



DMRQA

Presented by the
Arizona Department of Health Services
2010

What is it?

➤ DMRQA -

- Discharge Monitoring Report Quality Assurance Study Program
- Annual program required under the National Pollutant Discharge Elimination System (NPDES) - §308(a) of the Clean Water Act, 33 U.S.C. §1318 and 1319



What is it?

➤ DMRQA -

- Evaluates the analytical ability of the laboratories that routinely perform testing for permit holders
- This is done through a proficiency evaluation or test sample
- The study is not performed using routine samples

Who has to participate?

➤ NPDES

- All major permittees must participate in the study (> 1 MGD)
- Selected minor permittees are required to participate – State discretion

➤ Arizona

- All major and minor permittees must participate in the study
- Participation differs for major and minors

When?

- Letters to major permit holders are sent from EPA at the start of the study
 - 2010 letters should have arrived late March or early April
- Letters to minor permit holders were sent from ADEQ – this is a change from past years



DMR-QA Letter Cover



EPA

United States
Environmental Protection
Agency

OECA MC 2225A
WASHINGTON DC 20460

Official Business
Penalty for Private Use \$300

FIRST CLASS MAIL
Postage and Fees Paid
EPA
G-35

**Mallroom: Response Required for Each Permit.
Please Forward to Responsible Office.**



**IMPORTANT NOTICE TO NPDES PERMITTEES
DMR-QA Study 30 Announcement**

Study Timeframe

- Study timeframe is determined by EPA
- 2010 timeframe is as follows
 - Letters mailed March and received March/April
 - Proficiency studies accepted opening Jan 1st and closing by July 2nd
 - Results to Coordinator by Aug 20th
 - Unacceptable results corrective action report to Coordinator by Sept. 23rd

DMRQA Letter

- After the EPA or ADEQ letter was received
 - Immediately mail or email verification of letter receipt to state coordinator
 - There is a date in the EPA letter for responses to be received but even if received after the date, please respond – there is no penalty in responding late for receipt of the letter
 - Information on what to provide in mail or email in EPA letter
 - Permit number and contact information
 - Corrections should be included, if necessary
 - Ensure the contact information for your facility is current on a routine basis

DMRQA Letter

➤ If you did not receive an EPA or ADEQ letter by the end of April 2010:

- Contact your state coordinator or ADEQ



- All NPDES (AZPDES) permit holders are required to participate with the following exceptions:

Exceptions

- If your facility has neither/nor plans to discharge in the current calendar year
- If you have not filed or plan to file a DMR in the current calendar year
- If your facility is not yet built
- Other exceptions are granted on case by case basis

Exceptions

- If your facility meets the exceptions or is granted an exception to participating
 - Send an email to the state coordinator
 - List facility permit number
 - List reason requesting exception
 - Contact information

Now What?

➤ Facilities

- Compare what type of testing/analyte is required in your permit with the following checklists in the DMRQA letter:
 - Chemistry/Microbiology/Analyte
 - WET Organisms/Test Conditions/End Points
- Determine which ones were reported or will be reported for the current calendar year

Chemistry/Microbiology Analyte Checklist DMR-QA Study 30

Each year the checklist may be slightly different as additional analytes are added.

Permittee name _____ State _____ NPDES Permit No. _____ EPA Lab Code _____

Chemistry/Microbiology Analyte Checklist

DMR-QA Study 30

Analyte Test	Test Required	Laboratory's Graded Result	
		Acceptable	Not Acceptable (Corrective Action Required)
Microbiology			
E. coli	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fecal Coliform, MF or MPN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Coliform, MF or MPN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trace Metals			
Aluminum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Antimony	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Arsenic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beryllium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cadmium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, total	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chromium, hexavalent	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Copper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iron	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manganese	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mercury (Low Level)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Molybdenum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nickel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Selenium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Silver	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Thallium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vanadium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Zinc	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Damands			
5-day BOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5-day Carbonaceous BOD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TOC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minerals			
Alkalinity, total (CaCO ₃)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fluoride	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hardness, total (CaCO ₃)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Specific conductance (25°C)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sulfate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Dissolved Solids (180°C)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nutrients			
Ammonia as N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrate as N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nitrite as N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate as P	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Kjeldahl-Nitrogen as N	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phosphorus as P	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Misc. Analytes			
Non-Filterable Residue (TSS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oil and Grease	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
pH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Cyanide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Phenolics (4-AAP)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Total Residual Chlorine (Low Level)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Settleable Solids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Turbidity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature _____ Page 16 Date _____ Use a separate checklist for EACH lab used

Now What?

➤ Facilities

- Determine which compliance analytes you perform in-house and which are contracted
 - If your permit does not list an analyte that appears on the checklist, then you do not need to perform a proficiency for that analyte
- Differences in Major and Minors
 - Each facility that has what are called “15 minute” analytes that are tested for must follow the in house steps
 - Major permit holders must also contact contract laboratories
 - Minors permit holders only need to be concerned with “15 minute”

Example

- DMRQA Checklist:
 - Ammonia, pH, turbidity, low-level chlorine
- Permit:
 - pH, turbidity, low-level chlorine
- Permit Holder:
 - In this example the permit holder only needs to have a proficiency test for pH, turbidity, and low-level chlorine. Because ammonia is not required in the permit, there is no need to have a proficiency.

In-House

- Contact a proficiency provider to order a proficiency evaluation sample
 - Approved providers are found in the DMRQA letter or
 - Through the A2LA website
 - <http://www.a2la.org/dirsearchnew/nelacptproviders.cfm>

In-House

- Once the proficiency sample is received
 - Test as close as possible to a routine sample
 - Record results and report to the proficiency provider by the close date
 - Two acceptable study types
 - DMR-QA – longer time frame for completing
 - WP (Water Pollution) – 45 days
 - Providers will provide a graded result after the close of the study

In-House

➤ When reporting proficiency results to provider

- Need to have an EPA and/or AZ lab identification number
- EPA provides these free of charge by contacting

Charles Feldmann, US EPA

26 W. Martin Luther King Drive, M/S 140

Cincinnati, OH 45268

Tel: (513) 569-7671 Fax: (513) 569-7191

E-mail: feldmann.charles@epa.gov

CWA - Non-Potable Water
 Performance Evaluation Report
 NSI Laboratory Proficiency Testing Program
 Study WP-158 - Shipped: 01/06/2010 - Closed: 02/19/2010 - Reports Printed On: 03/09/2010
 Participant USEPA Labcode: AZ000

Study Designed and Coordinated by:
 NSI Solutions, Inc.
 7212 ACC Blvd., Raleigh, NC 27617
 A2LA Certificate: 2432.01
 1-800-234-7837

This evaluation report is being submitted to:
 Treatment Laboratory

Attention: _____ Avenue
 _____, AZ,

LabCode and Accreditation Information:

Send Results to: State Only
 EPA Lab Code: AZ000
 State Lab Code: AZ00
 Primary Agency: AZ -- Arizona DHS/Env'l Lab Licensure
 Kathryn Wangsness
 250 N. 17th Avenue
 Phoenix, AZ 85007
 Reports to: AZ

Participant Information

NSI Lab Code: N19667

This report was submitted by _____ Laboratory Director.

_____ Utility Treatment Laboratory
 _____ Avenue
 _____, AZ,

Please contact Mark Hammersla at NSI if you have any questions about this report.
 (800) 234-7837 - Mark.Hammersla@NSI-ES.com

This PT report may contain data not covered under A2LA Accreditation. Such data is noted by an asterisk.

PEI-033 Total Residual Chlorine - Utility Treatment Laboratory - NSI Solutions/WP-158

Analyte	NELAC Method Code	NELAC Tech. Code	Method Description	Reported Value	Assigned Value	Units	Acceptance Limits	Evaluation	Analysis Date
Total Residual Chlorine	n/a	n/a	Hach 8167	1.52	1.52	mg/L	1.09 to 1.88	ACCEPT.	2/2/10

PEI-035 pH - Utility Treatment Laboratory - NSI Solutions/WP-158

Analyte	NELAC Method Code	NELAC Tech. Code	Method Description	Reported Value	Assigned Value	Units	Acceptance Limits	Evaluation	Analysis Date
pH	n/a	n/a	SM4500H+B	5.76	5.80	units	5.60 to 6.00	ACCEPT.	1/29/10

Proficiency Report Example



Contract Laboratories

- Contact your contract laboratory or laboratories
 - You must contact the laboratory that performed or will perform the majority of the testing for each analyte
 - Example:
 - Lab A – Majority of testing for zinc, alkalinity
 - Lab B – Majority of testing for ammonia, nitrite

Contract Laboratories



- Obtain graded results from contract lab
 - Provide contract lab with specific analyte information needed
 - Provide date need graded results by
 - Ask contract laboratory how they will provide the results



Proficiency Tests

- Arizona will allow any Water Pollution (WP) study or DMRQA study that meet the following dates
 - January 1st – Must start after this date
 - July 2nd – Must close before or on this date
- The allowed proficiency studies do not all follow DMRQA study dates

Results

- Once you receive graded results
 - Send all graded results to DMRQA coordinator at ADHS and ADEQ
 - Review the information to determine if they are acceptable or unacceptable
 - If unacceptable, a corrective action must be performed

Corrective Action

- For any unacceptable whether in-house or contract laboratory a corrective action must be completed
- Corrective action should include:
 - A review of original analysis
 - Another proficiency performed
 - A written report of steps taken

Corrective Action

➤ Reviewing original results

- Review should include:
 - Standards – expired or not
 - Calibration – meets criteria
 - Quality Control Samples – meet criteria
 - Maintenance of instrument/equipment used
 - Sample result at or near reporting level or instrument sensitivity
 - Analyst/Operator training
 - Transcription/Dilution errors



Corrective Action

- Once a review has been completed
 - Another proficiency sample must be completed
 - Arizona accepts quick responses or rapid responses
 - If a study will not end until after the date listed in the EPA letter – must contact state coordinator
 - 2010 date is Sept. 30th

Corrective Action

➤ Written report

- Once the review is completed and a new proficiency completed with acceptable results
 - If another unacceptable is received, contact the coordinator immediately
- Must send to state coordinator by deadline
- Needs to provide information about what may have occurred and what was corrected

DMRQA Web Info

➤ EPA DMRQA

- <http://www.epa.gov/compliance/monitoring/programs/cwa/dmr/index.html>

➤ Proficiency Providers

- <http://www.a2la.org/dirsearchnew/nelacptproviders.cfm>

DMR-QA State Coordinator

Marnie Greenbie, Project Manager

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Permits Unit, Surface Water Section

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ADHS DMR-QA Contact

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Questions?