



MERCURY MINIMIZATION PROGRAM GUIDANCE

**FOR PERMITS
ISSUED UNDER THE**

**LOUISIANA POLLUTANT DISCHARGE
ELIMINATION SYSTEM**

SEPTEMBER 2009

LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY
A CLEAN STATE OF MIND FOR ALL YOUR ENVIRONMENTS

Background and Overview

The following guidance has been developed to address situations where a Mercury Minimization Program (MMP) has been required through a Louisiana Pollutant Discharge Elimination System (LPDES) permit. Traditional approaches to pollution control have emphasized treating for pollutants through end-of-pipe effluent limitations. Through a MMP, LDEQ anticipates that mercury pollution prevention and waste minimization rather than end-of-pipe controls will result in the most efficient reduction of mercury discharges to surface waters of Louisiana. Pollution prevention and waste minimization are more reasonably accomplished and cost productive than the implementation of controls and technologies to meet mercury effluent limitations.

Until recently, EPA's approved method for the analysis of mercury was not sensitive enough to measure mercury at trace levels. Consequently, there is little reliable data available on mercury loadings discharged from LPDES point sources. In 1998 EPA adopted a new analytical procedure that detects mercury at trace levels, allowing more exact data to be collected and utilized in determining compliance with applicable water quality standards. The MMP employs EPA approved analytical methods (*EPA Methods 1631, 245.7*) through effluent sampling and system wide monitoring programs to locate and identify potential sources of mercury in the treatment system. Once identified the MMP integrates cost-effective reduction controls, either treatment or prevention based, to reduce or eliminate mercury from the source.

While it is expected that specific permit language (see Appendix A, Sample LPDES Permit Language) may vary, there are two key elements for a MMP.

- The Mercury Minimization Program Plan (MMPP) which shall lay out guidelines for:
 - o identification of potential sources
 - o monitoring of processes, influent, effluent and the entire treatment system
 - o development and implementation of cost-effective control measures
 - o resources and staffing
 - o public outreach/stakeholder involvement; and
- The Annual Report which shall serve both as a compliance monitoring tool for the LDEQ, and as a revising process for the discharger to make necessary revisions to the MMPP where problems were discovered and where new areas need investigation.

Because existing mercury Total Maximum Daily Loads (TMDLs) in Louisiana have assumed all discharges from Treatment Works Treating Domestic Sewage (TWTDS) do discharge some mercury, this guidance document focuses on minimization from the TWTDS perspective. However, this document is also intended to provide guidance for other facility types required to implement a MMP through their LPDES permit.

The Mercury Minimization Program Plan

The Mercury Minimization Program Plan may consist of the following sections.

- I. Identification of Potential Sources of Mercury
- II. Monitoring Plan
- III. Control Measures – Development and Implementation
- IV. Resources and Staffing
- V. Public Outreach/Stakeholder Involvement
- VI. Reporting Requirements

The Mercury Minimization Program Plan shall be developed and provided to the LDEQ within one year of the effective date of the LPDES permit requiring the MMP. The following detailed sections are to serve as guidelines for development of each section, conditions at each facility should be utilized to develop a program best suited for that facility.

For those entities where more than one facility is required to implement a mercury minimization program, one program and annual report will satisfy the requirements for each facility.

I. Identification of Potential Sources of Mercury – the facility should develop specific plans to identify and eliminate potential sources of mercury to the discharge.

The LPDES permitted facility required to develop a MMP needs to examine all potential sources of mercury to the discharge. Sources of mercury include, but are not limited to; processing, raw materials, treatment chemicals, industrial users, commercial users, domestic users, stormwater, inflow and infiltration, groundwater, atmospheric deposition, source water and other wastestreams that contribute to the discharge. Two basic methods can be utilized to identify potential sources:

A. Data gathering and review of existing information.

1. Review existing information on industrial users. An Industrial User is any user who introduces pollutants into a treatment system from a non-domestic source including commercial users.
 - a. For any categorical industrial users contributing to the treatment system, review EPA standards in 40 CFR Parts 405-471 to determine if mercury is a pollutant of concern for that industrial category. EPA Development Documents and Industrial Sector Notebooks on specific industrial categories are useful.
 - b. For those non-categorical users, determine if processes, materials or products stored or handled at the site have the potential to discharge mercury into the treatment system.
2. Gather new or additional information from all industrial users.
 - a. Appendix B contains mercury surveys for medical facilities, schools, dental offices and other general industrial users.
 - b. Have industrial users provide the MSDS or Certificate of Analysis (COA) for all chemicals/materials stored or handled on site.
3. Domestic/residential sources can be potential sources of pollutants; however traditional controls are not appropriate. Pollution prevention for residential users would be better achieved through educational campaigns.
4. Chemicals, processes and materials stored or handled at the facility should be examined for the potential to contain mercury. Review the MSDS for processes or chemicals to provide gross-level information on mercury. Requesting a COA from the manufacturer of any chemicals handled or stored at the facility should specify the mercury content in ppb or ppm.

5. There are currently four ambient air monitoring stations in Louisiana that are part of the National Atmospheric Deposition Program – Mercury Deposition Network. Results of mercury concentrations in precipitation are available online at <http://nadp.sws.uiuc.edu/>. Review average mercury concentrations in precipitation to determine mercury levels entering the system through stormwater flows.
 - a. Identify what steps the treatment system is taking to reduce I & I problems in the collection system.
 6. Review collection system cleaning practices. Large amounts of mercury reside in sediments that are introduced to the treatment system during collection system flushing.
- B. Monitoring for mercury at various points within the facility/treatment system.

A system wide monitoring strategy is dependant upon the objective. Establishing levels associated with normal domestic and industrial sources are done to provide a baseline to measure progress and identify any hot spots that may be present in the system.

1. Monitoring of the treatment plant influent should be conducted. Because concentrations of mercury entering the treatment plant are expected to be significantly higher than effluent concentrations, influent sampling should be conducted using EPA Method 245.1. If the results of the influent sampling yield results higher than the minimum quantification level, steps should be taken to conduct sampling of the collection system at various locations to isolate the potential source.
2. Monitoring throughout the treatment system as a result of elevated influent concentrations should be conducted working backwards from the headworks. Sampling for mercury at lift stations can allow for easy and quick identification of the vicinity of a potential source of mercury throughout the system. Identifying a general vicinity can allow for quick review of contributing industries in that area for possible independent sampling. Where practicable sampling should be conducted within a given area simultaneously. Because concentrations of mercury in the treatment system are expected to be significantly high, system wide sampling should be conducted using EPA Method 245.1.
3. In some cases, mass-balance calculations may be more useful in monitoring progress than chemical analysis. Alternative monitoring mechanisms other than chemical analysis may be acceptable.
4. Direct monitoring of industrial users discharging into the treatment system can serve both as a tool to identify a source of mercury contribution and to eliminate any sources that may be considered targets.

II. Monitoring – Monitoring should be conducted of the facilities effluent, influent, biosolids and throughout the treatment system to establish base levels and goals for mercury reduction.

- A. Effluent monitoring shall be not less than quarterly for major LPDES facilities using the most sensitive EPA approved test methods and clean sampling techniques. Minor LPDES facility sampling requirements will be determined on a case by case basis. Results of these tests shall be submitted with the annual report.
- B. If sampling of the sludge is conducted during the year, this information shall be submitted with the annual report.
- C. Sampling of the treatment system influent and throughout the treatment system should be performed to establish baselines and goals for reduction. See Part I.B above for influent and treatment system sampling protocol.

III. Control Measures – Development and implementation of cost-effective control measures for those identified sources.

The program plan should illustrate the treatment systems approach for development of cost-effective control strategies for those sources identified as contributors of mercury to the treatment system. Activities selected by the treatment system for control measures should be based on the potential of those activities to reduce mercury loadings into the system and ultimately its effluent. For each control measure goals should be established and communicated to the source. Performance measures should be established to determine attainment of set goals.

- A. The term *source* is loosely defined so that all inputs of mercury into the system, not just pinpointed users of the system, are considered for control measures. Sources can include raw materials, chemicals used, atmospheric deposition, stormwater inputs and sewer cleaning practices, along with domestic and industrial users. A control can be anything that reduces the amount of mercury contributed to the system.
- B. Source significance should be considered. An effort to quantify to load potential from each identified source should be made. This quantification should assist in prioritizing sources for mercury reduction and elimination efforts.
- C. Economic considerations should be given regarding the reduction of mercury from an identified source.
- D. Treatability considerations may apply to specific sources. A complete description of any such consideration should be documented.
- E. Control measures should be tracked to determine the measure of performance and goal achievement for each type of source. Tracking may indicate the need to change course as necessary for any given source.
- F. Examples of Mercury Control Measures

Source	Control Measure Activity	Performance Measure	Goal
Medical Facilities (hospitals, clinics, nursing homes, veterinarians)	Deliver AHA BMP literature Conduct workshops Onsite visits Require participation in H2E	Date Contacted Content Given Participation Progress	Mercury Free Spill Management
Dental Clinics	Deliver ADA BMP literature Meet with dentists Onsite visits Conduct workshops Require mercury recycling/capture	Date Contacted Content Given Participation Progress Quantity Recycled	Mercury Capture/Recycling
Schools	Deliver BMP literature Conduct teacher workshops Onsite visits Hg Inventory	Date Contacted Content Given Participation Progress Quantity Recycled	Mercury Free Spill Management
General Industrial Users	Deliver Chemical Literature Deliver Equipment Literature Application of BMPs Onsite visits Conduct workshops	Date Contacted Content Given Progress	Phase out mercury containing devices and chemicals Spill Management

Source	Control Measure Activity	Performance Measure	Goal
Facility/Treatment System	Evaluate chemical usage Evaluate equipment usage Evaluate septic haulers Evaluate sewer cleaning practices Evaluate industrial users	Progress	Phase out mercury containing devices and chemicals
Plumbers	Evaluate pressure Devices Evaluate equipment usage Deliver Chemical Literature Deliver Equipment Literature Application of BMPs	Date Contacted Content Given	Phase out mercury containing devices and chemicals
General Public – Residential Areas	Promote mercury clean sweeps Displays at local events Public Service Announcements Outreach to Schools Local website mercury content Local recycling day Local household hazardous recycling day	Date Contacted Content Given PSA Dates Website Hits Participants	Reduced use of mercury containing products Spill Management Recycling of mercury containing products

IV. Resources and Staffing – the plan should summarize resources and staff that will commit time and funding to development and implementation of the plan.

- A. Indicate the source and amount of funding that will be available to carry out the plan.
- B. Indicate the number and position of employees that will devote time to planning and implementation.
- C. Where other entities will devote time and funding to planning or implementation, those resources should be included as well.

V. Public Outreach/Stakeholder Involvement – to be effective, a mercury minimization plan should include partnerships with the public and stakeholders. Participation in a system wide program or a regional effort will greatly improve a treatment systems successful ability to reach its sources/users.

- A. The treatment system itself is a potential source of mercury and can serve as a role model for addressing mercury in the community.
- B. Collection programs for community residents can prove effective in removing stocks of mercury from the community that otherwise end up in wastewater or solid waste, and serve to raise awareness for mercury reduction efforts.
- C. Identify mercury recycling vendors that otherwise would not be known to the public.
- D. Determine if a local professional group represents a number of similar sources to the treatment system and work through this channel to gain understanding and support.
- E. Build community support by providing tours of the treatment facility, supporting science education in schools and the community, and supporting community environmental activities.
- F. Issue news releases to let the public know about the program.
- G. Speak to local service groups and community clubs.
- H. Place information on utility bills.

- I. Develop informational fact sheets for distribution where mercury containing products are purchased or used.

A public outreach/stakeholder involvement campaign can be simple or elaborate. Many educational materials are available on the internet for modification to your program.

VI. Reporting Requirements – Mercury Minimization Program Annual Report

The annual report is an important element of a MMPP. It is to be submitted within one year of the submittal of the annual report (within two years of the effective date of the permit), and annually thereafter. The report should include a summary of all potential sources of mercury, control measures developed and implemented results of source reduction activities and monitoring, sampling results and any adjustments made to the Program Plan. See Appendix C for example formatting of the Annual Report.

LDEQ Review of the Mercury Minimization Program Plan

LDEQ will review the MMPP to ensure that implementation of the plan moves the treatment system toward the goal of minimizing mercury concentration in its effluent. Consideration will be given to those activities that address sources outside of the treatment facilities jurisdictional boundaries. Implementation is maintained as a condition of the LPDES permit. However, LDEQ encourages treatment facilities to begin implementation activities such as monitoring and outreach prior to approval and supports those treatment facilities that choose to implement a MMPP without the requirement regulated through their LPDES permit.

The treatment system is responsible for implementation of the plan, its mercury reduction strategies and defined monitoring. The treatment system is encouraged to review available information and adopt approaches that others have already found to be effective.

References:

Pollutant Minimization Program Guidance, Ohio Environmental Protection Agency, Division of Surface Water, Revision 0, August 13, 1998.

Holly, Michigan Pollutant Minimization Program, March 12, 2003.

Blueprint for Mercury Elimination, Western Lake Superior Sanitary District, Great Lakes Protection Fund and the Great Lakes Pollution Prevention Centre. Revised January 2000.

Mercury Pollutant Minimization Program Guidance, USEPA Region 5, NPDES Programs Branch, November 2004.

Best Management Practices for Amalgam Waste, American Dental Association. September 2005.

Mercury in Your School and Community: A National Issue, Mercury in Schools Education Team, sponsored by the USEPA and the University of Wisconsin – Extension. March 2002.

Appendix A Sample Permit Language

The following permit language is a template that contains the basic requirement of the MMPP and can be customized to fit specific circumstances. It is intended to be used for both sanitary and non-sanitary permits that have identified mercury in their effluent. This language shall be required in Part II of the permit.

Part II – Standard Conditions

A. Mercury Minimization Program

The permittee shall develop and implement a Mercury Minimization Program Plan within one year of the effective date of this permit. The plan shall be submitted to the Office of Environmental Compliance at PO Box 4312, Baton Rouge, LA 70821-4312. The plan may be formatted in accordance with the attached LDEQ Mercury Minimization Program Guidance Document, February 2007. Yearly thereafter, the permittee shall submit an annual report to the LDEQ, Office of Environmental Compliance at the above address. The annual report may be formatted in accordance with the attached LDEQ Mercury Minimization Program Guidance Document, February 2007, Appendix C. [Insert the following for multiple facilities covered under one program] The Mercury Minimization Program was initially permitted under the ENTITY NAME, FACILITY NAME. The Mercury Minimization Program elements are developed and tracked under LA00XXXXX.

Appendix B
Mercury Surveys

Medical Facility Mercury Survey

What Type of Medical Facility are you (hospital, clinic): _____

What is the size of your facility (# of beds, # of patients/day): _____

Please provide the following mercury contact information for your medical facility:

Name: _____

Title: _____

Phone: _____

Does your facility participate in the Hospitals for a Healthy Environment (H2E) Program

- Yes No N/A – not a hospital

Please indicate if the following mercury sources are located or used in your facility:

- | | |
|---|--|
| <input type="checkbox"/> Fever Thermometers | <input type="checkbox"/> Gastrointestinal diagnostic equipment |
| <input type="checkbox"/> Sphygmomanometers | <input type="checkbox"/> Feeding Tubes |
| <input type="checkbox"/> Commercial manometer | <input type="checkbox"/> Thermostats |
| <input type="checkbox"/> Switches (relay, silent, tilt) | <input type="checkbox"/> Barometers |

Chemicals

- Zenker's solution Histological Fixatives

Staining Solutions and Preservatives

- | | |
|--|---|
| <input type="checkbox"/> Mercury Chloride | <input type="checkbox"/> Mercury (II) Oxide |
| <input type="checkbox"/> Mercury (II) Chloride | <input type="checkbox"/> Mercury (II) Sulfate |
| <input type="checkbox"/> Mercury Nitrate | <input type="checkbox"/> Mercury Iodide |
| <input type="checkbox"/> Other | |

Lamps

- | | |
|--|---|
| <input type="checkbox"/> Fluorescent | <input type="checkbox"/> Metal Halide |
| <input type="checkbox"/> Ultraviolet | <input type="checkbox"/> High Pressure Sodium |
| <input type="checkbox"/> Mercury Vapor | <input type="checkbox"/> LCD Projectors |

Batteries

- Mercuric Oxide Button Batteries

Please list any other possible sources of mercury or any other materials that could be a concern for mercury pollution.

Have you considered or adopted mercury free alternatives for any of the products listed above? Please explain.

Medical Facility Mercury Survey (continued)

Please complete the following section on practices at your facility:

- Is staff training provided on the health and environmental concerns of mercury? Yes No
- Is staff training provided on mercury spill prevention or management? Yes No
- Is there a mercury spill clean-up kit on site? Yes No
- Have there been any mercury spills within the last ten years? Yes No
- Does your facility have a policy on purchasing mercury containing products?
If yes, please attach a copy of the policy. Yes No
- Do you currently require disclosure by vendors of mercury concentrations in solutions? Yes No
- What is the current procedure for disposal of medical waste? Autoclave Incineration Other
- Have your sewer drain traps/catch basins been cleaned to remove mercury? Yes No
- If yes, was mercury discovered? Yes No
- Are any mercury products in your facility currently recycled? Yes No

If there are other facility practices that you think should be a concern for mercury pollution, please list them here:

Dental Office Mercury Survey

Dental Office Name: _____

Please provide the following mercury contact information for your dental office:

Name: _____

Title: _____

Phone: _____

Do you use amalgam:

Yes

No

Please indicate if the following equipment or materials are used in your office:

raw mercury

pre-capsulated amalgam capsules

water-injected vacuum pump

dry turbine vacuum pump

recycler on vacuum pump

For materials collected on cuspidor, evacuation unit, vacuum pump and saliva ejector filters that are not recovered, please indicate the method of disposal.

wash down the sink

recycled

other: _____

For scrap (non-contact) amalgam that is not recovered, please indicate the method of disposal.

wash down the sink

recycled

other: _____

How do you dispose of pulled teeth containing amalgam fillings?

recycled. Provide the name of your recycler: _____

washed down the sink

put in infectious waste (red) bag

hazardous waste hauler. Provide the name: _____

other: _____

Dental Office Mercury Survey (continued)

Are chair-side traps, or some type of pre-filter used?

Yes No

If yes:

How often are your traps/filters cleaned? _____

- recycled. Provide the name of your recycler: _____
- washed down the sink
- put in infectious waste (red) bag
- hazardous waste hauler. Provide the name: _____
- other: _____

Of the amount of new amalgam placed, estimate the following percentages based on the amount of amalgam mixed. Please include amalgam recovered from traps and filters.

- _____ % of amalgam mix that is actually placed in teeth
- _____ % of amalgam mix that is recycled
- _____ % of amalgam mix that is lost to the sewer
- _____ % of amalgam mix that is disposed of as infectious waste

Of the total old amalgams removed including those in pulled teeth, estimate the following percentages based on total amount of amalgam removed. Please include the amalgam recovered from traps and filters.

- _____ % of amalgam removed that is recycled
- _____ % of amalgam removed that is lost to the sewer
- _____ % of amalgam removed that is disposed of as infectious waste

What is your preferred method for learning about waste management? (check three)

- printed information (brochures, pamphlets, manuals, professional newsletters)
- on-site consultation with a waste specialist
- informational hotline
- speakers at dental society meetings
- trade fairs
- other _____

Dental Office Mercury Survey (continued)

If not currently recycling, what factors below would help you to change the way you presently dispose of waste?

- consistency of information
- concern about governmental enforcement
- concern about liability
- concern about public image
- concern for the environment
- concise disposal guidelines
- professional association endorsement
- no cost increase
- concern for employee safety and health
- concern for public safety and health
- pick up services available for wastes
- drop off services available for wastes
- ease of disposal

If not currently recycling, what factors keep your dental office from doing so?

- lack of information
- no regulatory requirement to do so
- too difficult
- too expensive
- difficulty in finding recyclers
- not aware that I should
- no or very little use of amalgam

General Industry Mercury Survey

Facility/Company Name: _____

Please provide the following mercury contact information for your facility:

Name: _____

Title: _____

Phone: _____

Please indicate if the following mercury sources are located or used in your business. Place a check in the box and circle the specific source listed. If you have identified a source of mercury that is not listed, please add it to the list.

- barometers
- batteries, list the types:

- DC watt hour meters, flow meters, vibration meters
- displacement/plunger relay
power supply switching, 1 to 4 poles, NO, NC, many voltage and current ratings, generally for high-current, high-voltage applications such as lighting, resistance heating, commercial welders
- flame sensors/safety valves
some infrared heaters, some furnaces, stainless steel bulb, capillary tube, bellows/control device, Used for unsupervised burners in certain gas-fired devices with standing pilot or electronic ignition pilot
- lamps; fluorescent, high-pressure sodium, metal halide, ultraviolet
- switches; relay switches, pressure control (mounted on bourdon tube or diaphragm), tilt switches, silent light switches (single pole and three way) temperature control (mounted on bimetal coil or attached to bulb device), fire alarm box switch, sump pump floats
- reed relays; used for low voltage, high precision analytical equipment
- thermometers
- thermostats; ovens, room temperature control, refrigerators
- vacuum gauges; needle or bourdon gauges, manometers
- other possible mercury sources, please list here any other materials that you think should be a concern for mercury pollution.

Mercury Survey for Schools

School Name: _____

Please provide the following mercury contact information for your school:

Name: _____

Title: _____

Phone: _____

Please indicate if the following mercury sources are located or used at your school.

Science, Chemistry, Physics, Biology Rooms/Labs:

<input checked="" type="checkbox"/> Item	How much or many?	Items use?
<input type="checkbox"/> elemental mercury	_____	_____
<input type="checkbox"/> mercury thermometers	_____	_____
<input type="checkbox"/> mercury barometers	_____	_____
<input type="checkbox"/> mercury vacuum gauges	_____	_____
<input type="checkbox"/> mercury spectral tubes	_____	_____
<input type="checkbox"/> mercury molecular motion device	_____	_____
<input type="checkbox"/> mercury sling psychrometer	_____	_____
<input type="checkbox"/> mercury oxide	_____	_____
<input type="checkbox"/> mercury (II) chloride	_____	_____
<input type="checkbox"/> mercury (II) sulfate	_____	_____
<input type="checkbox"/> mercury nitrate	_____	_____
<input type="checkbox"/> mercury iodine	_____	_____
<input type="checkbox"/> Zenkers solution	_____	_____
<input type="checkbox"/> other mercury containing materials	_____	_____

Facilities:

<input checked="" type="checkbox"/> Item	How much or many?	Items use?
<input type="checkbox"/> fluorescent lamps	_____	_____
<input type="checkbox"/> mercury thermostats	_____	_____
<input type="checkbox"/> mercury vapor lamps, metal halide lamps	_____	_____
<input type="checkbox"/> mercury gauges	_____	_____
<input type="checkbox"/> silent light switches	_____	_____
<input type="checkbox"/> mercury float control switches	_____	_____
<input type="checkbox"/> flow meters with mercury switches	_____	_____
<input type="checkbox"/> other equipment with mercury switches	_____	_____
<input type="checkbox"/> older fungicides and pesticides (prior to 1991)	_____	_____

Mercury Survey for Schools (continued)

Medical:

<input checked="" type="checkbox"/> Item	How much or many?	Items use?
<input type="checkbox"/> mercury fever thermometers	_____	_____
<input type="checkbox"/> sphygmomanometers with silver liquid (blood pressure)	_____	_____

Home Economics and Art:

<input checked="" type="checkbox"/> Item	How much or many?	Items use?
<input type="checkbox"/> mercury cooking thermometer	_____	_____
<input type="checkbox"/> true vermilion paint	_____	_____
<input type="checkbox"/> cadmium vermilion red	_____	_____

Other:

<input checked="" type="checkbox"/> Item	How much or many?	Items use?
<input type="checkbox"/> mercury oxide/mercury zinc batteries (old alkaline prior to 1996)	_____	_____

Appendix C
Mercury Minimization Program Annual Report

Louisiana Department of Environmental Quality
Mercury Minimization Program Annual Report

This document is submitted to fulfill the requirements as set forth in the LPDES permit requiring the development of a mercury minimization program. The Annual Report serves both as a compliance monitoring tool for the LDEQ, and as a revising process for the discharger to make necessary revisions to the MMPP where problems were discovered and where new areas need investigation.

Date: _____

Permit Number: LA

Additional Permits covered by this Annual Report: _____

Agency Interest Number: _____

Company Name: _____

Facility Name: _____

Contact Name: _____

Contact Phone: () _____

1. Was the Mercury Minimization Program Plan as submitted to LDEQ followed completely during the past year?

Yes No

If no, attach supporting documentation that clearly describes any and all deviations from the program. Include a list of all actions or conditions that lead to the variation as well as any interaction with LDEQ relation to the variation.

2. List any *confirmed* sources of mercury to the treatment system including an average annual loading to the treatment system (may be estimated) and method by which the source was identified.

3. List any *potential* sources of mercury to the treatment system including an average annual loading to the treatment system (may be estimated).

4. Attach all analytical results from all monitoring performed during the last year for mercury, including detection/quantification level, method used and location of sample (ex: influent, effluent, sludge, Main Street Lift Station, XYZ Cleaners, etc..)

5. Attach a list of all actions taken to reduce or eliminate sources of mercury from the treatment system. Actions may include treatment, remediation, investigation, operation, management activities, public outreach, distribution of materials, implementation of BMP's, contact with industrial users, inspection of industrial users, etc. If no actions were taken to reduce or eliminate sources of mercury to the treatment system, please explain why.

6. Attach a list of all actions planned to further reduce or eliminate sources of mercury.

7. Provide additional comments or information on the treatment systems progress using the Mercury Minimization Program Plan to proceed toward achievement of the goal to reduce effluent concentrations of mercury.

Appendix D
Best Management Practices for Amalgam Waste
American Dental Association

The ADA BMPs for amalgam waste can be found at:
http://www.ada.org/prof/resources/topics/amalgam_bmp.asp

Appendix E
Mercury in Your School and Community: A National Issue
Mercury in Schools Education Team

The Mercury in Schools participatory curriculum can be found at:
<http://www.mercuryinschools.uwex.edu/curriculum/index.htm>