Information Collection Request for Performance Evaluation Studies of Water and Wastewater Laboratories

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Prepared by:
U. S. Environmental Protection Agency
Office of Enforcement and Compliance Assurance
Office of Compliance
Agriculture Division
Laboratory Data Integrity Branch
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

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1 IDENTIFICATION OF THE INFORMATION COLLECTION

1(a) Title and Number of the Information Collection

Performance Evaluation Studies of Water and Wastewater Laboratories. OMB Control No. 2080-0021, ICR No. 0234.09.

1(b) Short Characterization

This is a request for a new Information Collection Request (ICR) to support the collection of Proficiency Testing (PT) data to test the performance of laboratories that conduct discharge analyses. The expiring ICR (Performance Evaluation Studies of Water and Wastewater Laboratories (OMB Control No. 2080-0021, EPA ICR No. 0234.08)) included water quality studies: Discharge Monitoring Report – Quality Assurance Study Program (DMRQA), Water Pollution (WP) and Water Supply (WS) studies. The WP study has been discontinued and the WS study is being addressed in a separate ICR. This ICR refers only to DMR-QA. Therefore, the figures for burdens only support DMR-QA. EPA is requesting a standard three-year clearance for this ICR.

Chemical monitoring data for drinking water and wastewater are submitted from a variety of laboratories to the United States Environmental Protection Agency (EPA) every year. These results must be relied on by EPA, as they form the primary basis for its regulatory decisions. In order to provide an objective demonstration that these laboratories are submitting reliable information, the subject Performance Evaluation (PE) studies were developed. Participation in the Discharge Monitoring Report - Quality Assurance (DMR-QA) studies is mandatory for major wastewater dischargers and select minor dischargers under the National Pollutant Discharge Elimination System (NPDES) permit. Major dischargers are defined as facilities that discharge at least 1 million gallons of waste water per day and also those facility(s) servicing at least 10,000 homes. Minor dischargers are selected to monitor select analytes/toxics discharged by the facility.

EPA originally administered the preparation of test standards for all three programs as part of the Agency's mandate to assure the quality of environmental monitoring data. Currently, preparation, distribution and grading of the test standards for the previously mentioned programs have been privatized to lessen EPA's burden in carrying out this mandate. Private sector companies, known as Proficiency Testing (PT) providers, manufacture and distribute test samples to the contract and in-house laboratories. The laboratories submit their analytical results to the PT providers for evaluation. The PT providers evaluate the submitted data and send the graded results to the NPDES permit holder (permittee), who will review the results and forward the data to their designated certifying/enforcement authorities. Providers also send electronic copies of the graded results to the designated certifying/enforcement authorities and to EPA. These graded results include the names and addresses of the laboratories, the analytes that were tested, the concentration of the analyte, and the acceptance criteria and evaluations.

EPA is required to conduct this ICR analysis because more than nine non-Federal entities will be asked to respond to these data requests. Because state agencies use the resulting data for their own laboratory certification/enforcement programs, and are not reporting any information from the PT studies to EPA, they do not incur any burden under this ICR. In addition, cost and burden to PT Providers are not considered in this ICR because the vendor costs associated with this program are accounted for in the pricing of their standards (i.e., the costs incurred by the Providers is factored into the cost of the PT standards).

The total annual burden and labor costs incurred by the 7516 permittees associated with this ICR are estimated to be 47,351 hours and \$2,494,260 per year over the 3-year ICR period (2007 – 2009), or 6.3 hours and \$332 per year per respondent. Respondent labor costs are linked with the time it takes to read and understand the annual DMR-QA announcement sent by EPA, plan activities, analyze PT standards, report information to the PT providers, and maintain records.

Respondent operation and maintenance (O&M) costs are associated with purchasing the PT standards. No costs or burdens to PT Providers or state agencies are associated with this ICR.

2 NEED FOR AND USE OF THE COLLECTION

2(a) Need/Authority for the Collection

Laboratory Performance Evaluation (PE) studies are designed to fulfill the need to monitor the quality of analytical data for select critical analytes within major point-source discharge samples. Results from the PE studies over time have generally shown a slow but regular improvement in average performance by the laboratories producing the monitored data. By helping laboratories identify and correct analytical problems, the PE studies are also responsible for documented improvement in this data.

Public Law 92-500, the Federal Water Pollution Control Act Amendments of 1972, and the related regulations in 40 CFR part 136, required extensive analysis of water and wastewater samples by EPA, state, local government and private laboratories, to maintain ambient water quality and control point-source discharges. These monitoring requirements were continued in the Clean Water Act of 1987 § 308(a) (Federal Water Pollution Control Act, Public Law 100-4, 33 U.S.C. § 1318). EPA bases many important decisions upon this data. The data quality depends heavily upon the availability of capable laboratory analysis at all levels and reliability must be ensured.

2(b) Practical Utility/Users of the Data

States and laboratory personnel will use the results of these studies to identify problems associated with laboratory analysis and substandard facility discharges. This will improve the quality of water data in critical monitoring areas and the quality of facility discharge returned to the environment. These studies have demonstrated that problems exist and arise periodically with all dischargers and water testing laboratories; without future studies, many such problems will go unrecognized and unresolved. Results from the DMR-QA studies are used to highlight NPDES facilities and laboratories with apparent analytical problems that should be inspected on-site by state regulatory personnel. Results from the PT studies are used by State personnel as a major part of the basis for certifying laboratories to produce required regulatory data and as a base for potential regulatory enforcement.

3 NONDUPLICATION, CONSULTATIONS, AND OTHER COLLECTION CRITERIA

3(a) Non-duplication

The DMR-QA accepts data and results from any of the other federally sponsored water quality programs, such as the WP program, generated within the DMR-QA performance dates. The DMR-QA study commences on June 2nd, or the next business day, and concludes on the last Friday of August of each year. Duplication of efforts is being eliminated.

3(b) Public Notice Required Prior to ICR Submission to OMB

In compliance with the Paperwork Reduction Act, a notice of this Information Collection Request ICR was published in the <u>Federal Register</u> on January 3, 2007 (72 FR 130), with a correction published on January 22, 2007 (72 FR 2684). This correction was due to an incorrect title on the first <u>Federal Register</u> notice, which read "National Pollution Discharge Elimination System (NPDES). Modification and Variance Requests" when it should have been "Performance Evaluation Studies on Water and Wastewater Laboratories"

3(c) Consultations

The DMR-QA has been administered by the EPA for over 26 years. The Office of Research and Development initiated and administered the program until the responsibility was assigned to Office of Enforcement and Compliance Assurance (OECA). OECA will consider any comments received and make appropriate adjustments to the program. All eight PT providers are accredited by the American Association for Laboratory Accreditation (A2LA).

A2LA is a nonprofit, non-governmental, public service, membership society. The mission of A2LA is to provide comprehensive services in laboratory accreditation and laboratory-related training. The list of PT providers is available at http://a2la.org/dirsearchnew/nelacptproviders.cfm.

One anonymous public comment was received which stated that the burden estimates for a wastewater facility and the cost of obtaining samples was underestimated. In order to get more information from the regulated public, a few permittees who are active in the DMR-QA program were queried. EPA randomly selected 8 permittees to provide additional information for consideration. Sixteen permittees were randomly selected to be the pool for the 8 chosen to respond to the ICR request for more information on the regulated public's burden to participate in the annual DMR-QA study.

- 1. Tabs of paper were made, each labeled with one of the states/territories participating in the DMR-QA.
- 2. These tabs of paper, each with a separate state, were mixed up in a hat. Two people were arbitrarily requested to retrieve 8 tabs each from the hat.
- 3. The list of active respondents to DMR-QA Study 26 was then scrolled through rapidly until one of the 16 selected states/territories was showing. One of the permit numbers showing on the screen was randomly selected.
- 4. The retrieved permit numbers were numbered 1-16 and were sent to a third person. One of the first 2 people picked 8 numbers between 1 and 16 to determine which facilities would be asked to assess the time needed to complete the DMR-QA studies.

EPA received 2 comments from the 8 that were contacted. One respondent agreed with our estimates for time and cost burdens. The other respondent agreed with the time burden estimates but suggested adding to the capital costs, the costs of buying test kits and standards, which typically cost about \$248.

One permittee wished to remain anonymous. The other permittee who was contacted and responded to our inquiry is:

Eric Dodson Permits & Analysis Manager Environmental Department, City of Logan, UT Phone: (435) 716-9797

EPA also contacted all eight PT Providers; four responded, all wish to remain anonymous. They were questioned concerning how many permittees and in-house/contract laboratories utilized their standards. The information submitted was converted into a ratio of laboratories to permittees. The ratio is necessary to compute the average, since multiple permittees may use the same contract laboratory while other permittees use their own in-house laboratory. EPA has no way of differentiating in-house and contract laboratories, so the term "laboratory" will be taken to mean both in-house and contract laboratory for this ICR.

Not all of the PT Providers responded to our inquiry about the ratio of laboratories to permittees, so EPA cannot determine whether a respondent (permittee) used more than one provider, or if they used more than one laboratory to report the results. From the information received from the four PT Providers, EPA estimated an average of 1.58 laboratories (both in-house and contract) did work for 1 permittee, or a ratio of 0.633 permittee per in-house/contract laboratory.

Furthermore, in order to distinguish Whole Effluent Toxicity (WET) testing from chemistry and microbiology, the providers were asked how many in-house and contract laboratories do WET testing. The average came to 4.77% of all labs. This means that even though WET tests require more time to do, the impact will be low among the permittees since the percentage of labs doing WET tests is very low.

PT Providers were also asked to give their input on the estimate for time burdens as well as the fees which labs need to pay for samples provided by the PT Providers. An average was obtained of \$260 per lab. It must be kept in mind that this is the cost that in-house and contract laboratories pay, and this is passed onto the permittee. Therefore, if a lab is contracted by several permittees, then EPA considers that the \$260 will be distributed evenly among the permittees. However, if a permittee employs an in-house laboratory, the permittee is burdened with the entire cost of obtaining samples (\$260) as well as the labor costs of the laboratory. Since the ratio of in-house and contract laboratories is unknown, an average was obtained for all laboratories.

3(d) Effects of Less Frequent Collection

The current frequency for the DMR-QA is judged to be the minimum needed to assess the accuracy of data production required by discharge permits. Laboratories producing data in a specific program are expected to demonstrate adequate analytical proficiency once each year for each analyte they test routinely. Several water quality PE studies are offered each year. This allows the permittee to use its test results to satisfy requirement in more than one water quality program. Collecting water quality data less than once per year to measure the accuracy of laboratory work would potentially delay corrective actions required by the permittee and therefore compromise discharge water quality.

3(e) General Guidelines

This ICR was prepared in accordance with the October 2001 version of the ICR Handbook developed by EPA's Office of Environmental Information, Office of Information Collection, Collection Strategies Division. The ICR Handbook provides the most current instructions for ICR preparation to ensure compliance with the 1995 Paperwork Reduction Act (PRA) Amendments and OMB's implementing guidelines.

EPA believes participation in these studies is a reasonable requirement for all laboratories routinely producing data for environmental water regulation. Any public health data on drinking

waters, ambient waters or effluents under regulation deserve the minimal quality assurance check that these studies represent.

3(f) Confidentiality

This information collection does not require respondents to disclose confidential information.

3(g) Sensitive Questions

No questions of a sensitive nature are included in any of the information collection requirements outlined in this ICR.

4 THE RESPONDENTS AND THE INFORMATION REQUESTED

4(a) Respondents and NAICS/SIC Codes

Respondents in DMR-QA studies are NPDES permittees designated by the EPA region or state with permitting responsibility and the laboratories doing chemical/microbiological analysis and whole-effluent toxicity testing for these major dischargers. These respondents are most likely from the following SIC Codes:

2011 - through 3999 - Manufacturers

4941 - Water supply systems

4952 - Sewerage systems

8734 - Water testing laboratories

4(b) Information Needed

4(b)(i) Data Items

In all laboratory PE studies, the data result from analyses of synthetic samples that contain known amounts of specific compounds, usually dissolved in reagent water. In DMR-QA studies, the compounds are those of primary interest with regard to the monitoring requirements in the NPDES permits. All studies also collect sufficient data to properly identify and characterize the respondents. Each respondent reports only data for that portion of the study analytes for which they wish to be certified or as directed by the responsible regulatory official.

4(b)(ii) Respondent Activities

The primary burden involves analyzing and reporting results for relevant study samples according to instructions. Based on current historical studies, 7,516 respondents participated in certification studies.

The DMR-QA program requires 7,516 permittees to submit results annually. A percentage of these permittees do all the work onsite themselves, using in-house laboratories. All the other permittees contract at least some of the analysis to a commercial lab(s). The commercial lab may do work for <u>many</u> permittees; the DMR-QA results would then be sent to these permittees. Therefore, there are fewer labs than permittees. However, EPA does not have data on how many in-house labs and contract labs are used. Furthermore, EPA does not track how many laboratories participated in one or more studies or how many permittees participated in only chemistry and microbiology and those that also participated in WET testing. EPA is estimating the "maximum" impact of the DMR-QA program on the regulated community. EPA will assume that all 7,516 permittees will fulfill requirements for the top 10 chemistry & microbiology analytes and the top 10 WET test methods. This is a conservative estimate on the high end because not all permittees do WET testing.

To provide an estimate of respondent burden, EPA assumes that a total of 4,757 inhouse and contract laboratories will do work for the permittees in the PT studies each year during the ICR period of 2007 – 2009. This number was reached by using a ratio of 1.58 in-house/contract laboratories per permittee, based on data procured by 4 PT Providers who were willing to share information (out of a total of 8 PT Providers). However, EPA cannot verify these numbers. Some laboratories are assumed to participate in one or both of these studies (chemistry & microbiology and WET). Based on information from the 4 PT Providers, EPA determined that an average of 4.77% of all laboratories participate in WET analyses, or 227 laboratories.

EPA is not estimating the burden for the PT Providers, because this burden is internalized in the cost of obtaining PE samples from the PT Providers.

Respondents (permittees) will participate in the following activities:

- Read Instructions: Each of the 7,516 respondents will read the instructions provided by EPA.
- Plan Activities: Each of the 7,516 respondents will incur burden to plan activities associated with the PT studies.
- Analyze Chemistry and Microbiology Analytes: EPA assumes that all 7,516 respondents will participate in the PT studies for microbiology, trace metals, demands, minerals, nutrients, and miscellaneous analytes as required by respondents' permits. EPA assumes that 4,757 in-house and contract laboratories will do the work for the 7,516 permittees.
- Analyze WET: EPA assumes that all 7,516 permittees will participate in the PT studies for WET. It is assumed that 227 in-house and contract laboratories will do the work for the 7,516 permittees.
- Report Results: Each of the 7,516 respondents will incur burden to report its study results to the PT provider.
- Maintain Records: Each of the 7,516 respondents will incur burden to maintain records associated with the PT study.

5 THE INFORMATION COLLECTED – AGENCY ACTIVITIES, COLLECTION METHODOLOGY AND INFORMATION MANAGEMENT

5(a) Agency Activities

EPA has reduced its activity related to this information collection to that of providing general guidance and oversight for the PT Providers and the participating laboratories on an as needed basis.

5(b) Collection Methodology and Management

EPA will notify the permittee of their requirement to participate in the relevant PE program annually. The permittee's in-house or contract laboratory will then select an accredited private PT Provider to provide them with the appropriate samples. The testing facility will then send the analysis data of these samples to the PT Provider. The permittee will use the form approved by OMB to report DMR-QA results. This form will be available in two formats: a hard copy that will be part of the announcement which is mailed annually and an online PDF form, available on the EPA website. This PDF form can be filled out and then printed for submission. The PT Provider will send evaluations of the submitted data back to the permittee and the designated certifying/enforcement authority. PT Providers will also send summary data in electronic form to EPA for archiving.

5(c) Small Entity Flexibility

The major requirement under Small Business Regulatory Enforcement Fairness Act (SBREFA) is a regulatory flexibility analysis of all rules that have a "significant economic impact on a substantial number of small entities." Since this data request is not part of a rule, this ICR is not subject to SBREFA.

5(d) Collection Schedule

EPA determines the requirements for the frequency that a permittee must demonstrate proficiency by passing a PE study. The study typically starts on or around 2 June and ends on or around 31 August. The participating permittees' in-house/contract laboratories demonstrate their proficiency by passing a PE study conducted by an accredited PT Provider for a fee. The PT Provider must submit the results of each study to the state and EPA regional coordinator, as well as the EPA National Coordinator.

In summary: each participating in-house or contract laboratory must report test results to the PT Provider once a year. The PT Provider must electronically submit the results of all studies they conduct to participating permittees and state and EPA regional coordinators. Participating permittees must re-qualify for each analyte it reports one year from the last certification that it received.

6 ESTIMATING THE BURDEN AND COST OF THE COLLECTION

This section describes the estimated average annual burden and costs for the information collection activities for PT studies that will be conducted by laboratories. For this data submission, PT providers and state agencies and EPA have no burden and costs; this is discussed further in Section 6(a). The Agency's burden and cost estimates are outlined in Section 6(c).

To estimate the costs, EPA made assumptions about the burden associated with activities that would likely be needed to fulfill the request. EPA emphasizes that the per-respondent estimates represent the average burden and cost over the 3-year period covered by this ICR (2007-2009). Some respondents may incur higher costs and some will fall below the average. A "worst-case" scenario is being used: the assumption is made that all respondents perform all the tests included in this analysis. As a result, the time burden may be a bit on the higher end.

Burden and costs are not distinguished by categorized entities (state and local government, and commercial permittees) because EPA currently does not track this information. EPA's best estimate is that from the total of 7,516 permittees, there are 3,591 state and local government facilities and 3,925 commercial facilities

6(a) Estimating Respondent Burden

The average annual respondent burden (in labor hours) for permittees is shown in Table 6.1. PT Providers conduct the studies, removing this burden from EPA. Participating laboratories receive samples from the PT Provider, return test results to the PT Providers and the PT Providers evaluate the data and send reports to the laboratories, the state accrediting authorities and EPA. The total burden on the laboratories is 47,351 hours, with an average of 6.3 hours per respondent (47,351 total hours divided by 7,516 permittees). This estimate includes burden for participating laboratories to read instructions, plan activities, analyze samples, submit data to the PT vendors, and maintain records.

EPA assumes that the respondent burden will be divided among three labor categories: manager, chemist, and records clerk. The labor associated with each of the ICR activities are discussed in more detail below.

- Read Instructions: EPA assumes that each of the 7,516 respondents will require 0.5
 hour to read the instructions provided by EPA. The burden will be evenly divided
 between a manager and chemist.
- <u>Plan Activities:</u> EPA assumes that the manager of each laboratory will require 0.5 hours to plan activities associated with the PT studies. The burden will be divided between a manager and chemist.
- Analyze Chemistry and Microbiology Analytes: A total of 7,516 permittees are expected
 to use a total of 4,756 laboratories (a ratio of 1.58 labs for every permittee). Analysis is
 assumed to require approximately 1.8 hours to analyze PT standards for the top 10
 analytes. All hours will be incurred by a chemist. See Appendix B for these tests and the
 estimated time for an analysis.
- Analyze WET: A biologist or project manager constructs the test chambers and records organism mortality (morbidity) of test organisms while a chemist analyzes the water chemistry. Biologists and chemists are assumed to require 2.4 hours to analyze PT standards for WET. It is assumed that 227 laboratories do this work for all 7,516 permittees.
- Report Results: EPA assumes that each of the 7,516 respondents will require 1.0 hours to report the results of the study to the PT Provider. The burden will be divided between a manager and records clerk.

• <u>Maintain Records:</u> EPA assumes that a records clerk in each of the 7,516 laboratories will require 0.1 hours to maintain the files from the PT study.

Estimated A	nnual Resp	Table		r Proficie	ncy Testin	g
		Burden				
Collection Activities	Annual #	Manager	Chemist ²	Record Clerk	Total Burder	n (hours/year)
	Respondents ¹	hours /year	hours /year	hours /year	Per Respondent	All Respondents
Read Instructions	7,516	0.2	0.3	0	0.5	3,758
Plan activities	7,516	0.2	0.3	0	0.5	3,758
Analyze Chemistry/Microbiology	7,516	0	1.8	0	1.8	13,529
Analyze WET	7,516	0	2.4	0	2.4	18,038
Report Results	7,516	0.3	0	0.7	1	7,516
Maintain Records	7,516	0	0	0.1	0.1	752
Total	7,516				6.3	47,351
Total Annual # Responses:	7,516			Avg. Labo	or (hours) per Respondent:	6 3

¹ Historic records indicate that 7,516 NPDES permittees particpate in the DMR-QA program. Most of the permittees participate in the Chemistry/Microbiology component. A smaller amount also participate in WET analysis. It is estimated that 4.77% of all labs participate in the WET analysis.

6(b) Estimating Respondent Costs

Table 6.2 shows the annual average costs for laboratories over the 3-year ICR period. Average annual labor costs for all 7,516 permittees are estimated to be \$1,254,120. Average annual O&M costs are estimated to be \$1,240,140. EPA estimates each laboratory will incur an annual average labor plus non-labor cost of \$332 for this data collection effort. (see Table 6.2).

6(b)(i) Respondent Labor

The labor cost was arrived at by estimating the amount of labor required to participate on an annual basis in the DMR-QA study. Labor costs are based on information provided by the U.S. Department of Labor Statistics, May 2005, National Industry Specific Occupational Employment and Wage Estimate. The labor categories include a manager at an hourly rate of \$52.09, a data entry clerical person at an hourly rate of \$12.71, and a skilled technician or chemist to conduct the measurements at an hourly rate of \$23.65. These values were adjusted for inflation using the U.S. Department of Labor Bureau of Labor Statistics's CPI calculator (http://data.bls.gov/cgi-bin/cpicalc.pl). Table 6.2 lists the estimated burden and costs for labor related to each activity. The annual respondent labor cost, for all 7,516 respondents is estimated to be \$1,254,120 for 47,351 hours.

6(b)(ii) Respondent Operation and Maintenance Costs

² Refer to Appendix B for analysis times for Chemistry/Microbiology analytes and WET methods.

Operation and Maintenance (O&M) costs for laboratories include all costs related to providing personnel with the space, equipment and materials necessary to perform the tasks required by this ICR. Since laboratories are driven by their compliance monitoring requirements to purchase the analytical instrumentation and computers and not by this ICR, no capital costs can be considered associated to this ICR. Only the costs associated with purchasing the PT standards is appropriate for consideration in this category.

Permittees may participate in the PT studies for some or all of the chemistry, microbiology analytes and WET test methods (refer to Appendix A for a list of chemistry and microbiology analytes and WET test methods). The cost of the PE samples varies with the costs for the analytes, microbiological and WET testing required for each calendar year. This is complicated by the fact that the participants in any given study need not analyze all of the samples available for that study, only the ones that are required by their permits. EPA determined a cost of \$260 per laboratory based on feedback from PT Providers who did an analysis of the average cost of buying PE samples.

Because EPA does not have sufficient information to estimate how many analytes are contained in the PT samples sent to each laboratory, EPA has estimated a "worst case" scenario by assuming that a single PT sample contains standards for the top ten analytes for chemistry and microbiology and the top 10 WET test methods, based on information from the PT Providers. Therefore, laboratories participating in the chemistry and microbiology PT study are assumed to receive and run analyses for 10 analytes. Similarly, those participating in the PT study for WET would receive samples for each of 10 WET test methods. EPA estimates the costs of obtaining PT samples to be \$260 per laboratory and \$165 per permittee (respondent). Average annual O&M costs (fees for PE samples) for the respondents is estimated to be \$1,240,140.

Table 6.2Estimated Annual Respondent Costs for Proficiency Testing

				. 1		Non Lol	aor Cost	Labor Plus
		Labor Cost Non-Labor Cost					oor Cost	Non-Labor
Collection Activities	Manager ²	Chemist ³	Record Clerk ⁴	Laboi	Costs		dards per PT lysis	Average Labor plus Non-Labor Costs
	at \$54.28/hr	at \$24.64/hr	at \$13.24/hr	per Respondent	All Respondents	(@\$260/lab, or \$165 per Respondent)	All Respondents	All Respondents
Read Instructions	\$10.86	\$7.39	\$0.00	\$18.25	\$137,151.97	\$0	\$0	\$137,152
Plan activities	\$10.86	\$7.39	\$0.00	\$18.25	\$137,151.97	\$0	\$0	\$137,152
Analyze Chemistry and Microbiology	\$0.00	\$44.35	\$0.00	\$44.35	\$333,349.63	\$165	\$1,240,140	\$2,017,956
Analyze WET	\$0.00	\$59.14	\$0.00	\$59.14	\$444,466.18			
Report Results	\$16.28	\$0.00	\$9.27	\$25.55	\$192,048.83	\$0	\$0	\$192,049
Maintain Records	\$0.00	\$0.00	\$1.32	\$1.32	\$9,951.18	\$0	\$0	\$9,951
Total					\$1,254,120	\$165	\$1,240,140	\$2,494,260
¹ Salaries from U Specific Occupa (http://data.bls.g ² U.S. Departme	tional Emp ov/cgi-bin/d	oloyment ar opicalc.pl).	nd Wage E	stimates, ad	ljusted for infl	ation		
³ U.S. Departme	nt of Labor	Statistics,	Chemist 1	.9-2031. (\$2	3.65)			

6(b)(iii) Capital/Startup Operating and Maintenance (O&M) Costs

U.S. Department of Labor Statistics, Information and Record Clerk 43-4199. (\$12.71)

There are no Capital/Startup costs associated with this information collection. The annual Operating and Maintenance costs associated with this ICR are estimated to be \$165 per respondent.

6(c) Estimating Agency Burden and Costs

Since EPA's role has been reduced to an advisory level only, there is no longer any burden to the Agency, other than the time required to put together the annual announcement and printing and mailing costs of the annual announcement. On average, 7,900 announcements are printed annually, to send out to permittees, PT Providers, state and regional coordinators as well as spare copies. These annual burdens are approximated below:

- Maintaining records of active participants in the program: 520 hours (3 months)
- Putting together the annual announcement and answering questions: 480 hours (40 hours/month)
- Cost of printing 7,900 announcements: \$8736.00
- Cost of mailing announcements: \$6,538.92
- Total annual burden and cost to EPA: 1000 hours and \$15,274.92

6(d) Estimating the Respondent Universe and Total Burden and Costs

The only respondents for this ICR are permittees. They may use contract laboratories to perform the work, but the burden is considered to be upon the permittees, since they bear the costs of labor and operations & maintenance. As itemized in section 6(b), the annual respondent burden

is 6.3 hours and \$332 per participant. The total annual respondent burden is 47,351 hours and \$2,494,260 for 7,516 participants. Currently, there are 8 PT Providers. PT Providers' burdens are not assessed in this ICR because their cost burden for this ICR is part of the estimated PE sample cost burden for the laboratories. Burden and costs to EPA is minimal, being limited to the drafting of the annual announcement and printing/mailing costs, which come to a total of 1000 hours and \$15,274.92 on an annual basis.

6(e) Bottom Line Burden Hours and Cost Tables

The bottom line burden hours and costs for this ICR are shown in Table 6.3. This includes the burden and costs to the 7,516 laboratories that are affected by this ICR.

Tab	le 6.3			
Bottom Line Burden and Costs (for ICR period 2007-09)				
Cost / Burden	Total Across Three ICR Years (2007-2009)	Average Per Year over ICR Years (2007-2009)		
Number of Respondents (Permittees)	7,516	7,516		
Total Responses	22,548	7,516		
Number of Responses per Permittee	3	1		
Burden Hours per Permittee	18.9	6.3		
Total Burden Hours (all 7,516 labs)	142,053	47,351		
Per Permittee Labor Costs	\$501	\$167		
Total Labor Costs (all 7,516 Permittees)	\$3,762,360	\$1,254,120		
Per Permittee O&M Costs	\$495	\$165		
Total O&M Costs (all 7,516 Permittees)	\$3,720,420	\$1,240,140		
Total Costs (Labor plus O&M costs for all 7,516 permittees)	\$7,482,780	\$2,494,260		

6(f) Reasons for Change in Burden

There is an overall decrease of 10,679 respondents, of decrease of 132,984 hours, and a decrease \$2,109,860 in the total costs currently identified in the OMB Inventory of Approved ICRs.

- This change is primarily due to a program change that has produced a decrease in estimates. This renewal ICR does not include the burden estimates for the WS and WP programs, only the DMR-QA program. The WS and WP programs are being covered elsewhere and/or are no longer part of this ICR submission. This resulted in a program change of -139,770 hours and -\$2,382,913.
- Some of this decrease was offset by adjustment increases due to increased participation in the DMR-QA PE study. Participation in the DMR-QA PE study has increased from an estimated average of 6,489 to 7,516 since the last renewal of this ICR, while the list of average analytes done by the average respondent was increased to include WET test methods which were not included in the previous ICR. This has resulted in a increase adjustment of 1,027 respondents, 6,786 hours and \$273,053.
- Labor and Operation & Maintenance costs were updated since the previous renewal of this ICR.
- The average cost of obtaining PE samples from the PT Providers was added to this ICR to reflect the fact that respondents (permittees) have to incur the burden of paying this cost passed on from the PT Providers.

6(g) Burden Statement

The average annual respondent burden for each permittee is estimated to be 6.3 hours per response. This estimate includes the total time, effort, or financial resources expended by permittees to gather and report information, and develop and maintain record.

Burden Statement: The reporting burden for data collections included in this ICR is detailed above. The total annual respondent burden (for years 2007 - 2009) imposed by these collections is estimated to be 47,351 hours, or 6.3 hours per respondent per year. Estimates include time for reading instructions, planning activities, analyzing standards, reporting results, and maintaining records.

Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for EPA's regulations are listed in 40 CFR part 9 and 48 CFR Chapter 15.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID No. EPA-HQ-OECA-2006-0931, which is available for online viewing at www.regulations.gov, or in person viewing at the Enforcement and Compliance Docket in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The EPA/DC Public Reading Room is open from 8 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is 202-566-1744, and the telephone number for the Enforcement and Compliance Docket is 202-566-0226.

Use EPA's electronic docket and comment system at www.regulations.gov, to submit or view public comments, access the index listing of the contents of the docket, and to access those documents in the docket that are available electronically. Once in the system, select "docket search," then key in the docket ID number identified above. Please note that EPA's policy is that public comments, whether submitted electronically or in paper, will be made available for public viewing at www.regulations.gov as EPA receives them and without change, unless the comment contains copyrighted material, CBI, or other information whose public disclosure is restricted by statute. For further information about the electronic docket, go to www.regulations.gov. Also, you can send comments by mail to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention: Desk Office for EPA. Please include the EPA Docket ID No. EPA-HQ-OECA-2006-0931 and OMB control number 2080-0021 in any correspondence.

APPENDIX A: LIST OF CHEMISTRY & MICROBIOLOGY ANALYTES AND WET TEST METHODS

Chemistry and Micr	obiology Analytes
Microbiology	Trace Metals
E.coli	Aluminum
Fecal Coliform, MF or MPN	Antimony
Total Coliform, MF or MPN	Arsenic
Minerals	Barium
Alkalinity, total (CaCO3)	Beryllium
Chloride	Cadmium
Fluoride	Chromium, total
Hardness, total (CaCO3)	Chromium, hexavalent
Specific conductance (25°C)	Cobalt
Sulfate	Copper
Total Dissolved Solids (180°C)	Iron
Nutrients	Lead
Ammonia as N	Manganese
Nitrate as N	Mercury
Nitrite as N	Molybdenum
Orthophosphate as P	Nickel
Total Kjeldahl-Nitrogen as N	Selenium
Total Phosphorus as P	Silver
Misc. Analytes	Thallium
Non-Filterable Residue (TSS)	Vanadium
Oil and Grease	Zinc
рН	Demands
Total Cyanide	5-day BOD
Total Phenolics (4-AAP)	5-day Carbonaceous BOD
Total Residual Chlorine	COD
Settleable Solids	TOC
Turbidity	

WET Or	ganisms/Test Conditions/End Poi	ints
Analyte Number	Organisms/Conditions	End Points
Test Code 11/EPA Method 2000		
752	Fathead minnow (<i>Pimephales promelas</i>) - MHSF 20°C	LC50
Test Code 13/EPA Method 2000		
754	Fathead minnow (<i>Pimephales promelas</i>) - MHSF 25°C	LC50
Test Code 14/EPA Method 2000	, , , ,	
755	Fathead minnow (<i>Pimephales promelas</i>) - 20% DMW 25°C	LC50
Test Code 15/EPA Method 1000		
756	Fathead minnow (Pimephales promelas) - MHSF	NOEC SURVIVAL
808	Fathead minnow (Pimephales promelas) - MHSF	IC25 GROWTH
809	Fathead minnow (Pimephales promelas) - MHSF	IC25 (SN)1 GROWTH
810	Fathead minnow (Pimephales promelas) - MHSF	NOEC (ON)2 GROWTH
811	Fathead minnow (Pimephales promelas) - MHSF	NOEC (SN) GROWTH
Test Code 16/EPA Method 1000		
759	Fathead minnow (Pimephales promelas) - 20% DMW	NOEC SURVIVAL
812	Fathead minnow (Pimephales promelas) - 20% DMW	IC25 GROWTH
813	Fathead minnow (Pimephales promelas) - 20% DMW	IC25 (SN) GROWTH
814	Fathead minnow (Pimephales promelas) - 20% DMW	NOEC (ON) GROWTH
815	Fathead minnow (Pimephales promelas) - 20% DMW	NOEC (SN) GROWTH
Test Code 17/EPA Method 2002		
762	Ceriodaphnia dubia - MHSF	LC50
Test Code 18/EPA Method 2002		
763	Ceriodaphnia dubia - 20% DMW	LC50
Test Code 19/EPA Method 2002		
764	Ceriodaphnia dubia - MHSF 25°C	LC50
Test Code 20/EPA Method 2002		
765	Ceriodaphnia dubia - 20% DMW 25°C	LC50
Test Code 21/EPA Method 1002		
766	Ceriodaphnia dubia - MHSF	NOEC SURVIVAL
767	Ceriodaphnia dubia - MHSF	IC 25 REPRODUCTION
768	Ceriodaphnia dubia - MHSF	NOEC REPRODUCTION
Test Code 22/EPA Method 1002		
769	Ceriodaphnia dubia - 20% DMW	NOEC SURVIVAL
770	Ceriodaphnia dubia - 20% DMW	IC25 REPRODUCTION
771	Ceriodaphnia dubia - 20% DMW	NOEC REPRODUCTION
Test Code 32/EPA Method 2021		
788	Daphnia magna - MHSF 20°C	LC50
Test Code 36/EPA Method 2021		
792	Daphnia pulex - MHSF 20°C	LC50
Test Code 38/EPA Method 2021		
794	Daphnia pulex - MHSF 25°C	LC50
Test Code 42/EPA Method 2007	14 :1/44 : 1 : 1 : 2 : 2 : 2 : 2	
798	Mysid (<i>Mysidopsis bahia</i>) 20°C	LC50
Test Code 43/EPA Method 1007		NOTE COMPANY
799	Mysid (Mysidopsis bahia)	NOEC SURVIVAL
816	Mysid (Mysidopsis bahia)	IC25 GROWTH
817	Mysid (Mysidopsis bahia)	IC25 (SN) GROWTH
818	Mysid (Mysidopsis bahia)	NOEC (ON) GROWTH
819	Mysid (Mysidopsis bahia)	NOEC (SN) GROWTH
Test Code 44/EPA Method 2006	Inland all variable (Manidia In an direct) 2000	1.050
803	Inland silverside (<i>Menidia berylina</i>) 20°C	LC50
Test Code 46/EPA Method 2004	Channels and minney (Comming days are 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	1.050
804	Sheepshead minnow (<i>Cyprinodon variegatus</i>) 20°C	LC50
Test Code 47/EPA Method 1004	Changhard minnous (Commingdon seriosoftics)	NOEC CLIDVAVA
805	Sheepshead minnow (Cyprinodon variegatus)	NOEC SURVIVAL
820	Sheepshead minnow (Cyprinodon variegatus)	IC25 GROWTH
821 822	Sheepshead minnow (Cyprinodon variegatus)	IC25 (SN) GROWTH
	Sheepshead minnow (Cyprinodon variegatus)	NOEC (ON) GROWTH
823	Sheepshead minnow (Cyprinodon variegatus)	NOEC (SN) GROWTH

APPENDIX B: LIST OF TOP CHEMISTRY & MICROBIOLOGY ANALYTES AND WET TEST METHODS AND TIMES FOR ANALYZING

,	CHEMISTRY/MICROBIOLOGY ANALYTE	CHECKLIST			
Rank	Amalista	Time (in minutes) for			
Rank	Analyte	one analysis			
1	рН	10			
2	Total Suspended Solids	30			
3	Ammonia (as N)	5			
4	Total Residual Chlorine	3			
5	Biochemical Oxygen Demand (BOD)	45			
6	Carbonaceous BOD	45			
7	Copper	5			
8	Total Phosphorous as P	10			
9	Zinc	5			
10	Oil & Grease	15			
	TOTAL (minutes)	173			
	TOTAL (hours)	2.88			
		1.8 hours per permitt	tee for Chemi	istry/Microbiol	ogy
		using ratio of 0.633	labs per pe	rmittee	
V	VET ORGANISMS/TEST CONDITIONS/E	ND POINTS CHECKL	LIST		
		Time (hours) for one	type of		
Danle		1 111110 (110410) 101 0110			
Rank	Analyte	analysis*	test		
Rank 1	Analyte Fathead minnow - MHSF - NOEC Survival		test		
	•	analysis*			
1	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth	analysis*	Chronic		
1 2	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival	analysis* 10 10	Chronic Chronic Chronic		
1 2 3 4	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF 25°C - LC50	10 10 10 3	Chronic Chronic Chronic Acute		
1 2 3 4 5	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth	10 10 10 3 10	Chronic Chronic Chronic Acute Chronic		
1 2 3 4 5 6	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction	10 10 10 3 10	Chronic Chronic Chronic Acute Chronic Chronic Chronic		
1 2 3 4 5 6 7	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction	analysis* 10 10 10 3 10 10 10 10 10 10	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50	analysis* 10 10 10 3 10 10 10 3 3 10 3 3 3 3 4 4 5 6 7 8 8 8 8 8 8 8 8 8 8 8 8	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50	analysis* 10 10 10 3 10 10 10 3 3 3 3 3	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 3 10 10 3 10 10 3 10 10	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50	analysis* 10 10 10 3 10 10 3 10 10 3 10 79	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 3 10 10 3 10 10 10 79 *based on set-up,	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 3 10 10 3 10 10 10 10 40 79 *based on set-up, maintenance, data	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 10 10 10 40 79 *based on set-up, maintenance, data crunching at conclusion,	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 10 10 10 40 79 *based on set-up, maintenance, data crunching at conclusion, 10 hr (chronic) also	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 10 10 10 40 79 *based on set-up, maintenance, data crunching at conclusion,	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 10 10 10 10 3 3 3 10 79 *based on set-up, maintenance, data crunching at conclusion, 10 hr (chronic) also includes daily w eighting	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Chronic Acute Acute Acute Chronic	rlah	
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 3 10 10 3 10 10 3 3 3 10 79 *based on set-up, maintenance, data crunching at conclusion, 10 hr (chronic) also includes daily w eighting 50.0 hours for WET	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Acute Acute Acute Chronic Acute Acute Acute Chronic		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 10 10 10 10 3 3 3 10 79 *based on set-up, maintenance, data crunching at conclusion, 10 hr (chronic) also includes daily w eighting	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Acute Acute Acute Chronic Acute Acute Acute Chronic		
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 3 10 10 3 10 10 10 3 3 3 10 79 *based on set-up, maintenance, data crunching at conclusion, 10 hr (chronic) also includes daily w eighting 50.0 hours for WET using ratio of 0.	Chronic Chronic Chronic Acute Chronic Chronic Chronic Acute Acute Acute Acute Chronic acute Acute Chronic	r permittee	
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 10 10	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Acute Acute Acute Chronic Acute Acute Chronic	r permittee WET	
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 3 3 10 79 *based on set-up, maintenance, data crunching at conclusion, 10 hr (chronic) also includes daily w eighting 50.0 hours for WET using ratio of 0. because only 4.77% analyses, the follow	Chronic Chronic Chronic Acute Chronic Chronic Chronic Chronic Acute Acute Acute Chronic Acute Acute Chronic	wet wet r will be	
1 2 3 4 5 6 7 8	Fathead minnow - MHSF - NOEC Survival Fathead minnow - MHSF - NOEC (ON) Growth Ceriodaphnia - MHSF - NOEC Survival Fathead minnow - MHSF - 25°C - LC50 Fathead minnow - MHSF - IC25 (ON) Growth Ceriodaphnia - MHSF - NOEC Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF - IC25 Reproduction Ceriodaphnia - MHSF 25°C - LC50 Fathead minnow - MHSF 20°C - LC50 Mysid - 40 fathoms - NOEC Survival	analysis* 10 10 10 10 3 10 10 10 3 10 10	Chronic Chronic Chronic Acute Chronic Chronic Chronic Acute Acute Acute Chronic Acute Acute Chronic Acute Acute Chronic Acute Chronic Chronic Acute Chronic	wet wet r will be	