



# CVCWA Central Valley Clean Water Association

*Representing Over Fifty Wastewater Agencies*

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## REQUEST FOR PROPOSALS

### *Mercury TMDL Collaborative Studies for Wastewater Treatment Plants*

The Central Valley Clean Water Association is requesting proposals in response to the attached request.

#### **Important Dates**

**Question Deadline:** Questions on the RFP should be emailed to [eoofficer@cvcwa.org](mailto:eoofficer@cvcwa.org) by Tuesday, January 31st. Answers will be posted at <http://www.cvcwa.org/newsletter.htm> by Monday, February 6th.

**Proposals are due – Thursday, March 1, 2012 by 5:00 p.m.**

#### **Submissions:**

Please reply by email to the address below if you intend to participate in this procurement.

Please try to limit your submittal to 30 pages or less, minus graphs, tables and/or charts.

Both an electronic and a hard copy submission of the proposal is required.

**Electronic:** Submit your proposal electronically by email to [eoofficer@cvcwa.org](mailto:eoofficer@cvcwa.org). You can expect a response soon after the proposal is received. If you have any doubt please email for confirmation without the attachments.

Please submit as a single PDF file in an email with the subject line: Mercury TMDL Collaborative Studies for Wastewater Treatment Plants. If file is larger than 10 MB send web link/FTP for download.

#### **AND**

**Hardcopy:** Submit one hardcopy to be postmarked prior to the deadline to:

By USPS Mail

Central Valley Clean Water Association  
P.O. Box 1755  
Grass Valley, CA 95945

Or by FedEx or other private delivery service to:

Central Valley Clean Water Association  
19748 Applejack Drive  
Grass Valley, CA 95949

A Standard Services Agreement for the Central Valley Clean Water Association is attached to the RFP for Review.

We appreciate your interest in providing services to help CVCWA and its members identify mercury and methylmercury control measures for wastewater treatment facilities in the Central Valley.



Debbie Webster, Executive Officer  
Central Valley Clean Water Association

# Central Valley Clean Water Association (CVCWA)

## Request for Proposals to Conduct

### Mercury TMDL Collaborative Studies for Wastewater Treatment Plants

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# **Central Valley Clean Water Association (CVCWA)**

## **Request for Proposals to Conduct**

### **Mercury TMDL Collaborative Studies for Wastewater Treatment Plants**

#### **I. INTRODUCTION & BACKGROUND**

##### **A. CVCWA and CVCWA Special Projects**

The Central Valley Clean Water Association (CVCWA) is a non-profit organization made up of over fifty publicly-owned municipal wastewater collection, treatment and/or recycling facilities in the Central Valley Region, along with associate members consisting of consultants, individuals, and other wastewater industry organizations. CVCWA's main purposes are to: (1) assure that regulatory actions are protective of the environment, are based on sound scientific information, and reflect a fair and reasonable economic basis; (2) be a resource to communicate, exchange ideas, coordinate, share information, provide education, and serve as a technical resource on issues; (3) be recognized as an industry leader to wastewater regulatory agencies and the regulated community; (4) promote strategic partnerships among member agencies and with other agencies and organizations that share common objectives; and (5) where information is necessary to support regulatory decisions, to promote, sponsor and generate research.

CVCWA Special Projects are normally formed when agencies volunteer to financially participate in an effort for a specific purpose and/or project that is not supported through CVCWA's membership dues. The Mercury Special Project is anticipated to be formed to collectively meet the requirements of the Delta Mercury Basin Plan Amendment's Phase I study requirements and other related work.

##### **B. Delta Mercury Basin Plan Amendment**

In April 2010, the Central Valley Regional Water Quality Control Board (Regional Water Board) passed Resolution No. R5-2010-0043 which contained amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan Amendment, or BPA) for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary. The BPA constitutes

a Total Maximum Daily Load (TMDL) for the Delta, along with implementation requirements for dischargers. The TMDL allocates methylmercury (MeHg) loads among in-Delta dischargers and major tributaries. The Delta Mercury TMDL lays out an implementation strategy for the control of methylmercury and total mercury in the Delta and Yolo Bypass designed to reduce methylmercury levels in Delta fish tissue. The Delta Mercury Control Program uses an adaptive management approach that contains two phases. Phase 1, which will last through approximately 2020, is primarily a study period when methylmercury control measures will be developed and evaluated (Control Studies). At the end of Phase 1, the Regional Water Board will review the study results and will consider revising the fish tissue objectives and methylmercury allocations.

The Delta MeHg TMDL became effective upon USEPA approval on October 20, 2011 (the “Effective Date”). The BPA includes the following schedule for key requirements, based on the Effective Date:

- **6 months [April 20, 2012]:** (1) Dischargers state how they are organized for control studies; (2) Submit individual pollution minimization program workplans.
- **9 months [July 20, 2012]:** Submit Control Study Workplans including details for organizing, planning, developing, prioritizing, and implementing; start to implement four months after submittal, unless comments are received. Up to a nine month extension may be allowed to develop workplans for collaborative studies.
- **1 year [October 20, 2012]:** (1) Participate in Exposure Reduction Strategy; (2) Monitor effluent total mercury (THg) and methylmercury (MeHg).
- **2 years [October 20, 2013]:** Submit Exposure Reduction workplan.
- **Annually:** Progress reports for (1) pollution minimization, (2) annual loads, and (3) control study.
- **Permit renewal:** Performance-based Total Mercury load cap.
- **4 years [October 20, 2015]:** Submit Control Study progress report and participate in Technical Advisory Committee review.
- **7 years [October 20, 2018]:** Complete Control Study final report.

The BPA provides an opportunity for collaboration for control studies:

*Control Studies can be developed through a stakeholder group approach or other collaborative mechanism, or by individual dischargers. Individual dischargers are not required to do individual studies if the individual dischargers join a collaborative study group(s).*

The BPA goes on to provide an opportunity for collaboration at the broader scale of the entire Central Valley region:

*Dischargers in the Central Valley that are not subject to the Delta Mercury Control Program but may be subject to future mercury control programs in upstream tributary watersheds are encouraged to participate in the coordinated Delta Control Studies. Dischargers in and upstream of the Delta who participate in the Control Studies will be exempt from conducting equivalent Control Studies required by future upstream mercury control programs.*

### **C. Statewide Mercury Control Program and Reservoirs TMDL**

The State Water Resources Control Board (State Water Board) is developing a Statewide Mercury Program to reduce mercury in California's waters. It is expected that the following two elements will be part of the program:

- New water quality objectives for mercury in the tissues of fish that humans and wildlife eat.
- A policy or plan to reduce mercury California's reservoirs to attain the new water quality objectives and protect both humans and wildlife that eat reservoir fish. The policy or plan may include provisions for responsible parties to initiate actions to help address mercury reservoir problems.

Based on discussions with Regional and State Water Board Staff and public announcements, this effort will likely begin in early 2012 and is anticipated to take approximately two years.

## **II. PROJECT GOALS & OBJECTIVES**

### **A. Project Goals**

CVCWA is seeking proposals from qualified applicants to accomplish these overarching project goals:

- (1) To meet the collaborative Phase 1 Control Study Requirements and other Phase I requirements for those participating in the CVCWA Mercury Special Project, including those outside the Delta; and,
- (2) To provide timely information that can be used in the State Water Board's development of new mercury water quality objectives (including implementation plan) and reservoirs TMDL.

## **B. Project Objectives**

The following objectives have been established for the project:

- (1) To utilize existing studies, data and resources to the maximum extent possible.
- (2) To generate and evaluate new data that are both required and desired to understand mercury and methylmercury sources, fate and transport, and control.
- (3) To evaluate data and gain an understanding of trends, control processes, and inputs and outputs to and from wastewater treatment facilities.
- (4) Determine an appropriate sampling scheme required to evaluate control measures, mercury and methylmercury generation and/or removal.
- (5) Assess current and possible future pollution control measures for effectiveness.
- (6) Develop and present a study report that is useful to CVCWA, its members and regulatory agencies concerning mercury and its control measures for wastewater treatment plants, including potential beneficial and negative impacts, cost and feasibility.
- (7) Utilize other studies, work, information, etc. generated from Central Valley POTWs, other State and National POTWs and other resources to guide and inform the project.
- (8) Develop a collaborative control study effort that is reasonable and productive; providing good use of public resources.
- (9) Evaluate different process and systems for effective control measures and categorize for subsets of discharges. Identify how treatment plant processes and other variables that impact total and methylmercury can be changed to improve plant performance.

## **III. CVCWA CONTRACT, CVCWA MERCURY SPECIAL PROJECT AND CVCWA BOARD COORDINATION**

The funding for the project will come from those publicly and possibly privately owned treatment works (POTWs) who choose to participate in the CVCWA Mercury Special Project. Those participants will have membership and voting rights to the Mercury Special Project, including input and voting rights concerning the Mercury TMDL Collaborative Studies for Wastewater Treatment Plants Contract Scope, and work products submitted to the Regional and/or State Water Boards. Cost sharing

for the project will be determined by those participating in the Mercury Special Project. Besides financial participation, other conditions, such as timely submittal of data, monitoring requirements, and treatment plant information, may be required of Mercury Special Project members.

The contract to conduct the Mercury TMDL Collaborative Studies for Wastewater Treatment Plants and all work products developed under the contract must be approved by the CVCWA Board of Directors, or deemed consistent with CVCWA's existing positions prior final approval and submittal to the Regional and/or State Water Board, or being made publicly available.

The contract will be executed between CVCWA and the Consultant for the final scope. Primary day to day coordination will be with a point of contact identified by CVCWA's Mercury Special Project Members. The Consultant will also work closely with the Executive Officer of CVCWA when available to insure focused use of time and to maintain continuity in the program.

#### **IV. WORK TO BE PERFORMED**

This request is for professional services to support CVCWA and members of the CVCWA Mercury Special Project to complete the Mercury TMDL Collaborative Studies for Wastewater Treatment Facilities; activities necessary for the Phase 1 Control Studies and possibly other Phase 1 services. The work should also aid CVCWA in providing relevant information to the State Water Board in its development of the Reservoirs TMDL and a statewide mercury objective. The selected consultant will provide all materials, equipment, labor, planning and coordination to provide the deliverables required by the Contract with input and oversight by the Mercury Special Project and CVCWA Board, where required.

The consultant shall propose a Scope of Work to complete all Mandatory and Strategic Elements required by the BPA for wastewater treatment plant dischargers and to provide timely data in the State Water Board's mercury objective setting and Reservoirs TMDL process. The Control Study should include efforts up through and including finalization of the Control Study Report based on feedback from the Technical Advisory Group in Year 4 (see below for further detail), and a budget for all tasks in the Scope of Work. The consultant will provide a proposal documenting scope of work to be performed, project budget, and project schedule. The scope should clearly outline what elements or portions thereof are anticipated to be provided by Mercury Special Project members. Cost should be well documented in the proposal, and should be organized to allow increases or decreases in scope based on available funding. Each phase or element of this work may be separated in execution due to funding or program development timing. The project should be completed by the initial deadlines within the BPA without the anticipation of extensions.

A draft scope of work was developed for the initial discussion purposes for potential Mercury Special Project participants, and is contained in Attachment 1. This draft scope may be used for the proposal; however, the consultant is encouraged to submit a scope of work, project budget, and project schedule it believes would best meet the project's goals and objectives.

Phase 1 of the Delta Mercury TMDL contains required elements and strategic elements. CVCWA desires that proposals contain scope, budget and schedule for both the required and strategic elements;

however, the final contract may or may not include all elements. Below are descriptions of the required and strategic elements, based a Regional Water Board Template letter sent to all wastewater treatment plants subject to the TMDL (Attachment 2). In some cases, additional comments regarding each element may be provided to assist in the development of the scope of work. Please note that the attachment to the template letter, the Mercury Control Study Guidance, may be changed by the Regional Water Board staff. Consultants are encouraged to check the Regional Water Board's website at [http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/stakeholder\\_workgroup\\_mtgs/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/stakeholder_workgroup_mtgs/index.shtml) for updates.

## A. Required Elements

### 1. Phase 1 Methylmercury Control Study Requirements

- Conduct Control Studies to evaluate existing methylmercury control methods and, as needed, develop additional control methods that could be implemented to achieve the methylmercury waste load allocations for wastewater treatment facilities, where indicated in the Delta TMDL.

*The development and execution of the control studies is the main element of this RFP. The control studies should consider the variety of wastewater treatment plants that discharge to surface waters in the Central Valley, not just the Delta. Load reductions for POTWs outside the Delta can be estimated by tributary load reduction requirements or by some other reasonable and agreed-upon method, however, as indicated below under "Workplans", the control studies are to evaluate the feasibility of reducing sources more than the minimum amount needed to achieve allocations.*

- By 20 April 2012, submit a letter to the Executive Officer describing either: (a) how each agency plans to organize with other dischargers and stakeholders to develop and implement coordinated, comprehensive Control Study workplan and studies or (b) if the agency will develop and implement individual Control Study Workplans and studies.

*CVCWA anticipates this required element will be fulfilled by CVCWA and those participating in the Mercury Special Project.*

#### a. Workplans

- By 20 July 2012, submit a Control Study Workplan report containing detailed plans for the Control Studies and Phase 1 activities. The Regional Water Board Executive Officer can extend the due date to 20 April 2013 if your organization demonstrates that it is part of a collaborative study.

*CVCWA desires that the Control Study Workplan be submitted on or before 20 July 2012 so that the project can move forward quickly and have maximum benefit for the State Water Board's*

*mercury objective and reservoirs TMDL efforts. The RFP should build in time for CVCWA Mercury Special Project and CVCWA Board review and approval. The Consultant should anticipate working closely with a Mercury Special Project workgroup in developing the workplan; however, the proposal should contain a description of what is proposed for the workplan.*

- The Control Study Workplan(s) shall provide detailed descriptions of how methylmercury control methods will be identified, developed, and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the control methods.

*The proposal should anticipate review of pollution prevention and treatment process evaluations (based on treatment & storage scenarios utilized in the Central Valley for surface water discharges). The proposal should describe what types of actions and/or coordination will be required between the Consultant and Mercury Special Project members to assure that control measures are evaluated effectively. Proposals for new studies should also be included and described.*

- The Control Study Workplan(s) shall include details for organizing, planning, developing, prioritizing, and implementing the Control Studies.

*Attachment 2 contains a template letter sent to all POTWs subject to WLAs in the Delta Mercury TMDL and contains Phase 1 requirements as well as Regional Water Board general guidelines, expectations and minimum requirements in order for the Control Study Workplans to be considered approvable by the Executive Officer.*

- The Control Studies shall evaluate the feasibility of reducing sources more than the minimum amount needed to achieve allocations.
- Initiate the Control Studies after Regional Water Board Executive Officer approval of the Workplan. The deadline for initiation of studies is on or before 20 November 2012 for individual studies or 20 August 2013 for coordinated studies that have Regional Water Board Executive Officer approval for a nine-month extension.

*CVCWA desires that the Control Studies be initiated as soon as Regional Water Board Executive Officer Approval has been obtained, or four months after submittal of the Workplan, if the Regional Water Board has not corresponded concerning the Workplan. Other work not impacted by the approval process, such as data collection, should continue in the interim.*

- Implement the Control Studies through the development and completion of Control Study Workplan(s) that are approved by the Regional Water Board Executive Officer.

**b. Reports**

- By 20 October 2015, submit a Progress Report to include Control Study progress to-date and, as necessary, amended workplans for any additional studies needed to address methylmercury reductions.

*The RFP should build in adequate time for CVCWA Mercury Special Project and CVCWA Board review and approval.*

*CVCWA anticipates that the scope of work will contain all items required above, and that the Progress Report, in content and format, will contain all information needed for the submittal of the Final Report. Amendments to the workplan for any additional studies proposed in the Progress Report are anticipated to be covered either through a new contract, which may include a new request for proposals, or by an amendment to the initial contract.*

*After the Progress Report is submitted, it will be reviewed by the Delta Mercury Control Program's Technical Advisory Committee (TAC). The proposed scope of work should include any efforts necessary to respond to the TAC's comments on work completed and described in the Progress Report.*

- By 20 October 2018, submit the Control Study Final Report.

*At this time, it is undecided whether CVCWA will update the Final Report with data gained between the Progress Report and the final submittal date, or will contract this service.*

- The Control Study Final reports shall include: a description of methylmercury and/or inorganic (total) mercury management practices identified by the studies; an evaluation of the effectiveness, costs, potential environmental effects of the management practices; and a discussion of the overall feasibility of the control actions. In addition, final report(s) shall propose points of compliance for non-point sources.

*Fulfillment of these requirements should be contained in the scope of work to the extent that the final product under this contract could be submitted as the Final Report. CVCWA may request some or all this information be included in a separate document, not to be submitted with the Progress Report*

1. In the Final report, CVCWA or the individual participating agencies are required to propose methylmercury and/or inorganic (total) mercury management implementation plans and schedules to comply with methylmercury allocations as soon as possible but no later than 2030.

*The Scope of Work should include a task which identifies timeframes to comply with feasible management alternatives. CVCWA may ask that these and other policy type statements be included in a separate document, not to be submitted with the Progress Report.*

- If the Control Study results indicate that achieving a given methylmercury allocation is infeasible, then detailed information in the Final Report shall be provided on why full compliance is not achievable, what methylmercury load reduction is achievable, and an implementation plan and schedule to achieve partial compliance towards meeting the allocation.

*To the extent that adverse impacts are identified, these should be described. A preliminary estimation of feasible/achievable load reductions should also be developed. CVCWA may ask that these and other policy type statements be included in a separate document, not to be submitted with the Progress Report.*

**Table 1: Summary of Activities and Reporting Schedule to the Regional Water Board**

<b>Due Date</b>	<b>Activity</b>
20 April 2012	Submit Organizational Report
20 July 2012	Submit Control Study Workplan
20 April 2013 (extended date if granted by Executive Officer for collaborative studies)	
Before 20 November 2012, or Before 20 August 2013 (extended date)	Initiate Control Study
20 October 2015	Submit Control Study Progress Report
20 October 2018	Submit Control Study Final Report

## 2. Phase 1 General Requirements

The following requirements apply to surface water discharges from individual POTWs:

- Implement reasonable, feasible controls for inorganic mercury.
- Implement methylmercury management practices identified during Phase 1 that are reasonable and feasible.

*The proposal should contain elements that evaluate, compare, and describe control measures and management practices, their effectiveness, cost, and other impacts. This evaluation should be in such a format so that a variety of POTWs could utilize the information in determining what controls and management practices are reasonable and feasible and that the information could be used to justify such decisions to the Regional Water Board.*

### **3. Discharger Specific Requirements**

#### ***a. Pollution Minimization Programs***

- By April 2012, submit a mercury pollutant minimization program (PMP) workplan to the Regional Water Board for Executive Officer approval. If the existing permit already requires a mercury pollutant minimization program, POTWs are asked to submit revised workplan (activities and/or monitoring) as needed to address the Delta Mercury Control Program requirements.

*Due to the timing requirements of the PMP workplans, CVCWA and the Mercury Special Project are planning on developing a draft BMP workplan that can be used by Mercury Special Project Members to comply with this requirement. The proposal should include review of PMPs to be included and evaluated in the control studies.*

- Within 30 days after receipt of written Executive Officer approval of the PMP workplans and/or PMP revisions, implement the pollutant minimization program and/or revisions to the program.

*The POTWs participating in the Mercury Special Project anticipate implementing their PMP workplans individually. To the extent that information is needed on a PMP control measure or that a new or more regional-type PMP is recommended for the Mercury Special Project members, the proposal should contain provisions to address such issues.*

- Annually, in conjunction with each facility's other monitoring and reporting requirements, submit a progress report on pollution minimization activities implemented and an evaluation of their effectiveness, including a summary of mercury and methylmercury monitoring results.

*CVCWA and its members anticipate fulfilling this requirement individually. CVCWA's Mercury Special Project anticipates developing a model template for the annual reporting requirements. Information will be passed on to the consultant. The consultant should identify if additional information is necessary to characterize and evaluate pollution minimization efforts.*

#### ***b. Methylmercury and Total Mercury Monitoring***

- **Monitoring and Reporting:** By 20 October 2012, each POTW subject to the Delta Mercury TMDL is required to conduct effluent total mercury and methylmercury monitoring. The Regional Water Board staff has provided these instructions:

- For facilities already monitoring these constituents, continue with the existing monitoring and reporting frequency.
- For facilities monitoring total mercury but not methylmercury, monitor methylmercury at the same frequency as the total mercury.
- For facilities monitoring neither, work with Regional Board staff to identify a monitoring frequency. New monitoring efforts must commence no later than 20 October 2012.

*CVCWA anticipates that each POTW will collect its own samples. So that data generated is reliable and consistent, CVCWA is exploring providing monitoring training on mercury sampling and may possibly require or request all Mercury Special Project members use the same laboratory for sample analysis.*

*The proposal should include the identification of other constituents and sampling plans needed for the control studies and the evaluation of monitoring data.*

- By 15 February of each year beginning in 2013, submit a report on the inorganic (total) mercury effluent mass (annual load based on a calendar year) discharged from your facility. This report may be submitted as part of other monitoring reports required for your facility.

*POTWs will submit this information.*

#### **4. Exposure Reduction Program**

The Delta Mercury Control Program requires the development and implementation of an exposure reduction program (ERP) to protect those people who eat Delta fish by reducing their methylmercury exposure and its potential health risks.

The first step is for Regional Water Board staff to work with multiple stakeholders to develop an Exposure Reduction Strategy. The Strategy will determine how dischargers will be responsible for participating in an ERP, set performance measures, and propose a collaborative process for developing, funding and implementing the program. Regional Water Board Staff will be submitting the Exposure Reduction Strategy to its Executive Officer by 20 October 2012. Staff may contact CVCWA or individual member agencies participating in the Mercury Special Project for input on the strategy.

- By 20 October 2013, agencies subject to the TMDL, individually or collectively with other stakeholders, are required to submit an exposure reduction workplan and implement the workplan six months after Regional Water Board Executive Officer approval. The Regional Water Board is working towards sponsoring a researcher/ facilitator to assist with the Strategy and workplan requirements.

*The proposal should include a scope and budget for a task to support members of the Mercury Special Project in meeting the requirements of the Exposure Reduction Program.*

## **B. Strategic Elements**

The following strategic tasks are described below. Strategic elements are not mandated by the BPA/Delta Mercury TMDL for POTWs, but are desired to provide a scientific basis and regulatory support for the TMDL other activities. Additional or alternative strategic elements may be proposed in order to fulfill the goals and objectives of this project. For each strategic element, please provide a scope, cost schedule and timeline.

### **1. Offsets Policy and Pilot Projects**

At the end of Phase 1, the Water Board will evaluate the completed control studies, and will consider (among other things) adoption of a mercury offset program for dischargers who cannot meet their load and waste load allocations after implementing all reasonable load reduction strategies. This option was included in the BPA after stakeholders developed offsets guiding principles but were unable to agree that offset projects should be allowed during Phase 1. Phase 1 does contain the ability to conduct a pilot mercury offset. The information gained from this effort is intended to provide stakeholders with a clear sense of the feasibility of offset project(s) and programs.

The proposal should include a scope and budget for a task to support members of the Mercury Special Project in assisting in development of an offset policy.

### **2. Mercury-related Regulatory Support**

This task would fund technical support to CVCWA members for participation in stakeholder meetings and reviewing draft regulatory documents, and helping prepare information needed to support CVCWA comments. State and Regional Water Board staff members are currently working on three mercury-related activities that will impact CVCWA members:

- Development of regional monitoring programs for San Joaquin River watershed, Delta, and Sacramento River watershed
- Statewide water quality objective for methylmercury in fish tissue
- Statewide Reservoirs Mercury TMDL and subsequent upstream TMDLs

## V. PROPOSAL CONTENT INSTRUCTIONS

This request is for professional services to support CVCWA and members of the CVCWA Mercury Special Project to complete the related activities as phase 1 of the Delta Mercury TMDL. The Consultant shall propose a Scope of Work to complete all Mandatory and Strategic Elements required by the BPA for wastewater treatment plant dischargers up through and including finalization of the Control Study Report based on feedback from the Technical Advisory Group in Year 4, and a budget for all tasks in the Scope of Work. The scope should clearly outline what elements or portions thereof are anticipated to be provided by Mercury Special Project members. A sample scope of work is contained in Attachment 1.

The Consultant will provide a proposal documenting scope of work to be performed, project budget and project schedule. Please keep the proposal to 30 pages or less, minus charts, tables, and graphs. Failure to follow these proposal content instructions may disqualify any proposal. Any correction and resubmission by the proposer will not extend the time for evaluation of the proposal. Proposals will be reviewed by a group composed of the CVCWA Executive Officer and a designated group of POTW representatives from those interested in participating in the Mercury Special Project.

The selected consultant will provide all materials, equipment, labor, planning and coordination to provide the deliverables in the scope with the Mercury Special Project input and oversight. The consultant will provide a proposal documenting scope of work to be performed, project budget, project schedule. Each phase or element of this work may be separated in execution due to funding or program development timing.

Cost should be well documented in the proposal, and should be organized to allow increases or decreases in scope based on available funding. The project should be completed by the initial deadlines within the BPA without the anticipation of extensions.

### 1. Required Information

All proposals must include the following information:

1. Cover letter, including name, telephone number, and address of the firm.
2. Proposal Authorization (see Section IX. Proposal Authorization)
3. Table of contents.
4. Description of the consultant's business; *i.e.*, individual, partnership, joint venture, etc.
5. Background information about the consultant, including technical qualifications and licenses.
6. Description of the consultant's experience, including the scope of similar projects.
7. Organizational chart showing proposed management and project team.

8. Complete list of personnel, including subconsultants that will be dedicated to this project. For any subconsultant work to be performed: indicate the services to be provided; provide a statement of qualifications to perform the work requested; and list key personnel and summarize their qualifications and related experience.
9. Assigned personnel background, experience, and job title/classification.
10. Proposed scope of work including deliverable formats and products.
11. Detailed project schedule.
12. Fee proposal, which shall include breakdown of labor hours by employee billing classification and an expense reimbursement schedule that includes cost of non-labor and sub-consultant services.
13. Hourly billing rates for personnel to be assigned to the project.
14. Any exceptions to the Standard Services Agreement (Attachment 3).

The proposal must be signed by the authorized legal representative of the company who will enter into a contract with CVCWA.

Proposals should conform to the RFP instructions, be responsive to the RFP requirements, and focus on completeness and clarity of content.

## **2. Cost Proposal Instructions**

The cost proposal should contain three elements: a Budget Summary, a Budget Detail and Cost Breakdown. Following is additional information that should be considered in development of the cost proposal:

1. Cost of Services by Position Title. The Budget Detail should list the position title and cost basis for Project Team members. The Cost Breakdown should contain a breakdown of the estimated number of hours that each position will perform for each task including administrative costs.
2. Travel costs including transportation, per diem, and lodging. Travel costs should be itemized in the Budget Detail and Cost Breakdown.
3. All operating costs, including supplies and materials, must be itemized in the Budget Detail and Cost Breakdown.
4. Only the cost for one of the following categories may be included in the cost proposal: Administrative Costs, Overhead, or Indirect Costs.

5. Each subconsultant must be itemized in the Budget Summary and a separate Budget Detail and Cost Breakdown must also be submitted. For any subconsultants yet to be determined, estimate the cost and identify the specific work to be performed. Include any overhead for subconsultants in cost breakdown.

### **3. Questions/Additional Information Requests**

For purposes of addressing questions concerning this RFP, the sole contact will be Debbie Webster, Executive Officer of the Central Valley Clean Water Association. Questions and/or comments regarding this RFP will be accepted by e-mail through 5:00 PM, Tuesday, January 30, 2012. Address e-mail inquiries to [eofficer@cvcwa.org](mailto:eofficer@cvcwa.org). Please provide company name, address, phone number and email address if they do not appear as a signature block for your email. Inquiries and responses will be posted online at [www.cvcwa.org/newsletter](http://www.cvcwa.org/newsletter) by 5:00 PM, Monday, February 6, 2012, or as soon thereafter as possible.

## VI. Evaluation Criteria

CVCWA desires to engage a qualified consultant. Proposals will be evaluated first and foremost on technical qualifications. Cost will be considered for consultants meeting technical qualification expectations.

### 1. Technical Qualifications:

Evaluation of Technical Qualifications will be conducted on the following criteria in rank order:

#### a. Essential

1. Responsiveness to the RFP
2. Project approach and technical understanding of the scope of work
3. Completeness and the ability to implement the project
4. Ability to deliver workplan by initial due date.
5. Consultant ability to complete work products on schedule
6. Experience and qualifications of the assigned individuals in mercury and methylmercury control, especially in relation to municipal wastewater or in preparing similar studies
7. Consultant experience and qualifications include:
  - a. Scientific report writing
  - b. Working with a collaborative, stakeholder driven efforts
  - c. Productive working relationship with Regional Water Board staff and other stakeholders
  - d. Water quality regulation
8. Appropriateness of proposed fee structure and anticipated value and quality of services received

#### b. Important

9. Technical understanding of Mercury TMDL Collaborative Studies and other TMDL related work
10. Demonstrated ability to act independently and perform unbiased evaluations

11. Demonstrated ability to complete work on schedule by demonstrating availability of staff during the contracting period
12. Experience organizing and facilitating a diverse set of agencies which resulted in the accomplishment of intended project goals and objectives;
13. Assembling logical approaches to data review
14. Experience in developing public/stakeholder input processes and facilitating/engaging public/stakeholders for the purpose of presenting and receiving feedback on products and deliverables;
15. Technical competence, clarity, understanding, and credibility of the proposed workplan approach and task deliverables;
16. Reasonableness of cost and timeline;

## **2. Cost:**

Evaluation of Cost will be based on the following:

1. Clarity and completeness of the breakdown of costs and explanation
2. Total cost compared to the value of products and services

## **VII. General**

All consultants are hereby advised that this RFP is an informal solicitation and is not a commitment or offer to enter into an agreement or engage into any competitive bidding or negotiation pursuant to any statute, ordinance, rule, or regulation.

CVCWA reserves the right to negotiate with any qualified source.

CVCWA reserves the right to reject any or all proposals for any reason or for no reason at all.

CVCWA reserves the right to request further information from the consultant, either in writing or orally. Such request will be addressed to that person or persons authorized by the consultant to represent the consultant.

CVCWA reserves the sole right to judge the consultant's representations, either written or oral.

Consultants understand and agree that submission of a proposal constitutes acknowledgement and acceptance of, and a willingness to comply with, all terms, conditions, and criteria contained in this RFP.

False, incomplete, or unresponsive statements in connection with a proposal may be sufficient cause for the rejection of the proposal. The valuation and determination of the fulfillment of the above requirement will be CVCWA's responsibility and its decision shall be final.

CVCWA reserves the right to interpret or change any provisions of this RFP at any time prior to the proposal submission date. Such interpretations or changes will be in the form of addenda to this RFP. Such addenda will become part of this RFP and may become part of any resultant contract. Such addenda will be made available to each person or organization that is known to have received this RFP. Should such addenda require additional information not previously requested, a consultant's failure to address the requirements of such addenda might result in the proposal being disqualified or ranked lower in review. All proposals submitted in response to this RFP will become the exclusive property of CVCWA and will be made available to potential Mercury Special Project members.

CVCWA reserves the sole right to evaluate and select the successful proposal. The selection process is anticipated to include an evaluation of the proposal and an interview with the top proposing firms. If interviews are conducted, the proposed project manager and key staff should participate.

This project is intended to be funded by agencies participating in the CVCWA Mercury Special Project. CVCWA may at its discretion fund this project from proceeds of State, Federal or other grants or agreements and consultant contract may be managed by the agency providing funding with different or additional requirements which must be complied with. These issues are anticipated be resolved at the time of contracting with the selected consultant.

CVCWA shall not in any way be liable for any costs incurred in connection with the preparation of any proposal submitted in response to this RFP. The consultant shall execute the Standard CVCWA Agreement for services with the Central Valley Clean Water Association accepting terms and conditions without exception unless noted in the proposal.

## VIII. Schedule of Proposal Events

The following table contains the expected schedule of events for the RFP process. CVCWA retains the right to modify this schedule as needed to support unexpected circumstances.

**Table 2 - Schedule of Proposal Events**

<b>Activity</b>	<b>Date</b>
RFP distributed/posted to website	January 17, 2012
Questions for RFP due	January 30, 2012
Responses to Questions	February 6, 2012
Proposals Due	March 1, 2012
Interviews (if required)	March 12-16, 2012
Steering Committee Recommendation of Preferred Consultant	March 19, 2012
Finalize Contract	March 30, 2012
Mercury Special Project Review and Approval	Mid March – Early April
CVCWA Board Approval	April 12, 2012
Finalization of Participating Agencies for Mercury Special Project	April 20, 2012
Execution of Agreement with Consultant	Anticipated by April 30, 2012

## **IX. Proposal Authorization**

**(Please provide this document on your letterhead)**

**I certify I am authorized to submit a binding proposal on behalf of my company,**

**\_\_\_\_\_ (company name), and this proposal conforms to required specifications unless otherwise noted.**

\_\_\_\_\_  
**Company Name**

\_\_\_\_\_  
**Proposal Submitted by**

\_\_\_\_\_  
**Title**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Email**

\_\_\_\_\_  
**Telephone Number**

\_\_\_\_\_  
**Facsimile Number.**

Attachment 1 – Draft Scope of Work for Mercury Collaborative Study for Wastewater Treatment Plants

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## Sample Scope of Work Developed for Mercury Special Project Discussion Purposes Only

(Note to Consultants: This document was developed as a preliminary document for discussion purposes only to gauge interest in the funding and formation of the CVCWA Mercury Special Project. The contents of this draft do not always reflect directions given in the RFP. Consultants should refer to the RFP for scope instructions.

### Overview

In April 2010, the Central Valley Regional Water Quality Control Board (Regional Water Board) passed Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan Amendment, or BPA) for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary (Resolution No. R5-2010-0043). The BPA constitutes a Total Maximum Daily Load (TMDL) for the Delta, along with implementation requirements for dischargers. The TMDL allocates methylmercury (MeHg) loads among in-Delta dischargers and major tributaries.

The BPA provides an opportunity for collaboration:

*Control Studies can be developed through a stakeholder group approach or other collaborative mechanism, or by individual dischargers. Individual dischargers are not required to do individual studies if the individual dischargers join a collaborative study group(s).*

The BPA goes on to provide an opportunity for collaboration at the broader scale of the entire Central Valley region:

*Dischargers in the Central Valley that are not subject to the Delta Mercury Control Program but may be subject to future mercury control programs in upstream tributary watersheds are encouraged to participate in the coordinated Delta Control Studies. Dischargers in and upstream of the Delta who participate in the Control Studies will be exempt from conducting equivalent Control Studies required by future upstream mercury control programs.*

This memorandum provides a draft scope of work (with schedule and budget) for wastewater treatment plants (WWTPs) in the Central Valley to design and implement their current requirements in the subject BPA and anticipated requirements for future TMDLs as a CVCWA Special Project. This collaborative project would be led by the Central Valley Clean Water Association (CVCWA). **This version of the scope of work is for discussion purposes only.**

### Mandatory and Strategic Tasks

The following mandatory tasks address regulatory requirements in the Delta Methylmercury TMDL for NPDES wastewater dischargers:

1. Methylmercury Control Study
2. Pollutant Minimization Program

3. Exposure Reduction Program
4. Effluent Monitoring

The following strategic tasks are also scoped:

- A. Numerical Modeling
- B. Offsets Policy and Pilot Projects
- C. Mercury-related Regulatory Support

The material in each task section constitutes initial scopes of work. In sum, these tasks could be implemented as a CVCWA Special Project.

## Schedule

Two schedules are provided in this section. First, an annual schedule for the BPA's entire Phase 1 period is given for context. Second, a quarterly schedule for the first two years of Phase 1 is given because much of the special project activity will occur within that time frame and could be contracted for that initial period only.

### Annual Schedule for Phase 1

The Delta MeHg TMDL became effective upon USEPA approval on October 20, 2011 (the "Effective Date"). The BPA includes the following schedule for key requirements, based on the Effective Date:

- **6 months [April 20, 2012]:** (1) Dischargers state how they are organized for control studies; (2) Submit individual pollution minimization program workplans
- **9-18 months [July 20, 2012 – April 20, 2013]:** Submit Control Study Workplans including details for organizing, planning, developing, prioritizing, and implementing; start to implement four months after submittal
- **1 year [October 20, 2012]:** (1) Participate in Exposure Reduction Strategy; (2) monitor effluent THg and MeHg
- **2 years [October 20, 2013]:** Submit Exposure Reduction workplan
- **Annually:** Progress reports for (1) pollution minimization, (2) annual loads, and (3) Control Study
- **Permit renewal:** Performance-based THg load cap
- **4 years [October 20, 2015]:** Submit Control Study progress report and participate in Technical Advisory Committee review
- **7 years [October 20, 2018]:** Complete Control Study final report

These activities should be scheduled broadly as indicated in **Table 1**.

**Table 1. CVCWA Mercury TMDLs Special Project – Overall Schedule for Addressing Delta MeHg TMDL Phase 1 Requirements for WWTPs**

Tasks	Deliverables	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>1. Methylmercury Control Studies</b>										
Organize collaborating partners	Organization letter (6 mo.)	○◆								
Write collaborative workplan	Workplan (9-18 mo.)	○	◆							
Implement workplan	Progress report (2015); final report (2018)		○	○	◆	○	○	◆		
TAC review	TAC review meeting				◆			◆		
<b>2. Pollutant Minimization Program</b>										
Write Workplans	PMP Workplans (6 mo.)	○◆								
Implement w/in 30 days	Annual progress reports	○	○◆	○◆	○◆	○◆	○◆	○◆	○◆	○◆
<b>3. Exposure Reduction Program</b>										
SWRCB set policy [no deadline]		○	○							
Workplan by 2 yrs	ERP Workplan (2 yrs.)			◆						
Implement 6 mo. after approval					○	○	○	○	○	○
<b>4. Effluent Monitoring</b>										
Sample at frequency in 13267 letter	Annual monitoring reports		○◆	○◆	○◆	○◆	○◆	○◆	○◆	○◆

<b>A. Numerical Modeling</b>										
Develop and calibrate a mercury fate & transport model of the Delta	Calibrated mercury model		○	○	○	○	◆	○	◆	
Simulate allocations and control study results	Analysis of scenarios						○	○	○	○
<b>B. Offsets Policy</b>										
Dischargers may propose pilot projects during Phase 1							○	○	○	○
Regional Board will consider adopting an offsets program at end of Phase 2	Offsets program (9 yrs.)							○	○	◆
<b>C. Regulatory Support</b>										
Develop Regional Monitoring Programs		○	○	○	○	○	○	○	○	○
Develop statewide mercury TMDLs and regional TMDLs	Meeting notes; comment letters	○	○◆	○	○	◆				
Develop statewide MeHg Water Quality Objective and variance policy	Meeting notes; comment letters	○	○◆	○	◆					

○ Indicates when task activities will take place

◆ Indicates when task deliverables will be completed

## Quarterly Schedule for Years 1-4

The mandatory tasks described in each section include several regulatory deadlines over the first four years. To constrain the uncertainty in scheduling and budgeting, a semi-annual schedule for the first four years of implementation is provided here. The budget estimate in the next section is based on this initial period only.

**Table 2. CVCWA Mercury TMDLs Special Project – Start-up Schedule for Addressing Delta MeHg TMDL Phase 1 Requirements for WWTPs**

Task	Deliverables	2012		2013		2014		2015	
		Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec	Jan-Jun	Jul-Dec
<b>Task 1. Methylmercury Control Study</b>									
1. Submit Organization Report	Organization Report; Extension request letter	○◆							
2. Prepare Workplan for Collaborative Methylmercury Control Study									
2a. Compile and Evaluate Knowledge Base	Knowledge Base memo	○	◆						
2b. Prepare and Submit Workplan	Control Study Workplan		○	◆					
3. Participate in TAC Review			○		○				
4. Estimate Control Study Budget and Identify Potential External Funding	Funding sources memo			○	◆				
CS Subtask a. Compile and Assess New Data	Data summary memo	○	○◆						
CS Subtask b. Monitor Anomalies and Novel Facilities	Sampling and analysis plan			◆	○	○	○	○	
CS Subtask c. Conduct Comparative Analysis	Data analysis memos		○	◆			○	○	◆
CS Subtask d. Conduct Cost-Benefit Analysis	Cost-benefits memo							○	◆
CS Subtask e. Coordinate Participants and Other Stakeholders	Annual progress reports and four-year report		○◆		○◆		○◆		○◆
<b>Task 2. Pollutant Minimization Program</b>									
1. Conduct literature review and compile knowledge base		○◆							
2. Produce Mercury Pollutant Minimization Program Guidance	Mercury Pollutant Minimization Program Guidance document	○◆							
3. Write and distribute Workplan template	Workplan template	○◆							
<b>Task 3. Exposure Reduction Program</b>									
1. Participate in Regional Board-led Exposure Reduction Program Strategy		○	○						
2. Write Coordinated Exposure Reduction Program Workplan for CVCWA members	CVCWA-coordinated Exposure Reduction Program Workplan			○	◆				
<b>Task 4. Effluent Monitoring Support</b>									
1. Develop Template Sampling and Analysis Plan	Template Sampling and Analysis Plan for Mercury Monitoring by WWTPs	○	◆						
2. Train Monitoring Crews	Four two-hour training courses		○◆						
<b>Task A. Numerical Modeling</b>									
1. Develop and Calibrate a Numerical Model for Mercury in the Delta Watershed	Memorandum describing the model					○	○	○	○
2. Simulate Ambient Methylmercury Concentrations	Memorandum describing scenarios simulated and results								○
<b>Task B. Offsets Policy and Pilot Projects</b>									
Task 1. Facilitate Stakeholder Group						○	○	○	○
Task 2. Write Regional Mercury Offsets Policy	Mercury offsets policy report								
Task 3. Identify and Characterize Pilot Mercury Offset Projects	Pilot Mercury Offset Projects report								
<b>Task C. Mercury-related Regulatory Support</b>									
Task 1. Regional Monitoring Program Development	Meeting summaries; CVCWA comment letters	○	○	○	○	○	○	○	○
Task 2. Statewide Water Quality Objective and Variance Development	Meeting summaries; CVCWA comment letters	○	○	○	◆				
Task 3. Statewide and Regional Mercury TMDL Development	Meeting summaries; CVCWA comment letters	○	○	○	◆				

○ Indicates when task activities will occur

◆ Indicates when task deliverables will be completed

## Budget Estimates

A budget estimate is provided here for the first four years of implementation only. After that initial period, costs would be highly speculative. Budget estimates are provided as a low-high range. Costs would those contracted, not including in-kind support such as staff collecting samples for a control study element. Factors that would tend to determine the range in costs are noted in the table and in each task's fact sheet. Costs for administrative support and program management are included separately.

Table 3. CVCWA Mercury TMDLs Special Project – Budget Estimates

Task	Budget Estimates		Dependencies & Considerations
	Year 1	Years 1-4	
<b>Task 1. Methylmercury Control Study</b>	<b>\$ 126,100</b>	<b>\$ 491,725</b>	
1. Submit Organization Report	\$ 2,800	\$ 2,800	Due April 2012; CVCWA EO could lead coordination
2. Prepare Workplan for Collaborative Methylmercury Control Study			
2a. Compile and Evaluate Knowledge Base	\$ 12,800	\$ 25,600	Extent of literature sought; availability of data;
2b. Prepare and Submit Workplan	\$ 31,300	\$ 39,125	TAC input suggesting changes/ additions; # cooperating facilities; # study sites; site types proposed
3. Participate in TAC Review of Workplan	\$ 4,800	\$ 12,800	Only corresponding in year 1; meeting at 18 mo.
4. Estimate Control Study Budget and Identify Potential External Funding	\$ 7,200	\$ 9,000	Level of effort on proposals; # grants investigated; in-kind support
CS Subtask a. Compile and Assess New Data	\$ 33,600	\$ 67,200	Discharger cooperation and automation; site visits
CS Subtask b. Monitor Anomalies and Novel Facilities	\$ -	\$ 96,000	Coordination and technical asst costs
CS Subtask c. Conduct Comparative Analysis	\$ -	\$ 151,200	Analytical costs for 6 sites, 6 locations, 12 events; assumes in-kind contributions for additional sampling and analyses
CS Subtask d. Conduct Comparative Analysis	\$ 24,000	\$ 24,000	(1) Updating Regional Board's report; (2) including Subtask b data
CS Subtask e. Conduct Cost-Benefit Analysis	\$ -	\$ 16,000	Aim to apply protocol consistent with other dischargers; need in-kind support providing relevant data
CS Subtask e. Coordinate Participants and Other Stakeholders	\$ 9,600	\$ 48,000	Assume 5 hrs/mo for 4 yrs
<b>Task 2. Pollutant Minimization Program</b>	<b>\$ 25,600</b>	<b>\$ 25,600</b>	
1. Conduct literature review and compile knowledge base	\$ 8,000	\$ 8,000	Survey instrument and # responses
2. Produce Mercury Pollutant Minimization Program Guidance	\$ 12,800	\$ 12,800	CVCWA involvement; level of detail in guidance
3. Write and distribute Workplan template	\$ 4,800	\$ 4,800	Individualized support
<b>Task 3. Exposure Reduction Program</b>	<b>\$ 12,800</b>	<b>\$ 28,800</b>	
1. Participate in Regional Board-led Exposure Reduction Program Strategy	\$ 12,800	\$ 12,800	# meetings; follow-up efforts; communication with CVCWA members
2. Write Coordinated Exposure Reduction Program Workplan for CVCWA members	\$ -	\$ 16,000	CVCWA involvement; level of detail in workplan
<b>Task 4. Effluent Monitoring Support</b>	<b>\$ 39,200</b>	<b>\$ 58,400</b>	
1. Develop Template Sampling and Analysis Plan	\$ 20,000	\$ 20,000	Consistency with control study workplan; ancillary parameters
2. Train Monitoring Crews	\$ 19,200	\$ 38,400	Individualized support; in-kind support via staff exchange in lieu of Consultants
<b>Admin. Support / Program Management</b>	<b>\$ 40,000</b>	<b>\$ 120,000</b>	
1. Admin. Support & Contingency	\$ 20,000	\$ 60,000	10% of above costs
2. Program Management	\$ 20,000	\$ 60,000	10% of above costs
<b>Mandatory Tasks Total=</b>	<b>\$ 243,700</b>	<b>\$ 724,525</b>	
<b>Task A. Numerical Modeling</b>	<b>\$ -</b>	<b>\$ 68,000</b>	
1. Develop and Calibrate a Numerical Model for Mercury in the Delta Watershed	\$ -	\$ 28,000	In-kind contributions from other stakeholders (DWR, Corps of Engrs.); development period; level of stakeholder input & involvement
2. Simulate Ambient Methylmercury Concentrations	\$ -	\$ 40,000	# scenarios simulated; guidance needed to develop POTW input files
<b>Task B. Offsets Policy and Pilot Projects</b>	<b>\$ -</b>	<b>\$ 27,000</b>	
1. Facilitate Stakeholder Group	\$ -	\$ 27,000	Contributions from other stakeholders; # stakeholders participating
2. Write Regional Mercury Offsets Policy	\$ -	\$ -	Stakeholder interests vs concerns
Task 3. Identify and Characterize Pilot Mercury Offset Projects	\$ -	\$ -	Permitting issues, legal/regulatory hurdles; detail of investigation; available simulation model; lead agency
<b>Task C. Mercury-related Regulatory Support</b>	<b>\$ 72,000</b>	<b>\$ 160,000</b>	
1. Regional Monitoring Program Development	\$ 8,000	\$ 32,000	State and Regional Board progress; CVCWA-specific issues raised
2. Statewide Water Quality Objective and Variance Development	\$ 32,000	\$ 64,000	State and Regional Board progress; CVCWA-specific issues raised
3. Statewide and Regional Mercury TMDL Development	\$ 32,000	\$ 64,000	State and Regional Board progress; CVCWA-specific issues raised
<b>Admin. Support / Program Management</b>	<b>\$ 14,000</b>	<b>\$ 52,000</b>	
1. Admin. Support & Contingency	\$ 7,000	\$ 26,000	10% of above costs
2. Program Management	\$ 7,000	\$ 26,000	10% of above costs
<b>Strategic Task Totals=</b>	<b>\$ 86,000</b>	<b>\$ 307,000</b>	
<b>Grand Total=</b>	<b>\$ 329,700</b>	<b>\$ 1,031,525</b>	

# Mandatory Task 1. Methylmercury Control Study

The BPA requires dischargers within the Delta to conduct Methylmercury Control Studies, implemented through Control Study Workplans. The Control Study Workplan must provide detailed descriptions of how methylmercury control methods will be identified, developed, and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the identified control methods. The Control Study Workplan(s) must also include details for organizing, planning, developing, prioritizing, and implementing the Control Studies. This task would fulfill WWTPs' requirements to develop and submit a collaborative Control Study Workplan.

## Knowledge Base

- Delta Methylmercury TMDL ([http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/index.shtml))—Sets wasteload allocations and implementation requirements for in-Delta dischargers
- A Review of Methylmercury and Total Mercury Discharges from NPDES Facilities in California's Central Valley - Final Staff Report ([http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/other\\_technical\\_reports/npdes\\_mehg\\_final\\_rpt.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/other_technical_reports/npdes_mehg_final_rpt.pdf))—Evaluates effluent mercury concentrations by treatment trains.
- K.E. Abu-Saba, J. Leng, W. Tellefson, J. McCall, A. O'Brien, M. Paulucci, V. Fry, S. Gittings, C. Hartinger, T. Grovhoug, and T. Dunham (2007). "A Regional Assessment of Methylmercury Discharges from Municipal Treatment Plants in California's Central Valley." Central Valley Clean Water Agencies, 30 pp.—Comparison of methylmercury levels among CVCWA's wastewater facilities based on a smaller dataset than used for the previous reference.
- Parmer, A., M. Maidrand, V. Fry, K. Abu-Saba, and L. Whalin (2005). "Methylmercury Fate and Transport Study." WEFTEC 2005.—Evaluates methylmercury concentrations in influent and after each treatment process at SRCSD.
- Dean, J.D., and R.P. Mason (2009). "Estimation of Mercury Bioaccumulation Potential from Wastewater Treatment Plants in Receiving Waters: Phase II." Water Environment Research Foundation project #05-WEM-1COa. 206 pp.—Identifies key parameters driving bioavailability of mercury in wastewater effluent; provides a spreadsheet tool to estimate effluent mercury bioavailability.
- West Yost Assoc. (2011). "Wastewater Control Measures Study." Prepared for Central Valley Regional Water Quality Control Board Drinking Water Policy Workgroup. 64 pp.—Database of existing, planned, and potential wastewater treatment processes for all major Central Valley dischargers; estimates of major WWTPs' mass loads of organic carbon, total dissolved solids, and nutrients.
- Other published and unpublished studies performed by regional facilities (e.g., Stockton, Vacaville, SRCSD, Palo Alto, BACWA).

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## Workplan Development

### Subtask 1. Submit Organization Report and Extension Request<sup>1</sup>

By April 20, 2012 [six months after the Effective Date], entities required to conduct Control Studies shall submit for Executive Officer approval either: (1) a report(s) describing how dischargers and stakeholders plan to organize to develop a coordinated, comprehensive Control Study Workplan(s), or (2) a report describing how individual dischargers will develop individual Control Study Workplans. For dischargers conducting coordinated studies, the report shall include a list of participating dischargers, stakeholders, tribes, and community groups. Dischargers shall be considered in compliance with this reporting requirement upon written commitment to either be part of a group developing a Control Study Workplan or develop an individual Control Study Workplan.

Consultant will provide participating WWTPs with a letter template for individual submission reporting on the participants in a CVCWA-led Control Study. Working closely with the CVCWA Executive Officer, Consultant will draft the organization letter and develop a contacts list for future communications. The contacts list will include information such as point of contact and contact information, CVCWA membership status, and level of contribution/participation.

**Deliverables:** (1) Report to the Regional Water Board describing how CVCWA special study participants plan to organize to develop a coordinated, comprehensive Control Study Workplan. (2) Extension request letter for the workplan submittal deadline from 9 months to 18 months for a coordinated study.

### Subtask 2. Prepare Workplan for Collaborative Methylmercury Control Study

By July 20, 2012 or April 20, 2013 [9-18 months after the Effective Date], methylmercury dischargers are required to submit methylmercury control study workplans. Subtasks are include here to describe key steps in the process to develop a collaborative Control Study workplan. It is imperative that the workplan be consistent with the latest Control Study Guidance provided by the Regional Board and addresses comments by the Technical Advisory Committee.

#### *Subtask 2a. Compile and Evaluate Knowledge Base*

In response to a July 2004 13267 Order (see Section 6.2.4 in the TMDL Report), effluent methylmercury concentration data were collected and reported by all of the NPDES facilities in the Delta and its tributary watersheds downstream of major dams. In addition, some dischargers have monitored effluent mercury concentrations pursuant to their NPDES permits.

Consultant will compile the available data from the Regional Water Board and from individual dischargers and produce a metadata table for use in developing the Workplan. The database will include all monitoring data, as well as information on current and anticipated future treatment processes. Consultant will survey all WWTPs to confirm accuracy of treatment process information.

Dischargers who have performed previous studies on mercury and/or methylmercury related to their treatment processes will provide them to Consultant. Consultant will gather these

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<sup>1</sup> Note, this and other items are anticipated to be completed by CVCWA and special project members. See RFP for directions and notations.

documents for retrieval on the CVCWA web site. Consultant will review these for applicability in the Control Study Workplan.

Consultant will analyze the existing database (see previous subtask) to identify anomalies (e.g., unusual effluent concentrations relative to similar plants for methylmercury, dissolved oxygen, organic carbon, temperature, nitrogen or sulfate), unique situations (e.g., exceedingly long outfall pipelines or ditches, recent process changes, composite vs grab samples), and key treatment processes (e.g., nitrification, filtration, holding ponds) that warrant additional investigation or monitoring.

Consultant will summarize this knowledge base and identify knowledge gaps that the Workplan will address. The summary will form a section of the Workplan (next subtask).

**Deliverable:** Memorandum to CVCWA summarizing the knowledge base and identifying knowledge gaps that the Workplan should address.

### **Task 2b. Prepare and Submit Workplan**

Based on the workshop and associated discussions, Consultant will develop a collaborative Methylmercury Control Study Workplan for WWTPs. The Workplan will outline the full seven-year schedule of Phase I, but focus on the first four-year period leading up to the TAC review. The Workplan will include tasks to conduct supplemental monitoring and to analyze the final dataset.

The Workplan will include:

- Testable hypotheses, including a power analysis, as appropriate, to estimate the number and quality of samples needed for statistical significance
- A strategy for monitoring relevant constituents (e.g., nutrients, total suspended solids) and conditions (e.g., salinity, temperature, pH) at key treatment processes.
- A quality assurance program plan (QAPP), built off the one developed for the 13267 monitoring conducted in 2004 and based on the SWAMP QAPP<sup>2</sup>.
- Description of how the data will be analyzed, including comparing treatment processes, applying the WERF bioavailability tool, identifying other consequences (e.g., increased salinity, decreased nutrient loads), and conducting a cost-benefit analysis relative to net benefits to Delta subareas.
- A schedule through TAC review (end of 2015).
- An annual budget, accounting for in-kind contributions.
- Identification of potential funding options, including participant funds, in-kind support, and research grant opportunities.

Consultant will distribute a draft Workplan for review by participants and facilitate one meeting to discuss review comments and resolve issues raised.

**Deliverable:** Collaborative Methylmercury Control Study Workplan for WWTPs.

### **Subtask 3. Participate in TAC Review of Workplan**

The Regional Water Board is creating a Technical Advisory Committee (TAC) to review and comment on Control Study Workplans.

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<sup>2</sup> The Surface Water Ambient Monitoring Program's 2008 Quality Assurance Program Plan is available at: [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/qapp/qaprp082209.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf)

Consultant will participate in up to two TAC meetings and address review comments to finalize the Workplan and respond in writing to any questions or comments received from CVRWQCB or TAC related to workplan. Make corrections as required for approval.

#### **Subtask 4. Estimate Control Study Budget and Identify Potential External Funding**

The Delta MeHg TMDL's stakeholder group identified potential external funding sources for addressing mercury in the Delta. For example, USEPA's Cooperative Water Program provides research agreements with private industry partners. Several additional sources are included in the Adaptive Management Plan (Appendix F).

Consultant will update the table of potential external funding sources and focus on funding for a CVCWA-led special study.

**Deliverable:** Memorandum summarizing potential external funding sources for a CVCWA-led special study.

### **Control Study Implementation Subtasks**

Although Subtask 2a will produce the Control Study Workplan, it is helpful to anticipate potential analyses and associated budgets. The following subtasks may be included in the Workplan, albeit with a scale determined through the Workplan development process. These subtasks are included separately in the budget table.

#### **CS Subtask a. Compile and Assess New Data**

- Compile ongoing permit-required monitoring data from Central Valley WWTPs
- Update database of WWTP processes, including schematics for each facility
- For WWTPs that have improved since 2003-2004, identify management practices that have led to lower MeHg results.
- Assess monitoring data to identify anomalies for targeted monitoring

**Deliverable:** Memorandum with metadata table, site visit notes, and identification of anomalies.

#### **CS Subtask b. Monitor Anomalies and Novel Facilities**

- Monitor anomalies (e.g., long outfall pipes, odd effluent levels relative to similar plants, Stockton process changes, SRCSD pilot studies)
- Monitor before and after high-leverage processes (NDN, filtration, holding ponds, water conservation)
- Monitor relevant constituents (e.g., total mercury concentrations and loads, nutrients, TSS) and conditions (e.g., salinity, temperature, pH)

**Deliverable:** Sampling and analysis plan for each facility targeted for monitoring.

#### **CS Subtask c. Conduct Comparative Analysis**

A comparative analysis will provide useful information for the development of a statewide mercury objective. Consultant will perform two analyses: (1) initially based on existing information, and (2) including monitoring data through water year 2014.

- Apply WERF bioavailability tool

- Conduct a statistical analysis in a step-wise regression to identify controlling variables
- Compare Central Valley dischargers to Bay Area dischargers (assuming comparable data are available)
- Evaluate whether real-time indicators (e.g., chlorine dosing, DO, BOD, turbidity, temperature) track effluent methylmercury concentrations
- Conduct a trends analysis to identify changes over time potentially associated with source control, treatment upgrades, source water changes, time of day or seasons

**Deliverable:** Memorandum with control measures data analyses.

### CS Subtask d. Conduct Cost-Benefit Analysis

Costs associated with the various control measures—both structural and non-structural—should be compiled from available planning studies and experiences. These costs could then be used to estimate costs necessary to comply with current and potential future wasteload allocations. For each control measure, Consultant will assess the results by addressing the following key issues:

- Effect of reducing total mercury on methylmercury levels in discharges
- Level of certainty in applicability of study results to the entire Delta
- Suite of control options that would enable compliance with methylmercury allocations and/or results in methylmercury concentrations in discharges <0.06 ng/L
- Implementation and operations/maintenance costs (unit costs and projected total)
- Feasible schedule to implement control options to comply with methylmercury allocations

**Deliverable:** Memorandum with unit and overall cost estimates for control measures, descriptions of and conclusions regarding positive and negative ancillary effects of control measures.

### CS Subtask e. Coordinate Participants and Other Stakeholders

Consultant will undertake the following activities to engage in broader stakeholder efforts:

- Write annual progress reports and four-year report
- Respond in writing to comments received by CVRWQCB or TAC on submittals. Make corrections as required.
- Coordinate internally (non-CVCWA members, reviews, protocols)
- Coordinate externally (TAC review, stakeholder group participation)

**Deliverable:** Annual progress reports (years 2012-2014) and four-year report (year 2015).

## Schedule

The BPA includes the following scheduling constraints:

- Discharges state how organized by 6 mo.
- Workplans due 9 mo. (or 18 months if developed collaboratively) including details for organizing, planning, developing, prioritizing, and implementing Control Studies
- Start to implement w/in 4 mo. later
- 4-yr progress report
- Complete studies by 7 yr.

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Only the schedule for completing the control study workplan is included in the overall schedule.

## Budget

The budget estimate is for a CVCWA-led effort to develop and implement a collaborative Control Study Workplan. In-kind contributions are not included. Actual costs will depend on the level of detail sought in the workplan, analyses of current conditions done initially to focus on key study sites, and adjustments needed to respond to Technical Advisory Committee input.

The cost estimate in the TMDL's Basin Plan Amendment Staff Report for NPDES facilities to conduct control studies is \$500,000 – \$1,300,000. Cost assumptions (section C of Appendix C in the Staff Report) are reasonably accurate. Those costs include monitoring for all WWTPs, whereas a collaborative study will be more selective.

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# Mandatory Task 2. Pollutant Minimization Program

Many WWTPs already have permit requirements for mercury source control programs. This task will assess such efforts regionally and elsewhere, aiming to synthesize the experience and knowledge into lessons learned and a toolbox for program planners. One benefit to CVCWA members could be providing a tiered approach, whereby program activities could be scaled commensurate with current effluent levels.

## Knowledge Base

- AMSA (2002). “Mercury Source Control & Pollution Prevention Program Evaluation Final Report.” July. 62 pp. (<http://www.amsa-cleanwater.org/advocacy/mercgrant/>).—Assesses whether pollution prevention and source control programs could achieve adequate reductions in WWTP effluent to help WWTPs achieve very low mercury effluent limits. [Short answer: “probably not”.]
- National Association of Clean Water Agencies (2008). “An Examination of Mercury Levels at Clean Water Agencies, 2003-2006.” January. 118 pp. (<http://www.bacwa.org/Portals/0/ExecutiveBoard/Library/NACWA%20Hg%202008-01-31mspr.pdf>)—Evaluates mercury levels among treatment facilities throughout the US and effectiveness of source control.
- Larry Walker Associates (2008). “Dental Facilities Source Reduction Program—Final Report.” For SRCSD. January. 39 pp.—Evaluates load reduction benefits from dental amalgam facility program.
- Barron, T. (2002). “Mercury Headworks Analysis for 2000.” Prepared For Palo Alto RWQCP. (<http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=3745>).—Estimates mercury loads from various municipal sources to the Palo Alto wastewater facility.
- CVCWA and BACWA member experiences—Several major WWTPs in the Central Valley already implement mercury source control programs.

## Subtasks

Major subtasks will compile existing information and produce a guidance document to support mercury Pollutant Minimization Program (PMP) development and implementation by CVCWA members.

### Subtask 1. Conduct Literature Review and Compile Knowledge Base

Consultant will conduct a literature review and compile knowledge base (e.g., effective practices, methods/SOPs/tools, unit costs). Consultant will survey CVCWA members and incorporate results into PMP Guidance document (Subtask 2).

### Subtask 2. Produce Mercury Pollutant Minimization Program Guidance

Consultant will produce a Mercury PMP Guidance document including (1) unit costs and benefits for a range of potential program activities, (2) references for and descriptions of more

common activities, and (3) key draft local ordinance language to support pre-treatment programs. A tiered approach based on current mercury loads may be appropriate, which would result in a toolbox of program elements from which individual WWTPs could choose.

**Deliverable:** Mercury PMP Guidance document.

### Subtask 3. Write and Distribute PMP Workplan Template

Consultant will write and distribute a PMP Workplan template for individual dischargers to submit in compliance with BPA requirements.

**Deliverable:** Mercury PMP Workplan template.

## Schedule

The BPA includes the following scheduling constraints:

- Workplans due 6 mo.
- Implement w/in 30 days of Executive Officer approval
- Annual progress reports

Conducting this task earlier will support more utilities as they develop their programs; thus, this task should be implemented as soon as possible. The PMP Guidance document could be completed within one year.

## Budget

The budget for this guidance depends on the utility of the existing knowledge base and whether the guidance document needs to be further tailored for the variety of WWTPs.

A potential guidepost for budgeting individual programs is available from SRCSD's Be Mercury Free program. SRCSD spent approximately \$1,400,000 over the ten-year period 2001-2010 (which includes labor plus consultants and materials). Based on a service area population of approximately 1 million people, a budget estimate would be 14 cents per capita per year. Costs to individual dischargers participating in a CVCWA-coordinated effort could be lowered by replicating the same materials and methods but raised by committing some staff time to implement the program for each utility.

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# Mandatory Task 3. Exposure Reduction Program

The BPA requires in-Delta dischargers to participate in an Exposure Reduction Program. The objective of the Exposure Reduction Program is to reduce mercury exposure of Delta fish consumers most likely affected by mercury.

The Exposure Reduction Program must include elements directed toward:

- Developing and implementing community-driven activities to reduce mercury exposure;
- Raising awareness of fish contamination issues among people and communities most likely affected by mercury in Delta-caught fish such as subsistence fishers and their families;
- Integrating community-based organizations that serve Delta fish consumers, Delta fish consumers, tribes, and public health agencies in the design and implementation of an exposure reduction program;
- Identifying resources, as needed, for community-based organizations and tribes to participate in the Program;
- Utilizing and expanding upon existing programs and materials or activities in place to reduce mercury, and as needed, create new materials or activities; and
- Developing measures for program effectiveness.

There is no guidance or strategy from the state on how dischargers—rather than public health experts—should conduct such programs, nor any information to suggest that risk communication would be effective. CVCWA members should participate in such a program, but only in proportion to their relative contribution to the problem (which is ~5% of the methylmercury load to the Delta).

## Knowledge Base

A similar requirement for such a program already exists in the San Francisco Bay area (see San Francisco Bay Fish Project at <http://www.sfei.org/sfbfp>). Four groups have been funded recently to provide community outreach. Currently, a Stakeholder Advisory Group is developing a new fish consumption advisory.

In-Delta dischargers will be able to take advantage of knowledge gained there. The program may be replicated by the same Department of Health Services staff.

## Subtasks

Consultant will perform the following two subtasks for the Exposure Reduction Program. The level of involvement for CVCWA will depend on how much the San Francisco Bay area program is replicated and which other Delta stakeholders participate.

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### **Subtask 1. Participate in Regional Board-led Exposure Reduction Program Strategy**

The Regional Board first will develop an Exposure Reduction Strategy. Consultant will participate in that strategy effort (1) to encourage a practical approach for the program and (2) to guide development of a workplan.

### **Subtask 2. Write Coordinated Exposure Reduction Program Workplan for CVCWA members**

The dischargers, either individually or collectively, or based on the Exposure Reduction Strategy, are required to submit an exposure reduction workplan for Executive Officer approval. Consultant will write the workplan to address the Exposure Reduction Program objective, elements, and dischargers' coordination with other stakeholders. The program must integrate or, at a minimum, provide good-faith opportunities for integration of community-based organizations, tribes, and consumers of Delta fish into planning, decision making, and implementation of exposure reduction activities. If the San Francisco Bay model is followed, the program would be implemented by health professionals such as at the state's Department of Public Health.

**Deliverable:** CVCWA-coordinated Exposure Reduction Program Workplan.

## **Schedule**

The BPA includes the following scheduling constraints:

- SWRCB set policy [no deadline]
- Regional Board work with dischargers to complete an Exposure Reduction Strategy by October 20, 2013 [one year after Effective Date]
- Submit Exposure Reduction Program Workplan by 2 yrs.
- Implement 6 mo. after approval

## **Budget**

Consultant will participate in a process with other Delta dischargers, in proportion to WWTPs' contribution to the impairment. Participation by other state agencies, wetland managers, and irrigated lands farmers is highly uncertain, leading to high uncertainty in the budget estimates.

# Mandatory Task 4. Effluent Monitoring

During Phase 1 [and Phase 2], in-Delta WWTPs will be required to monitor effluent total mercury and methylmercury. Monitoring frequencies shall be defined in the NPDES permits. NPDES facilities' compliance points for methylmercury and total mercury monitoring are the effluent monitoring points currently described in individual NPDES permits.

## Knowledge Base

- USEPA Method 1669—Describes the protocol for ultra-clean sampling.
- USEPA Methods 1630 (methylmercury) and 1631b (total inorganic mercury)—Analytical methods described for low-level analyses of mercury in water.
- SWAMP QAPP Advisor ([http://water101.waterboards.ca.gov/swamp/qapp\\_advisor/](http://water101.waterboards.ca.gov/swamp/qapp_advisor/))—Online system to assist in writing Quality Assurance Project Plans. The 24 elements required for a SWAMP-comparable QAPP could be tailored for collaborative effluent mercury monitoring.

## Subtasks

Effluent mercury monitoring data will be compiled and evaluated under Mandatory Task 1. This task provides consistent protocols and guidance to ensure that sampling and analytical methods are appropriate and comparable.

### Subtask 1. Develop Template Sampling and Analysis Plan

Consultant will develop a template Sampling and Analysis Plan, including a Quality Assurance Program Plan, for CVCWA members monitoring effluent total mercury and methylmercury.

**Deliverable:** Template Sampling and Analysis Plan for mercury monitoring by WWTPs.

### Subtask 2. Train Monitoring Crews

Consultant will train sampling staff in practical ultra-clean sampling techniques based on USEPA Method 1669.

**Deliverable:** Three two-hour training courses located in the Sacramento Valley, Sacramento area, and Stockton area.

## Schedule

The BPA includes the following scheduling constraints:

- Monitor effluent total mercury and methylmercury starting by November 2012 [one year after the Effective Date]
- Monitoring frequency varies from weekly to annually

## **Budget**

The budget depends on the necessary level of detail provided in the template, which would need to support the range of monitoring frequencies and staff expertise among participating agencies. Training costs could be minimized with in-kind support of staff exchanges.

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# Strategic Task A. Numerical Modeling

A numerical model for tracking mercury sources, transport, transformations, and bioaccumulation would support several CVCWA interests:

- Guide development of Regional Monitoring Programs for the San Joaquin River, Delta, and Sacramento River
- Test, understand, and predict effects (not just mercury) of changes in discharges
- Support a Use Attainability Analysis for methylmercury water quality objectives
- Characterize potential benefits of Supplemental Environmental Projects
- Characterize potential benefits of an offset project/program or other prioritization effort

## Knowledge Base

- Delta Tributaries Mercury Council (2002). “Strategic Plan for the Reduction of Mercury-Related Risk in the Sacramento River Watershed – Appendix 1. Conceptual Model Report.” ([http://www.sacriver.org/files/documents/dtmc-documents/DTMC\\_MSP\\_App1.pdf](http://www.sacriver.org/files/documents/dtmc-documents/DTMC_MSP_App1.pdf))—Estimates total and methylmercury loads from major tributaries, describes sources and transformations from practical management perspective.
- Alpers C, Eagles-Smith C, Foe C, Klasing S, Marvin-DiPasquale M, Slotton D, and Winham-Myers L. (2008). “Mercury conceptual model.” Sacramento (CA): Delta Regional Ecosystem Restoration Implementation Plan. ([http://www.science.calwater.ca.gov/pdf/drerip/DRERIP\\_mercury\\_conceptual\\_model\\_final\\_012408.pdf](http://www.science.calwater.ca.gov/pdf/drerip/DRERIP_mercury_conceptual_model_final_012408.pdf))—Scientific basis for restoration projects to address mercury.
- Central Valley Regional Water Quality Control Board (2010). “Sacramento – San Joaquin Delta Estuary TMDL for Methylmercury Staff Report.” ([http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/april\\_2010\\_hg\\_tmdl\\_hearing/apr2010\\_tmdl\\_staffrpt\\_final.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/april_2010_hg_tmdl_hearing/apr2010_tmdl_staffrpt_final.pdf))—Summarizes mercury mass balance estimates in TMDL.
- Systech (2011). “Task 4 Technical Memorandum – Sensitivity Analysis of Water Quality Entering the Delta.” To: California Urban Water Agencies and Central Valley Drinking Water Policy Work Group—Systech coupled their watershed model (WARMF) of the Central Valley watershed downstream of major reservoirs with the RMA-2 Delta model. Describes existing capabilities and needed improvements.
- US Army Corps of Engineers (2011). “Sacramento – San Joaquin Delta Comprehensive Modeling Update.”—Recent status update of US Army Corps of Engineers simulation model of Delta hydrodynamics, sediment transport, and ecosystem effects.

## Subtasks

Consultant could participate in or build on efforts led by others (for example Calfed, DWR, Central Valley Drinking Water Policy Working Group, CV-SALTS) to develop a transport, transformation and bioaccumulation model for mercury in the Delta and its watershed. It is assumed that a broader stakeholder group would participate in this effort and that existing models developed by and for other stakeholders could be used as a starting point.

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### Subtask 1. Develop and Calibrate a Numerical Model for Mercury in the Delta Watershed

Consultant could develop and calibrate a robust numerical model of the Delta's mercury loads, losses, (de)methylation, and bioaccumulation. Base the model on conceptual models and mass balance models already developed. Consultant could compile and provide CVCWA members' data (effluent and receiving water) and participate in model development and calibration discussions and review draft reports.

**Deliverable:** Memorandum describing the hydrologic, hydrodynamic, water quality, and ecosystem submodels, calibration results, and sensitivity analysis. Input files and executable program.

### Subtask 2. Simulate Ambient Methylmercury Concentrations

Consultant could estimate ambient methylmercury concentrations (in water and fish) with and without all dischargers attaining their TMDL allocations. Consultant could apply control study and monitoring results to evaluate the ultimate benefits associated with potential control measures.

**Deliverable:** Memorandum describing the simulation scenarios and results.

## Schedule

The BPA includes the following scheduling constraints:

- Reconsider TMDL and implementation plan at end of Phase 1

The model development should be scheduled such that calibration is complete before the year-four TAC review and scenarios simulated before the final (after year seven) Phase 1 review.

## Budget

The numerical models currently under development provide a strong foundation for simulating mercury in the Delta and its watershed. The budget depends greatly on the availability of such models, their ability to be enhanced to simulate mercury, and available calibration data. The overall modeling budget would be several million dollars; however, a mercury submodel would simply be an enhancement to those tools and CVCWA would be participating along with other stakeholders in funding and participate in reviewing draft products.

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# Strategic Task B. Offsets Policy and Pilot Projects

At the end of Phase 1, the Water Board will evaluate the completed control studies, and will consider (among other things) adoption of a mercury offset program for dischargers who cannot meet their load and waste load allocations after implementing all reasonable load reduction strategies. This option was included in the BPA after stakeholders developed offsets guiding principles but were unable to agree that offset projects should be allowed during Phase 1.

The objectives of this task that address the BPA would be to:

- Develop an offsets policy building off the principles written in the Delta MeHg TMDL stakeholders' Adaptive Management Plan.
- Propose a pilot mercury offset project which, in the final analysis, satisfies NPDES permit requirements in a manner which is satisfactory to the purchasing discharger, Regional Water Board, USEPA and other stakeholders. The information gained from this effort is intended to provide stakeholders with a clear sense of the feasibility of offset project(s) and programs.

In addition—or alternatively—stakeholders may be more inclined to participate in the development of a different program, focused broadly on prioritizing mercury reduction projects rather than trading one for another. Such discussions could be initiated by a CVCWA-funded task, but certainly will need broader support to make progress.

## Knowledge Base

- USEPA (2003). “Final Water Quality Trading Policy.” (<http://water.epa.gov/type/watersheds/trading/tradingpolicy.cfm>)
- California Office of Chief Counsel (2001). “Legal Authority for Offsets, Pollutant Trading and Market Programs to Supplement Water Quality Regulation in California’s Impaired Waters.” SWRCB memorandum, October 16.
- The Environmental Trading Network (<http://www.envtn.org/Publications.html>)
- Delta MeHg TMDL Stakeholder Group (2010). “Adaptive Management Plan for Implementing the Delta Methylmercury Control Program – Appendix E Offsets Guidance.” ([http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/stakeholder\\_workgroup\\_mtgs/22jun2010\\_adapt\\_mgmt\\_plan.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/stakeholder_workgroup_mtgs/22jun2010_adapt_mgmt_plan.pdf)) —Near-consensus guidance from stakeholders on policies to develop for offsets projects and programs.
- LWA (2005). “Sacramento Regional County Sanitation District Mercury Offset Feasibility Study ~ Report of Findings.” Final draft submitted to Regional Water Board. —Identifies potential offsets projects and proposes a crediting system.
- LWA (2006). “City of Stockton Mercury Offset Feasibility Study.” Final draft submitted to Regional Water Board.—Identifies potential offsets projects and proposes a crediting system.

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## Subtasks

This strategic task would consist of two broad efforts: (1) develop an offsets policy and program under which any project proponent could participate, and (2) identify and propose a specific pilot offset project for a specific discharger who appears unable to meet its wasteload allocation. The policy discussions and project reviews would be greatly enhanced following completion of Strategic Task A's mercury simulation model.

### Subtask 1. Facilitate Stakeholder Group

Consultant could identify key participants for an Offsets Working Group. It is anticipated that the list will include staff of regulators (Regional Board, State Board, USEPA Region IX), land managers (Department of Conservation, US Bureau of Land Management, US Forest Service), non-profits (The Nature Conservancy), scientists (USGS, Department of Fish and Game), NPDES permittees, and others. Consultant could actively recruit targeted participants and develop a finalized roster for the working group.

### Subtask 2. Write Regional Mercury Offsets Policy

Building off the Delta MeHg TMDL Stakeholder Group's Adaptive Management Plan, Consultant could lead the Stakeholder Group in the development of a mercury offsets policy under which pilot projects could be credited.

**Deliverable:** Mercury offsets policy report.

### Subtask 3. Identify and Characterize Pilot Mercury Offset Projects

Consultant could develop a wide-ranging list of potential mercury offset projects within the Delta watershed based on stakeholder suggestions. Information to be collected should include project location, land ownership, responsible entities, project area estimate, receiving water bodies, presence of downstream reservoirs, nature of project (e.g., load reduction versus in-stream methylation reduction), baseline source and/or ambient data for the project, and other descriptive data.

Consultant could develop screening criteria based on the offsets policy to identify the most promising pilot project(s). Consultant could then assess project feasibility (e.g., mercury reduction potential, project cost, legal liability, maintenance requirements, permit requirements, local acceptance), potential load reduction and water quality benefit, feasibility of effectiveness monitoring, and regulatory acceptability.

Based on identified data gaps, Consultant could collect baseline data and conduct modeling studies sufficient to estimate loads to the Delta. Consultant could then develop a general project plan sufficient to estimate load reduction credits.

**Deliverable:** Pilot Mercury Offset Projects report.

## Schedule

The BPA includes the following scheduling constraints:

- Dischargers may propose pilot projects during Phase 1
- Regional Board will consider adopting an offsets program at end of Phase 1

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Many stakeholders objected to offsets on principal which led to the option for pilot projects during Phase 1. However, dischargers will not have a clear sense of offset need until control studies have produced initial results. Also, a simulation model of mercury in the watershed (Strategic Task A) would be needed to estimate offsets credits.

## Budget

The estimated cost for this task depends significantly on stakeholder interests and concerns. The range accounts for the potential levels of stakeholder coordination, the level of detail needed to characterize a project and estimate offsets credits, and regulatory hurdles such as TMDL uncertainty and permitting.

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# Strategic Task C. Mercury-related Regulatory Support

The task would fund technical support to CVCWA members for participation in stakeholder meetings and reviewing draft regulatory documents. State and Regional Board staff members are currently working on three mercury-related activities that will impact CVCWA members:

- Development of regional monitoring programs for San Joaquin River watershed, Delta, and Sacramento River watershed
- Statewide water quality objective for methylmercury in fish tissue and variance policy
- Statewide (reservoirs?) mercury TMDL and subsequent upstream TMDLs

## Subtasks

This strategic task would support consultant participation on CVCWA members' behalf for three major regional or statewide initiatives.

### Subtask 1. Regional Monitoring Program Development

Consultant could participate in Delta regional monitoring program stakeholder process on behalf of CVCWA members. Consultant could provide timely updates to CVCWA members.

**Deliverable:** Meeting summaries (emailed to subcommittee); CVCWA-endorsed comment letter to Regional Board.

### Subtask 2. Statewide Water Quality Objective and Variance Development

Consultant could participate in statewide water quality objective stakeholder meetings on behalf of CVCWA members. Consultant could provide timely updates to CVCWA members.

**Deliverable:** Meeting summaries (emailed to subcommittee); CVCWA-endorsed comment letter to State Board.

### Subtask 3. Statewide and Regional Mercury TMDL Development

Consultant could participate in statewide mercury TMDL stakeholder meetings on behalf of CVCWA members. Consultant could provide timely updates to CVCWA members.

**Deliverable:** Meeting summaries (emailed to subcommittee); CVCWA-endorsed comment letter to Regional Board.

## Schedule

The State Board has set an ambitious deadline of two years to develop a statewide mercury fish tissue objective and mercury TMDL. Recognizing that the fish tissue objective has been discussed for over a decade, the two-year period should be considered a reference point rather than a hard deadline.

The statewide objective would be unattainable in approximately half of the state's waterways, leading to "reasonable potential" for many NPDES permit holders. A variance policy will then be needed while site-specific objectives are developed. The statewide TMDL, currently

anticipated to focus on the state's many impaired reservoirs, could set a precedent for how future downstream TMDLs are written.

## **Budget**

The budget assumes approximately one to three work days per month, depending on Regional Board progress and needs.

## **Administrative Tasks**

Attachment 2 – Template Letter from Regional Water Board to those wastewater treatment facilities subject to the Delta Mercury TMDL



**Matthew Rodriguez**  
Secretary for  
Environmental Protection

# California Regional Water Quality Control Board Central Valley Region

**Katherine Hart, Chair**

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**Edmund G. Brown Jr.**  
Governor

15 November 2011

## **SUBJECT: Delta Mercury Control Program Requirements**

You are receiving this letter because the Delta Mercury Control Program (Delta methylmercury total maximum daily load or TMDL) has identified that surface water discharge from your facility is a source of mercury and/or methylmercury to the Sacramento-San Joaquin River Delta or Yolo Bypass. This letter summarizes activities and schedules required by the Delta Mercury Control Program for your facility. The first report required to be submitted to the Board is due 20 April 2012, as described later in this letter.

### **Background**

On 22 April 2010, the Central Valley Water Board adopted amendments to the Sacramento River and San Joaquin River Basin Plan (Basin Plan) to establish the Delta Mercury Control Program to address mercury and methylmercury impairments in the Delta. The Delta Mercury Control Program includes fish-tissue objectives for the Delta and methylmercury allocations for NPDES facilities, municipal storm water, agricultural lands, wetlands, open water in the Delta and Yolo Bypass.

The Delta Mercury Control Program lays out an implementation strategy for the control of methylmercury and total mercury in the Delta and Yolo Bypass designed to reduce methylmercury levels in Delta fish tissue. The Delta Mercury Control Program uses an adaptive management approach that contains two phases. Phase 1, which will last through approximately 2020, is primarily a study period when methylmercury control measures will be developed and evaluated (methylmercury control study(s) (Control Study)). At the end of Phase 1, the Central Valley Water Board will review the study results and will consider revising the fish tissue objectives and methylmercury allocations.

Phase 2, which begins after the Central Valley Water Board conducts its reevaluation of the fish-tissue objectives and waste load and load allocations, will require implementation of the methylmercury controls identified by the Phase 1 studies.

### **Delta Mercury Control Program Requirements**

Your facility is required to comply with the applicable Delta Mercury Control Program requirements contained the Basin Plan. The following is a summary of requirements for methylmercury control study(s) (Control Study) and specific requirements for discharges from your facility. The entire Delta Mercury Control Program can be found at [http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/2011oct20/bpa\\_20oct2011\\_final.pdf](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/2011oct20/bpa_20oct2011_final.pdf).

*California Environmental Protection Agency*

The Delta Mercury Control Program includes numeric methylmercury load and waste load allocations. The allocation for your facility is contained in Table B of the Delta Mercury Control Program. The allocation can be used to inform the type and magnitude of methylmercury management practices that should be evaluated in the Control Studies.

On 20 October 2011 EPA approved the Basin Plan amendments, thus establishing the 'effective date' of the Delta Mercury Control Program and the start of the schedule for requirements. A summary table of the Phase 1 Control Study due dates is included.

### **Phase 1 Methylmercury Control Study Requirements**

1. Conduct Control Studies to evaluate existing methylmercury control methods and, as needed, develop additional control methods that could be implemented to achieve your methylmercury load and/or waste load allocations. The Control Studies may be conducted either individually or in conjunction with other entities conducting methylmercury studies.
2. By 20 April 2012, submit a letter to the Executive Officer describing either: (a) how your agency plans to organize with other dischargers and stakeholders to develop and implement coordinated, comprehensive Control Study workplan and studies or (b) if your agency will develop and implement individual Control Study Workplans and studies.

### **Workplans**

3. Implement the Control Studies through the development and completion of Control Study Workplan(s) that are approved by the Regional Board Executive Officer.
4. By 20 July 2012, submit a Control Study Workplan report containing detailed plans for the Control Studies and Phase 1 activities. The Executive Officer can extend the due date to 20 April 2013 if your organization demonstrates that it is part of a collaborative study.
5. The Control Study Workplan(s) shall provide detailed descriptions of how methylmercury control methods will be identified, developed, and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the control methods.
6. The Control Study Workplan(s) shall include details for organizing, planning, developing, prioritizing, and implementing the Control Studies. Attachment A to this letter contains general guidelines, expectations and minimum requirements in order for the Control Study Workplans to be considered approvable by the Executive Officer.
7. The Control Studies shall evaluate the feasibility of reducing sources more than the minimum amount needed to achieve allocations.
8. Initiate the Control Studies after Executive Offer approval of the studies. The deadline for initiation of studies is on or before 20 November 2012 for individual studies or 20 August 2013 for coordinated studies.

**Reports**

9. By 20 October 2015, submit a Progress Report to include Control Study progress to-date and, as necessary, amended workplans for any additional studies needed to address methylmercury reductions.
10. By 20 October 2018, submit the Control Study Final Report.
11. The Control Study Final reports for the shall include: a description of methylmercury and/or inorganic (total) mercury management practices identified by the studies; an evaluation of the effectiveness, and costs, potential environmental effects of the management practices; and a discussion of the overall feasibility of the control actions. In addition, final report(s) shall propose points of compliance for non-point sources.
12. In the Final report, your organization shall propose methylmercury and/or inorganic (total) mercury management implementation plans and schedules to comply with methylmercury allocations as soon as possible but no later than 2030.
13. If the Control Study results indicate that achieving a given methylmercury allocation is infeasible, then your organization shall provide detailed information in the Final Report on why full compliance is not achievable, what methylmercury load reduction is achievable, and an implementation plan and schedule to achieve partial compliance towards meeting the allocation.

## Summary of Activities and Reporting Schedule:

Due Date	Activity
20 April 2012	Submit Organizational Report
20 July 2012	Submit Control Study Workplan
20 April 2013 (extended date if granted by Executive Officer for collaborative studies)	
Before 20 November 2012, or Before 20 August 2013 (extended date)	Initiate Control Study
20 October 2015	Submit Control Study Progress Report
20 October 2018	Submit Control Study Final Report

A group of municipal wastewater treatment facilities are planning to fulfill the requirement to conduct the methylmercury control studies through a collaborative study. If you are interested in participating in a collaborative study with other WWTP facilities, please contact Debbie Webster of the Central Valley Clean Water Association at (530)268-1338 or [eoofficer@cvcwa.org](mailto:eoofficer@cvcwa.org). The next CVCWA planning meeting for this effort is tentatively planned for Monday morning December 5, 2011.

### **Phase 1 General Requirements**

The following requirements apply to surface water discharges from your facility:

:

1. Implement reasonable, feasible controls for inorganic mercury.
2. Implement methylmercury management practices identified during Phase 1 that are reasonable and feasible.

### **Discharger Specific Requirements**

1. By April 2012, submit a mercury pollutant minimization program workplan to the Regional Water Board for Executive Officer approval. If your existing permit already requires a mercury pollutant minimization program, please submit revised workplan (activities and/or monitoring) as needed to address the Delta Mercury Control Program requirements.
2. Within 30 days after receipt of written Executive Officer approval of the workplans and/or revisions pollutant minimization program, implement the pollutant minimization program and/or revisions to the program.
3. Annually, in conjunction with your facility's other monitoring and reporting requirements, submit a progress report on pollution minimization activities implemented and an evaluation of their effectiveness, including a summary of mercury and methylmercury monitoring results.
4. Monitoring and Reporting: By 20 October 2012, conduct effluent total mercury and methylmercury monitoring. If your facility is already monitoring these constituents, continue with your existing monitoring and reporting frequency. If your facility is monitoring total mercury but not methylmercury, monitor methylmercury at the same frequency as the total mercury. If your facility is monitoring neither, work with Regional Board staff to identify a monitoring frequency. New monitoring efforts must commence no later than 20 October 2012.
5. By 15 February of each year beginning in 2013, submit a report on the inorganic (total) mercury effluent mass (annual load based on a calendar year) discharged from your facility. This report may be submitted as part of other monitoring reports required for your facility.

### **Exposure Reduction Program**

The Delta Mercury Control Program requires the development and implementation of an exposure reduction program (ERP) to protect those people who eat Delta fish by reducing their methylmercury exposure and its potential health risks.

The first step is for staff to work with multiple stakeholders to develop an Exposure Reduction Strategy. The Strategy will determine how dischargers will be responsible for participating in an ERP, set performance measures, and propose a collaborative process for developing, funding and implementing the program. Staff will be submitting the Exposure Reduction

Strategy to the Executive Officer by 20 October 2012. Staff may be contacting your organization for input on the strategy.

By 20 October 2013, your agency, individually or collectively with other stakeholders, is required to submit an exposure reduction workplan and implement the workplan six months after Executive Officer approval. The Board is working towards sponsoring a researcher/facilitator to assist with the Strategy and workplan requirements.

Your compliance with the Delta Mercury Control Program requirements and timely submittal of reports is sincerely appreciated. However, we must advise that failure or refusal to comply with the above Basin Plan requirements for the Delta Mercury Control Program will result in the Executive Officer issuing Orders for a technical report per Section 13267 of the California Water Code. In addition, falsifying any information provided may be subject to an administrative civil liability of up to \$1,000 per day of violation in accordance with Section 13268.

If you have any questions regarding this letter, please contact Janis Cooke, [jcooke@waterboards.ca.gov](mailto:jcooke@waterboards.ca.gov), (916) 464-4672, or Patrick Morris, [pmorris@waterboards.ca.gov](mailto:pmorris@waterboards.ca.gov), (916) 464-4621.

Kenneth D. Landau  
Assistant Executive Officer

Attachment A- Control Study Guidance

Attachment A  
Delta Mercury Control Program Requirements

This attachment contains draft minimum requirements for the Methylmercury Control Study Organizational Report and Workplan. The minimum requirements are also part of a larger document, the *Methylmercury Control Study Guidance*, which can be found on the Central Valley Water Board's Delta mercury TMDL webpage:  
[http://www.waterboards.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/delta\\_hg/stakeholder\\_workgroup\\_mtgs/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/delta_hg/stakeholder_workgroup_mtgs/index.shtml)

The Control Study Guidance provides other information that may be useful for development of methylmercury control studies, including references and guiding questions.

The Draft Control Study Guidance, including the minimum reporting requirements, is open for review and comment by stakeholders and the Technical Advisory Committee until 22 December 2011. After that date, staff will post any changes to the minimum reporting requirements on the webpage above.

### **I. Minimum Requirements for Control Study Organizational Report**

By 20 April 2011 each entity required by the Basin Plan to participate in Phase 1 Methylmercury Control Studies is required to submit a letter report to the Executive Officer describing their approach for the Phase 1 mercury Control Studies. The letter report must describe either how the responsible entity plans to (1) organize with other entities to develop a coordinated, comprehensive Control Study Workplan, or (2) develop individual Control Study Workplans. For dischargers conducting coordinated studies, the report shall include a list of participating responsible entities and stakeholders, including Tribes and community groups, if any. Responsible parties shall be considered in compliance with this reporting requirement upon written commitment to either be part of a group developing a Control Study Workplan or develop an individual Control Study Workplan.

For coordinated studies, the letter report should contain the following:

1. Unique name for the coordinated group.
2. Contact names, agency or organization name, and contact information for all members of the group.
3. The entity's role in the coordinated studies. Roles could include control study coordination and management, funding, data collection and analysis, facility or areas for studies or pilot projects; and report preparation).
4. Statement of the entity's commitment to be part of a coordinated group.
5. Request and supporting rationale for a time extension for submitting the Workplan, if the coordinated group needs the extension.
6. Schedule showing the steps and major milestones for coordination activities.
7. Signature of the entity's director or executive management.

The Basin Plan requires that Control Study Workplans be submitted to the Central Valley Water Board by 20 July 2012. The Executive Officer may allow an additional nine months for Workplans being developed by a coordinated approach. With an extension, the due date for coordinated Control Study Workplans is 20 April 2013. If a group is requesting an extension of the due date for the Control Study workplans, the letter report should describe the steps and schedule for developing the coordinated Workplan.

For individual studies, the letter report should contain the following:

1. Contact name and information for the person(s) responsible for organizing and conducting the studies.
2. Schedule showing the steps and major milestones for completing the study Workplan.
3. Signature of the entity's director or executive management.

## II. Outline and Minimum Content for Control Study Workplans

The Basin Plan requires that Workplans be developed for the Delta Mercury Control Program Phase 1 Control Studies.

*Control Studies shall be implemented through Control Study Workplan(s). The Control Study Workplan(s) shall provide detailed descriptions of how methylmercury control methods will be identified, developed, and monitored, and how effectiveness, costs, potential environmental effects, and overall feasibility will be evaluated for the control methods.*

*The Control Study Workplan(s) shall include details for organizing, planning, developing, prioritizing, and implementing the Control Studies.*

*Delta Mercury Basin Plan Amendment, Page 7.*

The purpose of this outline is to describe the Central Valley Water Board's expectations of what should be contained, at a minimum, in the Control Study Workplans. Consistency in format and information provided in each Workplan will aid other stakeholders and the Technical Advisory Committee in easily reviewing the Workplans. A potential outcome of review of the Workplans by the TAC and others is identifying and reducing overlap between studies, which will result in reducing costs. Workplans should be submitted electronically. Final, approved plans will be posted on the Central Valley Water Board's website.

1. **Participants:** List the names and addresses of all entities collaborating on the development and funding of activities and management practices evaluated from this work plan. Include the name, title, email address and phone number of the individual who should be contacted to answer questions about the Workplan. Include contact information for the investigator(s) who will be primarily responsible for carrying out the work outlined in the Workplan.
2. **Study Area:** Describe the area, activity, or facility that contributes to methylmercury within the legal Delta boundary and Yolo Bypass. Include maps, description of land uses, water management and flow patterns and existing management practices or treatments that could affect methylmercury or total mercury.
3. **Existing Data and Information:** Summarize existing aqueous methylmercury concentrations and loads from your source, TMDL allocation, and understanding of methylmercury and mercury within the source area.<sup>1</sup>

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<sup>1</sup> The Delta Methylmercury TMDL Report Chapter 6 provides methylmercury load and concentration estimates for each source type within each Delta hydrologic subarea. Other reports listed in the Study Guidance provide methylmercury concentration and load information for some specific land uses. The Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) Conceptual Model for Mercury

4. **Management Practices to be Tested:** Identify the potential methylmercury control activities or management practices that will be evaluated. Describe the tests or evaluation methods and their anticipated effect(s) on methylmercury. Formulating anticipated effects in a hypothesis format may help clarify the study questions or objectives.<sup>2</sup> Explain why the activities or practices were selected for evaluation. If this activity or control method has been tested elsewhere, describe those study results and the new information that this study will provide.
5. **Project Evaluation Plan:** Describe the information that will be collected and used to evaluate the proposed management practices or actions. The Workplan should describe what information will be gathered and how it will be used to evaluate the effectiveness of the proposed management practices or actions in these areas:
  - a. effectiveness of the control method at reducing methylmercury in discharge;
  - b. estimates of cost if this control method were implemented;
  - c. potential, redirected environmental impacts if this control method were implemented; and
  - d. overall feasibility of implementing the control methods.The results of the evaluations should be included in the Four-Year Progress Report and/or the Final Report.
6. **Data Collection Plan:** The Workplan should contain the schedule for data gathering and sample collection to evaluate the water management activities and/or methylmercury management practice(s). Frequency and locations of sampling will depend on the source type and control method being evaluated. Studies to assess the effects of water management on methylmercury may largely rely on methylmercury data already collected, but must demonstrate the feasibility of the water management strategies being proposed. Entities are encouraged to discuss study ideas and draft Workplans with Central Valley Water Board staff before the Workplans are due.
7. **Sampling and Quality Assurance Procedures:** The Control Study Workplan must contain or reference quality assurance procedures that cover all aspects of sample collection, handling, and analysis. Data collected should be comparable in content and quality to the Statewide consistency goals outlined by the SWAMP program. Entities should not need to develop a new quality assurance project plan (QAPP) or monitoring and reporting plan (MRP). The SWAMP Quality Assurance Program Plan<sup>3</sup> should cover most sampling, analysis, and data management needs. Entities that collect other data under approved MRPs, namely Irrigated Agriculture Coalitions and NPDES facilities, may use their MRP for the Control Studies. If an entity is following an MRP or QAPP that does not contain methods for mercury or methylmercury sample collection and analysis, then mercury and methylmercury methods in the SWAMP Quality Assurance Program Plan should be followed.

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describes mercury processes, including transport, methylation, and accumulation in fish. Section VII References contains methylmercury information for point sources.

<sup>2</sup> Hypotheses will vary by source type and activity or management practice being evaluated. Example hypotheses: in a floodplain or bypass, directing water flow around areas where sediment mercury concentrations are relatively high will limit the amount of methylmercury produced; and reducing organic matter on the ground surface before inundation will reduce formation of methylmercury.

<sup>3</sup> Surface Water Ambient Monitoring Program Quality Assurance Program Plan 2008 is available at: [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/qapp/qaprp082209.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf)

In general, 10% of samples analyzed should be for the purpose of evaluating analytical accuracy. A field blank and a field duplicate should be submitted with every 20<sup>th</sup> sample or for every batch of samples from a single collection event, whichever is less. A laboratory duplicate should be analyzed with each group of 20 samples or with each analytical batch if it contains less than 20 samples.

Minimum requirements for mercury sampling are as follows. Aqueous samples should be collected using clean hands/dirty hands techniques (US EPA Method 1669), which are needed to analyze for trace metals at low levels of detection. For methylmercury, aqueous samples should be analyzed using USEPA method 1630 with a method detection limit of 0.02 ng/L. For total recoverable mercury, aqueous samples should be analyzed using USEPA method 1631 Revision E with a method detection limit of 0.5 ng/l. For comparison with data used to develop the TMDL allocations, methylmercury samples should be unfiltered. Some Workplans may also call for analysis of filtered aqueous samples for methylmercury.

Entities developing Study Workplans are encouraged to contact Central Valley Water Board staff or the SWAMP QA Help Desk with any data collection or handling questions. Information on SWAMP comparability, data handling and quality assurance guidelines is available at: <http://swamp.mpsl.mlml.calstate.edu/> . The address for State Water Resources Control Board's SWAMP website is: [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/tools.shtml#qa](http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa)

8. **Data Sharing Process:** So that data can be easily shared, all entities collecting data are encouraged to put compile data in a consistent format and place it in a centralized location. Staff will work with entities to develop a process for reporting and sharing data within the California Data Exchange Network (CEDEN) or other repository. CEDEN is a system that allows exchange of data between federal, State, county and other organizations collecting data within California. Spreadsheet templates for field and chemistry data, along with other information about CEDEN, are available at [http://www.ceden.org/ceden\\_submitdata.shtml](http://www.ceden.org/ceden_submitdata.shtml) .
9. **Optional: Estimate of Methylmercury Control Study Costs:** The purpose of including cost estimates in the Workplan is for Central Valley Water Board staff to be able to report to members of the Central Valley and State Water Boards the expected cost estimates for the studies. Reporting cost estimates is optional. Cost of work already completed could be reported with estimates of new efforts.

Central Valley Water Board staff encourages a limit of 30 pages per Workplan, excluding tables, figures, and maps. If more than two control methods or two methylmercury source types will be discussed within one Workplan, the plan may be longer. The Technical Advisory Committee is expected to review and provide thoughtful comments on all Workplans. To that end, it will help if Workplans are concise.

Attachment 3 – CVCWA Standard Services Agreement

(Major Agreement Template 2-3-06)

**CENTRAL VALLEY CLEAN WATER ASSOCIATION**  
**AGREEMENT FOR**

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THIS AGREEMENT is made and entered into as of this \_\_\_\_ day of \_\_\_\_\_, 200\_, by and between the Central Valley Clean Water Association, a non-profit corporation, hereinafter referred to as "CVCWA", and \_\_\_\_\_, hereinafter referred to as CONSULTANT.

1. **PURPOSE**

The purpose of the work is to \_\_\_\_\_

2. **SCOPE OF SERVICES**

CONSULTANT shall provide services in the type and manner described in Exhibit A, which is attached hereto and incorporated herein.

3. **SCHEDULE**

CONSULTANT shall provide services per the schedule in Exhibit B, which is attached hereto and incorporated herein.

4. **COMPENSATION AND PAYMENT**

A. CONSULTANT shall provide all services for the compensation described in Exhibit C, which is attached hereto and incorporated herein.

B. Compensation under this Agreement shall be limited to the maximum amount set forth in Exhibit C.

C. CONSULTANT shall submit a monthly invoice. Invoices shall be submitted to the Project Manager no later than the fifteenth (15<sup>th</sup>) day of the month following the invoice period. CVCWA shall pay CONSULTANT within thirty (30) days after receipt of an appropriate and correct invoice approved by the Project Manager.

D. CONSULTANT billings will be accompanied by a statement setting forth a description of the services performed, the date of the work, the amount of time spent, and the identity of the person(s) performing the work.

E. CONSULTANT shall notify the Project Manager in writing upon expenditure of seventy-five percent (75%) of the authorized budget. Such notice shall identify the percentage of funds expended, the percentage of work completed, an explanation of any variation between the two percentages, and an assessment of the cost of the remaining work to be performed.

F. In the event CONSULTANT fails to comply with any provisions of this Agreement, the Project Manager may withhold payment until such non-compliance has been corrected.

5. **SPECIAL PROVISIONS**

Work shall be conducted in accordance with the Special Provisions in Exhibit D, which is attached hereto and incorporated herein.

6. **INSURANCE**

CONSULTANT shall maintain in force at all times during the term of this Agreement and any extensions or modifications thereto, insurance as specified in Exhibit E. It is understood and agreed that CVCWA shall not pay any sum to CONSULTANT under this Agreement unless and until CVCWA is satisfied that all insurance required by this Agreement is in force at the time services hereunder are rendered.

7. **TERM**

This Agreement shall be effective and commence as of the date first written above and shall end on \_\_\_\_\_, 200\_ or earlier at the discretion of CVCWA pursuant to the termination clause provided below.

8. **TERMINATION**

CVCWA may terminate this Agreement at any time by providing written notice to CONSULTANT.

9. **NOTICE**

Any notice, demand, request, consent, or approval that either party is required to give the other pursuant to this Agreement, shall be in writing and shall be either personally delivered, or sent by U.S. or electronic mail addressed as follows:

**TO CVCWA**

**TO CONSULTANT**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

Either party may change the address to which subsequent notice and/or other communications can be sent by giving written notice designating a change of address to the other party, which shall be effective upon receipt.

**10. COMPLIANCE WITH LAWS**

CONSULTANT shall observe and comply with all applicable and non-conflicting Federal, State, and local laws, regulations and ordinances.

**11. GOVERNING LAWS AND JURISDICTION**

This Agreement shall be deemed to have been executed and to be performed within the State of California and shall be construed and governed by the internal laws of the State of California. Any legal proceedings arising out of or relating to this Agreement shall be brought in Sacramento County, California. If any part of this Agreement is found to conflict with applicable laws, such part shall be inoperative, null, and void insofar as it is in conflict with said laws, but the remainder of this Agreement shall be in full force and effect.

**12. STATUS OF CONSULTANT**

A. It is understood and agreed that CONSULTANT (including CONSULTANT’s employees) is an independent contractor and that no relationship of employer-employee exists between the parties hereto.

B. It is further understood and agreed by the parties hereto, that CONSULTANT in the performance of its obligation hereunder, is subject to the control or direction of CVCWA as to the designation of tasks to be performed, the results to be accomplished by the services agreed to be rendered and performed, and not the means, methods, or sequence used by CONSULTANT for accomplishing the results.

C. If, in the performance of this agreement, any third persons are employed by CONSULTANT, such person shall be entirely and exclusively under the

direction, supervision, and control of CONSULTANT. All terms of employment, including hours, wages, working conditions, discipline, hiring, and discharging, or any other terms of employment or requirements of law, shall be determined by CONSULTANT, and CVCWA shall have no right or authority over such persons or the terms of such employment.

13. **CONFLICT OF INTEREST**

CONSULTANT and CONSULTANT's officers and employees shall not have a financial interest, or acquire any financial interest, direct or indirect, in any business, property, or source of income which could be financially affected by or otherwise conflict in any manner or degree with the performance of services required under this Agreement.

14. **INDEMNIFICATION**

CONSULTANT shall indemnify, defend, and hold harmless CVCWA, its officers, directors, agents, employees, and volunteers, from and against any and all claims, demands, actions, losses, liabilities, damages and costs, including payment of reasonable attorney's fees, arising out of or resulting from the performance of this Agreement, caused in whole or in part by any negligent or intentional act or omission of CONSULTANT, its officers, directors, agents, employees, subconsultant's, volunteers or anyone directly or indirectly acting on behalf of CONSULTANT, regardless of whether caused in whole or in part by a party indemnified hereunder except as caused by sole or gross negligence of CVCWA, its officers, directors, agents, employees and volunteers.

15. **PUBLICATION AND DISTRIBUTION OF WORK**

No work products prepared by CONSULTANT pursuant to this Agreement shall be published or distributed outside of CVCWA unless approved in writing by CVCWA in advance.

16. **OWNERSHIP OF WORK PRODUCTS**

All work products of the Agreement including records and information used to produce deliverables shall be owned by CVCWA, and shall be delivered to CVCWA on request.

17. **SUBCONTRACTS**

CONSULTANT shall obtain prior written approval from CVCWA before subcontracting any of the services delivered under this Agreement, and such consent shall not be unreasonably withheld. CONSULTANT remains legally responsible for the performance of all contract terms including work performed by

third parties under subcontracts. Any subcontracting will be subject to all applicable provisions of this Agreement.

18. **AMENDMENT AND WAIVER**

Except as provided herein, no alteration, amendment, variation, or waiver of the terms of this Agreement shall be valid unless made in writing and signed by both parties. Waiver by either party of any default, breach or condition precedent shall not be construed as a waiver of any other default, breach or condition precedent.

19. **INTERPRETATION**

This Agreement shall be deemed to have been prepared equally by both of the parties, and the Agreement and its individual provisions shall not be construed or interpreted more favorably for one party on the basis that the other party prepared it.

20. **PRIOR AGREEMENTS**

This Agreement constitutes the entire contract between CVCWA and CONSULTANT regarding the subject matter of this Agreement. Any prior agreements, whether oral or written, between CVCWA and CONSULTANT regarding the subject matter of this Agreement are hereby terminated effective immediately upon full execution of this Agreement. This Agreement may not be modified or altered except in writing, signed by both parties.

21. **DUPLICATE COUNTERPARTS**

This Agreement may be executed in duplicate counterparts. The Agreement shall be deemed executed when it has been signed by both parties.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first written above.

**CENTRAL VALLEY CLEAN  
WATER ASSOCIATION, a  
non-profit corporation**

\_\_\_\_\_

By \_\_\_\_\_

By \_\_\_\_\_

Title: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

**Exhibit A**  
**to the Agreement between**  
**the Central Valley Clean Water Association and \_\_\_\_\_**

**Scope of Services**

**Exhibit B**  
**to the Agreement between**  
**the Central Valley Clean Water Association, and \_\_\_\_\_**

**Schedule**

**Exhibit C**  
**to the Agreement between**  
**the Central Valley Clean Water Association and \_\_\_\_\_**

**Compensation**

**MAXIMUM PAYMENT TO CONSULTANT**

The maximum payment to the consultant under this agreement shall not exceed \$\_\_\_\_\_.

*(Consider whether there should be any intermediate maximum payments due to phasing of the work or constraints on obtaining sufficient funding to complete the entire scope of work.)*

**BASIS OF COMPENSATION**

Compensation shall be based on a *(time and materials or lump sum or other)* basis.

*(If time and materials, identify the specific charge rates, markups, direct charges, etc.)*

*(If lump sum, tie payments to specific deliverables.)*

**BREAKDOWN OF COSTS**

*(As appropriate, provide breakdown of cost estimates.)*

**Exhibit D**  
**to the Agreement between**  
**the Central Valley Clean Water Association and \_\_\_\_\_**

**Special Provisions**

A. **PROJECT MANAGER**

*(As appropriate, define the project manager and their role.)*

B. **FUNDING AGENCIES**

*(As appropriate, define funding agencies and their roles.)*

C. **STEERING COMMITTEE**

*(As appropriate, define the steering committee and its roles.)*

D. **TECHNICAL SUPPORT COMMITTEE**

*(As appropriate, define the technical support committee and its roles.)*

E. **DECISION MAKING**

*(Describe any specific decision making procedures or protocols that apply to the project. This may be particularly important in special projects where only certain CVCWA members are contributing funds and are active participants.)*

F. **OWNERSHIP OF WORK PRODUCTS**

*(As appropriate include special provisions on ownership and use of work products that are funded by only some CVCWA members.)*

**EXHIBIT E**  
**to the Agreement between**  
**the Central Valley Clean Water Association and \_\_\_\_\_**

**Insurance Requirements**

CONSULTANT shall procure and maintain, for the duration of the contract, insurance against claims for injuries to persons or damages to property that may arise from, or in connection with, the performance of the work hereunder by CONSULTANT, its agents, representatives, employees or subconsultants.

A. Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).
2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any owned auto), or evidence of non-owned and hired auto liability coverage (no owned autos).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

Consultant shall procure and maintain Professional Liability (Errors and Omissions) insurance.

B. Minimum Limits of Insurance

CONSULTANT shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: \$1,000,000 per accident for bodily injury or disease.
4. Professional Liability: \$1,000,000 per claim and in the aggregate.  
*(Actual amount to be determined based on the nature of the work.)*

C. Other Insurance Provisions

The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. CVCWA, its officers, officials, employees and volunteers are to be covered as insureds as respects: liability arising out of work or operations performed by or on behalf of CONSULTANT; or automobiles owned, leased, hired or borrowed by CONSULTANT.
2. For any claims related to this work herein, CONSULTANT'S insurance coverage shall be primary insurance as respects CVCWA, its officers, officials, employees and volunteers. With respect to general liability only, any insurance or self-insurance maintained by CVCWA, its officers, officials, employees or volunteers shall be excess of CONSULTANT's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to CVCWA.

D. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to CVCWA.

E. Verification of Coverage

CONSULTANT shall furnish CVCWA with original certificates and amendatory endorsements effecting coverage required by this clause. CVCWA reserves the right to require complete, certified copies of all required insurance policies, including endorsements affecting the coverage.