data the file was received by DEQ	Y	1	MM/DD/YYYY
Received time	The time the file was received by DEQ	Y	1	24 hour time, HH:MM:SS
File name	Naming convention TBD	Y	1	
Submission ID	The submission ID associated with this data	Y	1	
Submission Version	The submission version associated with this data	Y	1	

FUNCTIONAL REQUIREMENTS

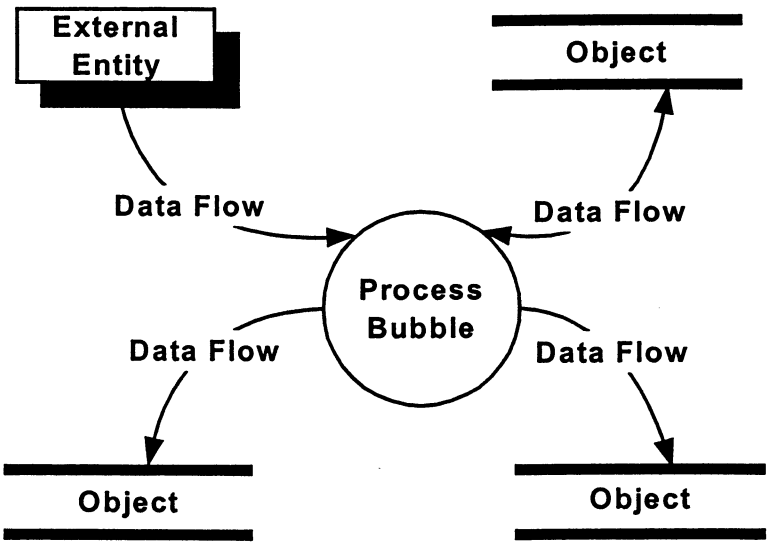
Data Flow Diagram

A Data Flow Diagram is a graphical representation of what is happening in an activity including terminators and objects as well as how data is transformed in the activity.

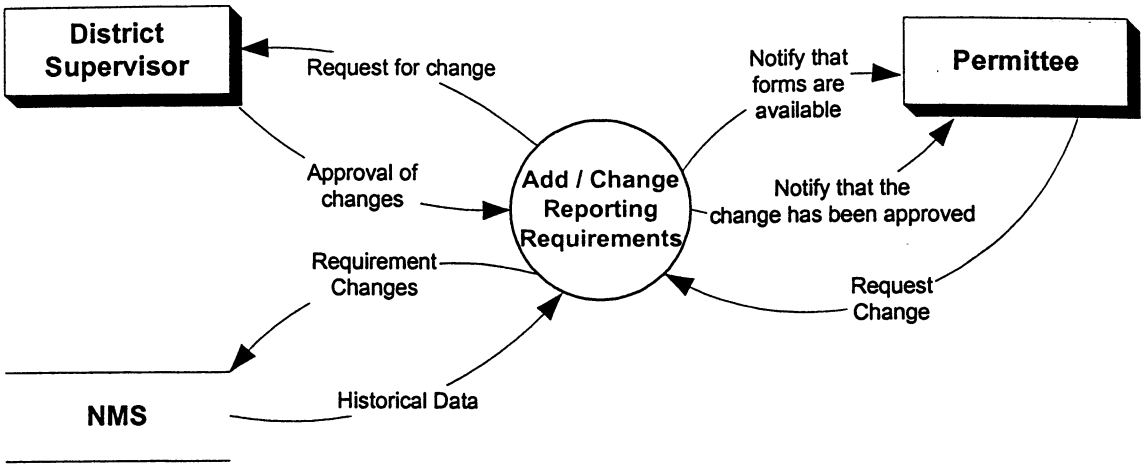
A data flow diagram is comprised of four things:

- External entities (if required)
- data flows
- process bubble
- objects

And external entity will exist in a data flow diagram only if the activity that is being modeled receives data from or send data to that external entity



Adding or Changing Reporting Requirements



Trigger	District Supervisor relaxes the reporting requirements for a Permittee after the Permittee make the request
Outcome	Monthly reporting requirements are changes and the Permittee and district supervisor are notified

Detailed Operations

- The Permittee requests a change in their monitoring requirements to the District Supervisor
- Request is logged into NMS where a new version is assigned to permit ID
- The District Supervisor reviews historical data in NMS
- The District Supervisor makes changes to reporting requirements
- A new version number is assigned to the permit
- The Permittee is notified of the approval and that their new forms are available.

Alternate Scenario

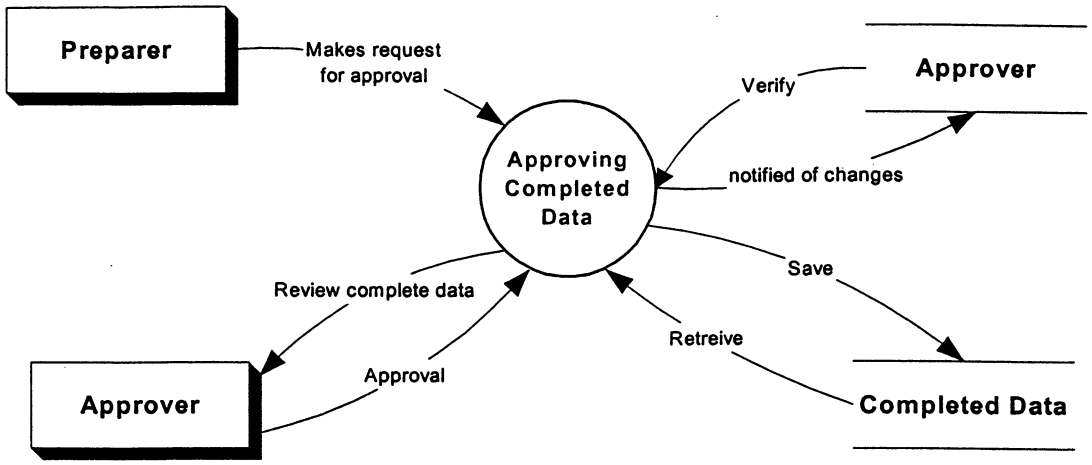
- The request for a change is denied
- The District Supervisor sends the Permittee a letter informing them that their request was denied

Additional Information

- The following permitting actions (Supplications) result in a new permit ID
  - New Use Permit (an establishment of a permit ID)
  - Re-issuance of a Permit (supersedes the previous permit ID)
  - Revocation and Re-issuance of a Permit (supersedes the previous permit ID)
  - Modification of a Permit (supersedes the previous permit ID)

- The following actions (requests) result in the same permit ID and a new version #
  - Minor modifications to the permit
    - More frequent monitoring or reporting
    - Outfall deleted
  - Reduced monitoring (approved by District Supervisor as authorized by NPDES permit)
  - Automatic reductions as allowed for in an NPDES permit

Approving Completed Data (at Permittee site)



Trigger	All data is entered and ready for approval. (This applies to original complete data or following revision.)
Outcome	Data is approved and ready for submittal

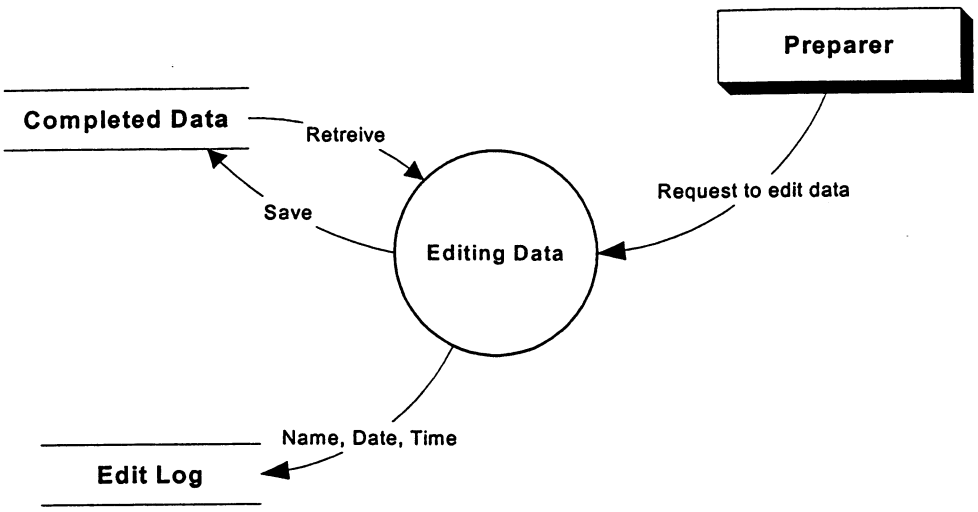
Detailed Operations

- The preparer notifies Approver that the data is ready for review
- The Approver reviews the data with the preparer
- The Approver approves the data and signs the report (Electronic or paper)
- The file is ready for transmission to the DEQ

Alternate Scenario

- The approver finds a problem with the data and returns it to the preparer for correction
- The preparer edits the data and send it back to the Approver for his/her signature
- When the signature is obtained the data is ready for submittal

Editing Data (pre submission – at the Permittee site)

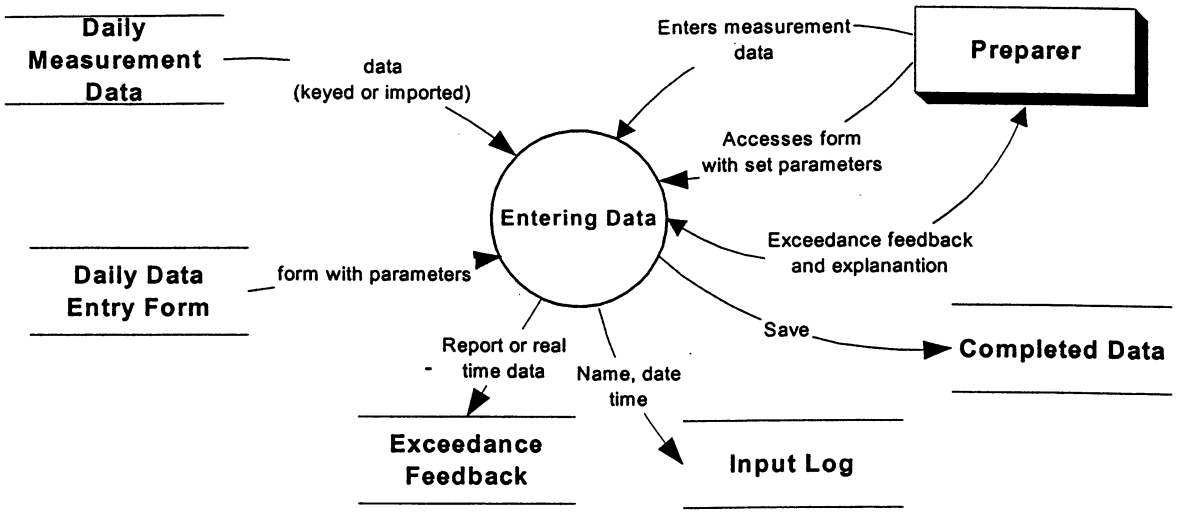


Trigger	An error in completed data has been detected
Outcome	Corrected data file is saved and ready for approval

Detailed Operations

- An error in the complete data is detected
- The data preparer recalls the completed data
- The preparer locates the problem data and makes the change
- An entry is made in the edit log
- The corrected data is saved to the local storage and is ready for approval

Entering Data (at Permittee site)



Trigger	The Permittee will access the system to prepare data
Outcome	Data has been entered into the system and is ready for review and approval

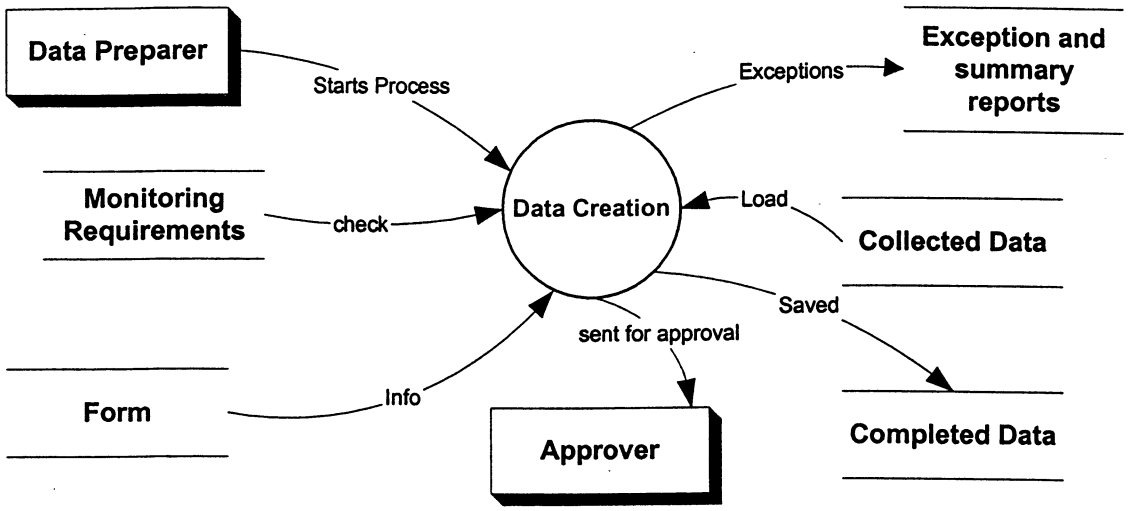
Detailed Operations

- The Permittee will access the e-DMR system (either through their browser or a local application) to gain monitoring requirement information specific to their permit
- The data entry employee will enter data directly on a permit specific form
  - They will choose units appropriate for the data being entered
  - Once a unit is selected for a parameter, this becomes the default for future data entry sessions
  - The system should highlight any known exceedances based on a comparison to the acceptable levels for each monitoring requirement
  - The system should allow for the input of exceedance explanations
- The data entry will continue until the deadline to submit the monthly report

Alternate Scenario

- As an alternative to entering data on a data entry screen, the user may input the data from a comma separated variable (CSV) file that conforms to a standard layout definition

Formatting Data for Submittal (at Permittee site)

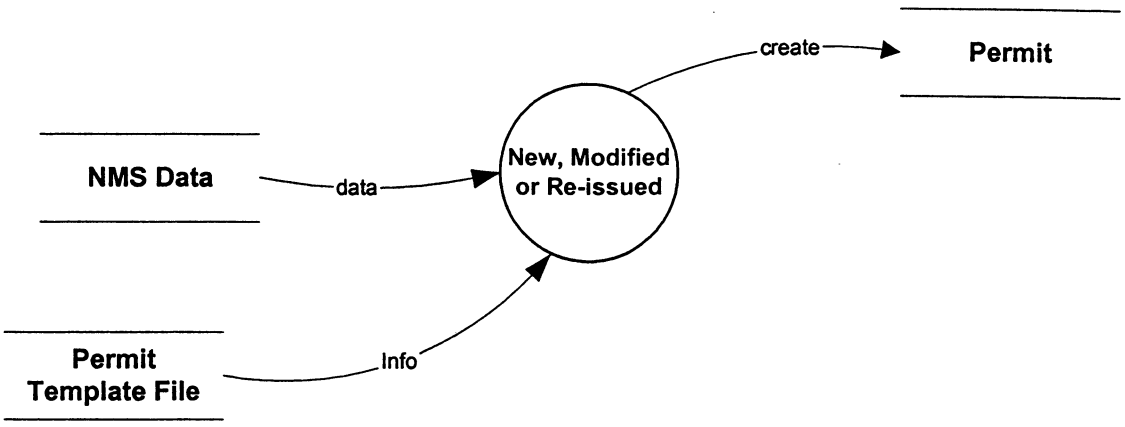


Trigger	The deadline for submission has arrived and all data has been collected
Outcome	Data is in the proper format and ready for approval

Detailed Operations

- The Date specified by the permit has been reached
- The proper form, including monitoring requirements, is selected by the Permittee
- The data is entered into the form
- A check of the data is made for proper units using the parameters specified
- Exceptions for exceedances are noted and explanations given
- The data is submitted to the approver

New, Modified and Re-Issue of Permits

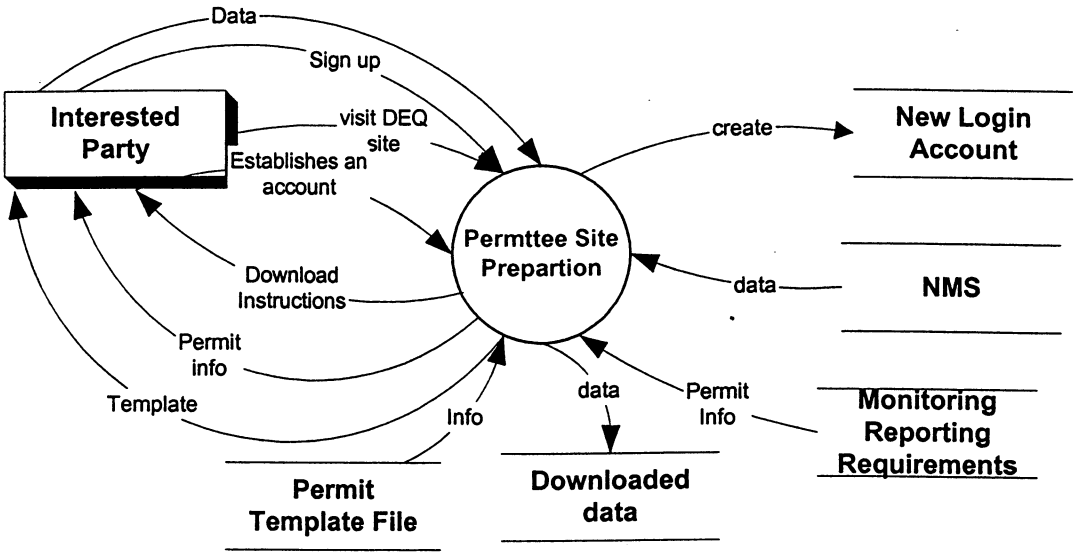


Trigger	A Permit is new, modified or re-issued
Outcome	Permit ID with new version number is generated

Detailed Operations

- The system will record the new information in the NMS database
- The system will read that information to create a new permit document using the Permit Template file

Enrollment in e-DMR Participation

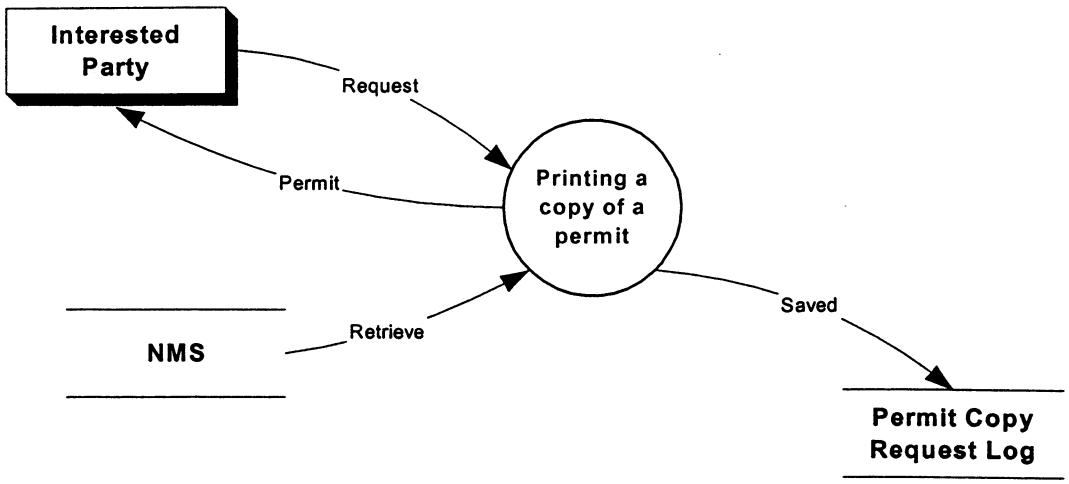


Trigger	Interested company may want to sign up for new program
Outcome	Permit site is signed up for new electronic filing

Detailed Operations

- Interested party visits the DEQ site on the Internet
- Interested party downloads instructions
- Interested party establishes an account by obtaining a User ID, Password and PIN number
- Interested party downloads a permit template
- Interested party downloads monitoring reporting requirements from system
- Interested party inputs data into template
- Interested party tests approval internally
- Interested party decides to become member and signs up
- Interested party submits data

Printing a copy of a permit and monitoring requirements

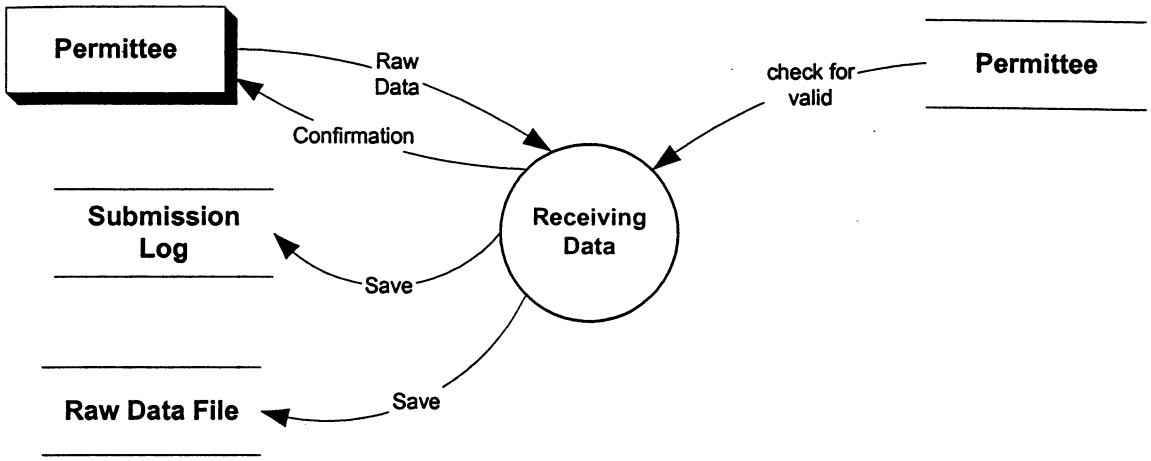


Trigger	Someone needs to print a new copy of a permit
Outcome	A copy of the permit has been printed at the requested site

Detailed Operations

- Someone wishes to obtain a copy of a permit and monitoring requirements
- The requesting party wishing to retrieve a copy of a permit, connects to the Internet
- The requesting party provides information on the permit required and the permit date
- The permit is retrieved from NMS
- The permit is printed at the requested site

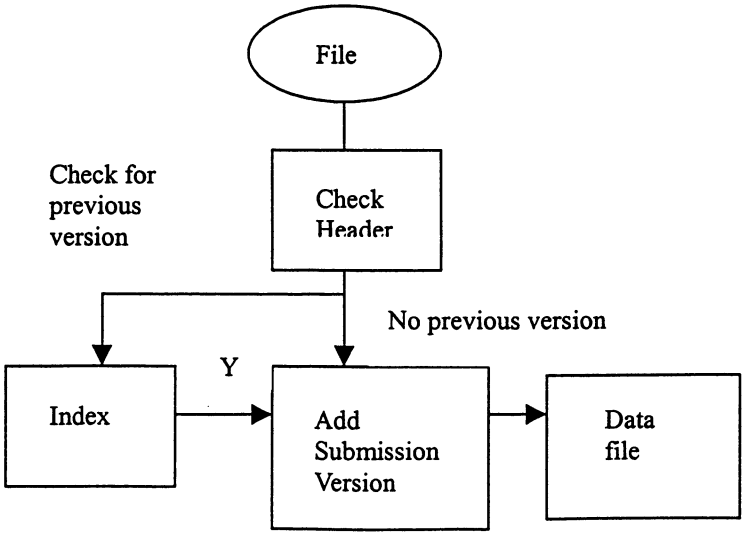
Receiving Data from Permittee



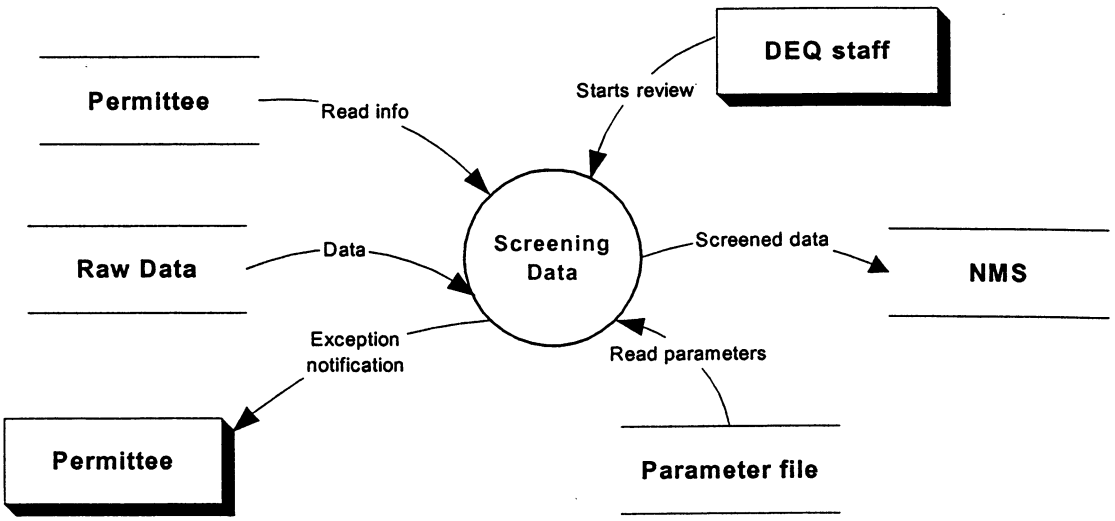
Trigger	The DEQ receives raw data from the Permittee
Outcome	The DEQ sends confirmation of successful receipt of data

Detailed Operations

- The data is submitted by the Permittee. (Method of file transfer TBD)
- The raw data file header is checked for a valid Permittee
- The system will check the submission log to see if a previous version of the file had been received
- If a previous submission version was found, one is added to that submission version and assigned to the new downloaded file header
- The system records the receipt of the data file to the submission log
- The raw data has a version number appended and saved
- The receipt confirmation is emailed to the Permittee
- The accepted data is moved to a directory awaiting data screening



Screening and Validating Data



Trigger	A confirmation has been sent to the Permittee
Outcome	Screened data is loaded into NMS

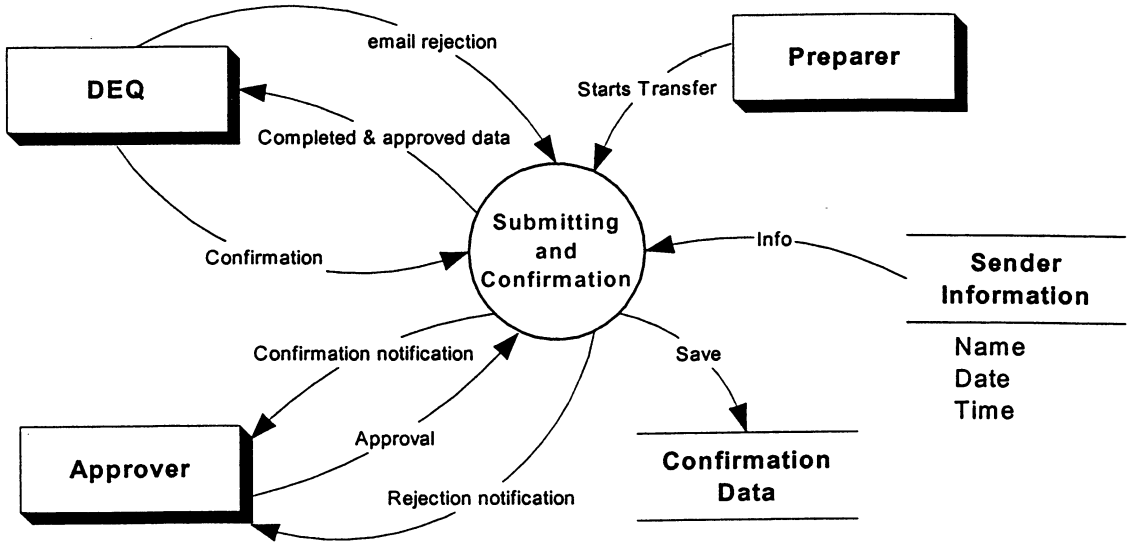
Detailed Operations

- The process starts after the confirmation has been sent to the Permittee
- The raw data is loaded to the system for screening and validation
- The raw data will be screened by a system process to check for the following:
  - All fields contain acceptable characters
  - All required fields must be filled in accordance to the expectation from the parameter file
  - If a required field is blank or contains invalid data, an explanation must be included
  - Any data items that do not meet specifications of monitoring reporting requirements will have an explanation of exceedances
  - The error flagged data may be reviewed visually prior to discarding to determine if it can be accepted
- If the data is error free, the information is written to NMS

Alternate Scenario

- If the data contains errors and can not be processed, the system creates an email notification to the Permittee containing a description of the errors
- The data is not loaded into the NMS system

Submitting and Confirmation



Trigger	The complete data has been approved
Outcome	A confirmation is sent to the Permittee

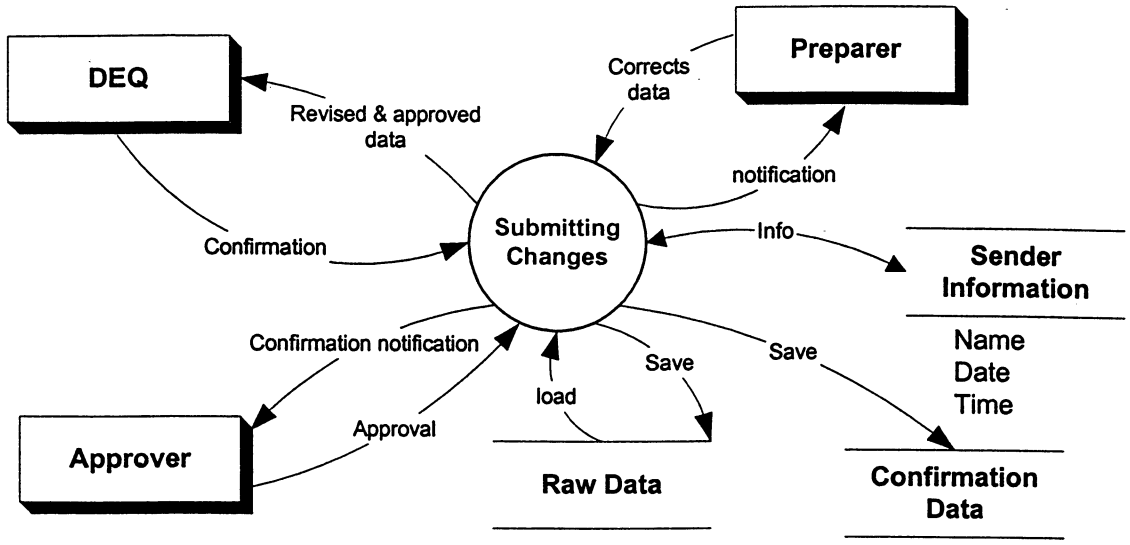
Detailed Operations

- A Permittee submits data transfer to the DEQ in the proper format
- The DEQ reviews the header information (Permit #, Authorized Signature, PIN)
- If the header information is correct the DEQ sends a confirmation back to the Permittee that the file has been received
- A confirmation is stored for later reference
- A copy of the confirmation is sent to the Approver

Alternate Scenario

- If the header information is not correct the DEQ sends an email notifying the Permittee
- The email is forwarded to the Approver

Submitting Changes (post submission–at Permittee site)

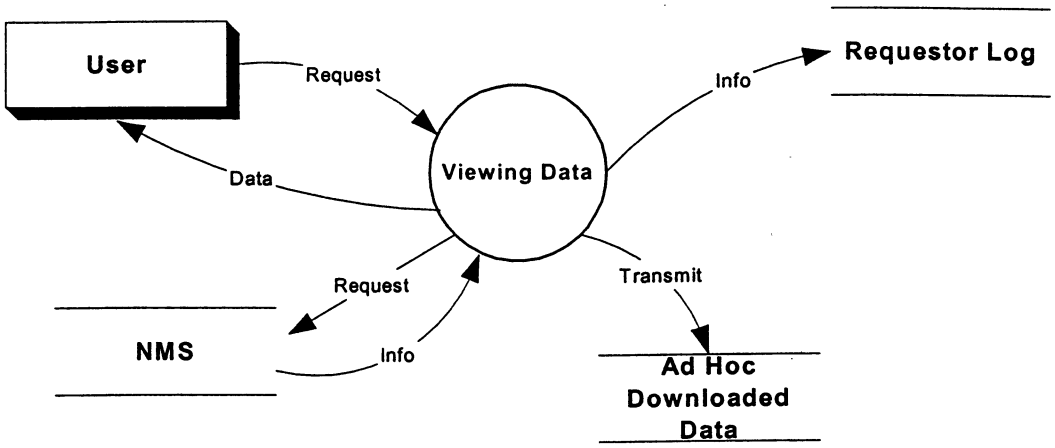


Trigger	Mistake found or missing information
Outcome	Confirmation of revised report sent

Detailed Operations

- A Permittee receives a notification of missing or erroneous data or they discover the error internally
- The Permittee loads the previously submitted data (raw data)
- The Permittee changes the data
- The Approver approves the data
- The Permittee resubmits the raw data
- DEQ reviews the header information (Permit #, Authorized Signature, PIN)
- DEQ creates a new version number and sends a confirmation to the Permittee
- The confirmation data is saved
- The Preparer notifies the Approver of the confirmation

Viewing Data



Trigger	User makes a request for information
Outcome	Requested data is sent to user (display, download, or report)

Detailed Operations

- A user makes a request for information through the Internet
- The user enters selection criteria
- The system provides the requested data to the user, via the Internet in the form of a report, viewing screen or downloadable file

APPENDIX

Daily Discharge Monitoring Report

EQP 4812-1 (Rev. 5/96)

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
SURFACE WATER QUALITY DIVISION DEQ

DAILY DISCHARGE MONITORING REPORT

Please refer to the reverse side of this report for information and instructions

PERMITTEE'S NAME	DISCHARGE NUMBER	PERMIT NUMBER
PERMITTEE'S ADDRESS	FACILITY NAME AND LOCATION (if different than Permittee)	
CITY, STATE, ZIP CODE		

MONITORING PERIOD

	YEAR	MONTH	DAY		YEAR	MONTH	DAY
FROM				TO			

	PAR #									
	PARA-METER									
	LIMIT									
DAY	UNITS									
01										
02										
03										
04										
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26										
27										
28										
29										
30										
31										
	TOTAL									
	AVERAGE									

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. See 18 U.S.C. §1001 and 33 U.S.C §1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years)

PRINTED NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	DATE

Monthly Discharge Monitoring Report (DMR)

PERMITTEE NAME/ADDRESS: *(Include Facility Name/Location if different)*

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*

DISCHARGE MONITORING REPORT *(DMR)*

FORM APPROVED
OMB No.2040-0004

PERMIT NUMBER *(2-16)*	DISCHARGE NUMBER *(17-19)*

MONITORING PERIOD

	YEAR | MO | DAY		YEAR | MO | DAY
FROM	*(20-21) (22-23) (24-25)*	TO	*(26-27) (28-29) (30-31)*

*** NO DISCHARGE ☐ ***

NOTE: Read instructions before completing this form.

PARAMETER *(32-37)*		QUANTITY OR LOADING *(3 Card Only)* AVERAGE *(46-53)*	MAXIMUM *(54-61)*	UNITS	QUALITY OR CONCENTRATION *(4 Card Only)* MINIMUM *(38-45)*	AVERAGE *(46-53)*	MAXIMUM *(54-61)*	UNITS	NO. EX *(62-63)*	FREQUENCY OF ANALYSIS *(64-68)*	SAMPLE TYPE *(69-70)*
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
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	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

NAME / TITLE PRINCIPAL EXECUTIVE OFFICER	I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED HEREIN; AND BASED ON MY INQUIRY OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION, I BELIEVE THE SUBMITTED INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. SEE 18 U.S.C. § 1001 AND 33 U.S.C. § 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)		TELEPHONE	DATE
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	area code NUMBER	YEAR | MO | DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

EPA Form 3320-1 (Rev. 8-95) *Previous edition to be used until supply is exhausted.* (REPLACES EPA FORM T-40 WHICH MAY NOT BE USED.) PAGE 1 OF ?