

**2004 INNOVATIONS AWARDS PROGRAM**  
**Application Form**

1. Program Name  
Community Mercury Reduction Program
2. Administering Agency  
Wisconsin Department of Natural Resources
3. Contact Person (Name and Title)  
Mark McDermid, Director  
Bureau of Cooperative Environmental Assistance
4. Address  
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<http://dnr.wi.gov/org/caer/cea/>  
<http://dnr.wi.gov/org/caer/cea/mercury/index.htm>
9. Please provide a two-sentence description of the program.

The Wisconsin Department of Natural Resources (WDNR) designed and implemented a partnership with twenty municipalities to reduce the use of mercury-containing products and to increase local mercury product recycling. The partnerships targeted sectors that have historically used mercury products: hospitals, dental offices, schools and HVAC contractors.

10. How long has this program been operational (month and year)? **Note: the program must be between 9 months and 5 years old on May 1, 2004 to be considered.**

The statewide Community Mercury Reduction Program was implemented from 7/1/99 through 12/31/03. (There were five communities who partnered with the WDNR in 1997 and 1998 to pilot trial mercury reduction activities but these communities did not fully implement their mercury reduction program until 1999-2003.)

11. Why was the program created? (What problem[s] or issue[s] was it designed to address?)

Mercury is an important toxic pollutant in the Great Lakes Basin with statewide fish consumption advisories in most States, including Wisconsin. Mercury pollution is an important public health issue (neurotoxin harmful to fetuses and children), an important wildlife issue (reproduction impairment of fish-eating birds), and an important economic issue (fishing is a \$2 billion/year natural resource activity in Wisconsin). The Community Mercury Reduction Program was developed to reduce releases of mercury to air, land and water by promoting better mercury product stewardship. Particular attention was paid to reducing mercury discharges into municipal wastewater treatment plants because of the very stringent mercury effluent limits that these plants must meet in the Great Lakes Basin.

12. Describe the specific activities and operations of the program in chronological order.

Communities are listed in the order (month/year) that they began mercury reduction activities:

Milwaukee*	03/97
Superior*	09/97
Green Bay/De Pere*	12/97
Racine/Kenosha*	02/98
Appleton*	03/99
Madison/Dane County	07/99
Marinette	11/99
Eau Claire/Chippewa Falls	12/00
La Crosse	01/01
Ashland	01/01
Manitowoc	10/01
Kaukauna	11/01
Waukesha	11/01
Wausau/Stevens Point	04/02
Wisconsin Rapids/Marshfield	04/02
Neenah/Menasha	06/02

\*Partial pilot mercury reduction 1997-1998 with full community activity 1999-2003

Each community followed an ordered series of steps in developing and implementing their own Mercury Reduction Program:

- A. Identify local mercury-using facilities (hospitals, dental offices, schools, etc.)
- B. Establish mercury educational outreach and recycling program partnerships
- C. Conduct mercury educational outreach and recycling with targeted facilities
- D. Measure local facility mercury reduction progress (mercury reduction, recycling)

E. Report program results to WDNR

Each community took 2-5 years to complete these program activities.

13. Why is the program a new and creative approach or method?

Partnerships were emphasized in all aspects of the Community Mercury Reduction Program, i.e., between WDNR and municipal representatives; between medical/dental/school sector representatives and educational outreach specialists and recycling agencies within that community; and with information and resource sharing between community representatives in semi-annual meetings organized by WDNR.

Additionally, the steps of each Community Mercury Reduction Program were organized in the plan-do-check-act sequence of activities mirroring an environmental management system applied to reducing local mercury use and release. These steps replaced the sequence of activities traditionally used in regulatory programs, i.e., permit issuance, compliance monitoring and enforcement.

14. What were the program's start-up costs? (Provide details about specific purchases for this program, staffing needs and other financial expenditures, as well as existing materials, technology and staff already in place.)

Total costs for the Community Mercury Reduction Program were as follows:

Labor, WDNR and Municipal	\$1,560,000
Educational Materials/Incentives	\$ 130,000
Recycling Services, Mercury	\$ 180,000
TOTAL	<u>\$1,870,000</u>

Estimated startup labor costs would be approximately \$250,000. In most cases startup labor was provided by existing WDNR and municipal employees assigned to the Community Mercury Reduction Program. Municipal employees came variously from wastewater treatment plants, health departments, or recycling agency staff.

15. What are the program's annual operational costs?

\$400,000 is an approximate average statewide annual program cost during full community participation. However, costs varied for each year depending on the step in each local mercury reduction program. For example, limited-term project employees were hired by some communities in the second or third year of a local program in order to complete educational outreach activities. Outreach materials production occurred more heavily in mid-program; mercury recycling costs occurred primarily toward the end of each community program as accumulated products were surrendered.

16. How is the program funded?

Funding for the Community Mercury Reduction Program was as follows:

Municipal, grants (1)	\$ 650,000
Municipal, local funds	\$ 570,000
WDNR, grants (2)	\$ 160,000
WDNR, general funds	\$ 490,000
TOTAL	<u>\$1,870,000</u>

- (1) EPA Clean Water Act 104(b)(3) and EPA RCRA PBT grants to WDNR with subsequent disbursement to municipal governments; also WDNR Recycling Demonstration Grants directly to municipal governments.
- (2) EPA Clean Water Act 104(b)(3) and EPA RCRA PBT grants to WDNR.

Therefore the total costs for the Community Mercury Reduction Program were approximately half grant funded and half general revenue funded, with the majority of the grant funds provided by the U.S. Environmental Protection Agency.

17. Did this program require the passage of legislation, executive order or regulations? If YES, please indicate the citation number.

No, WDNR and community participation in the Community Mercury Reduction Program were voluntary. The offer of grant assistance was an incentive for community participation, but not a requirement.

18. What equipment, technology and software are used to operate and administer this program?

WDNR used Microsoft Office programs and State of Wisconsin government-specific accounting software to implement this project. Each municipality used their own office software. A limited number of outreach materials were produced by private printing companies. All mercury products were recycled by commercial recycling vendors; at least three separate recycling vendors participated in this program.

19. To the best of your knowledge, did this program originate in your state? If YES, please indicate the innovator's name, present address, telephone number and e-mail address.

Yes.

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20. Are you aware of similar programs in other states? If YES, which ones and how does this program differ?

No.

There are individual municipalities in other States that have implemented mercury reduction activities, but no other statewide program addressing multiple mercury-using sectors by focusing on source reduction and recycling at the local community level.

21. Has the program been fully implemented? If NO, what actions remain to be taken?

The grant-funded portion of the Community Mercury Reduction Program is complete with the exception of some additional project work to assist amalgam capture and recycling by the dental sector. The program will be expanded, without grant funds, to the 100 largest Wisconsin municipalities who will need to implement mercury pollutant minimization programs in order to comply with wastewater treatment plant mercury discharge limits. The experiences learned from the Community Mercury Reduction Program will be captured in guidance the Wisconsin Department of Natural Resources is preparing for this statewide expansion.

22. Briefly evaluate (pro and con) the program's effectiveness in addressing the defined problem[s] or issue[s]. Provide tangible examples.

Wisconsin's Community Mercury Reduction Program was very successful by several measures:

- A. Mercury Recycled: Approximately 13,000 pounds of elemental mercury was collected and recycled by the community programs(1). To the applicant's knowledge this is the largest mercury collection from a single program anywhere in the United States to date. Many Wisconsin hospitals are now virtually mercury-free, e.g., all Madison, WI hospitals. Many Wisconsin secondary schools are now mercury free, e.g. all Milwaukee, WI schools.

(1) By comparison, the total release of mercury to air, land and water from all air emissions and mercury products in the State of Wisconsin is estimated at about 10,000 pounds per year.

- B. Permanent Replacement or Enhanced Recycling: Almost all of the mercury-containing products collected and recycled in the Community Mercury Reduction Program were either discontinued (bulk liquid mercury) or permanently replaced with

non-mercury products (hospital blood pressure cuffs, fever and laboratory thermometers, barometers and manometers). For those few mercury-containing products whose use will continue, recycling was enhanced (fluorescent bulbs and waste dental amalgam).

- C. Local Community Mobilization: The partnerships established between local hospitals, dentists, schools, environmental educators, municipal health and wastewater staff, and recycling companies not only resulted in the large collections noted above, but also serve as a base for moving forward with expanded mercury reduction activities in Wisconsin. The message of mercury product stewardship was well received by the general public. Many community mercury reduction activities continue even after the end of the program grant funding.
- D. State Resource Leverage: With local community mercury outreach and collection it was only necessary for the Wisconsin Department of Natural Resources to assign one full-time coordinator and one half-time assistant to this statewide Community Mercury Reduction Program. Approximately one-third of program costs were incurred by the Department with most public outreach and all mercury product recycling occurring at the local community level.

23. How has the program grown and/or changed since its inception?

Early in the Community Mercury Reduction Program all planning, outreach, and recycling activities were new and the number of communities voluntarily participating in the program were limited. As program procedures were developed, and as the participating communities met several times each year to exchange experiences, many approaches to mercury reduction were shared and additional communities expressed interest in joining the pioneer group.

Now there is sufficient expertise on mercury reduction for the Wisconsin Department of Natural Resources and several of the champion Wisconsin communities to prepare a guidance manual on community mercury reduction. The manual will be finished in 2005 and made available to the 100 largest Wisconsin municipalities that will need to implement mercury pollutant minimization programs over the next decade. The manual will be shared with other States in the Great Lakes Basin and with the U.S. Environmental Protection Agency for dissemination nationally.

24. What limitations or obstacles might other states expect to encounter if they attempt to adopt this program?

It is important to start this program with a small group of municipalities who will serve as champions for an eventual statewide program, preferably by including municipalities with a range of populations. The concept of community-focused mercury reduction will seem daunting to either large municipalities (a lot of mercury-using facilities) or small municipalities (few staff resources), but the program is quite manageable if experiences from champion communities are shared with others. To

the greatest extent practicable adjacent municipalities should develop and implement joint community mercury reduction programs.

It will be important to have some regulatory driver if there needs to be statewide and consistent implementation of this environmental program. In Wisconsin and the Great Lakes Basin the driver will be tight municipal wastewater treatment plant mercury effluent limits. Other States may have mercury air limits on municipal incinerators or solid waste disposal prohibitions on mercury containing products. But in any event the Community Mercury Reduction Program needs to be both place-based (implemented in the local community by local partners) and innovative (educational first, regulatory second). The public is receptive to the message of mercury reduction for this toxic pollutant at this point in time.

The following photographs were taken at a collection of mercury switches and thermometers in Waukesha, Southeast Wisconsin.



Add space as appropriate to this form. When complete, return to:

**CSG Innovations Awards 2004**

The Council of State Governments  
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**DEADLINE:** All original applications must be received by April 20, 2004, to be considered for an Innovations Award for 2004.

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