

**Environment and Natural Resources Trust Fund
2018 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 049-B

Bounty and Outreach Program for Enhanced Recovery of Unwanted Mercury

Category: B. Water Resources

Total Project Budget: \$ 467,000

Proposed Project Time Period for the Funding Requested: 3 years, July 2018 to June 2021

Summary:

MPCA proposes a mercury bounty and outreach program for enhanced recovery of unwanted mercury, to protect human health and reduce mercury emissions to meet statewide water quality protection goals.

Name: John Gilkeson

Sponsoring Organization: Minnesota Pollution Control Agency

Address: 520 Lafayette Road North
Saint Paul MN 55155-4100

Telephone Number: (651) 757-2391

Email john.gilkeson@state.mn.us

Web Address www.pca.state.mn.us

Location

Region: Statewide

County Name: Statewide

City / Township:

Alternate Text for Visual:

Chart of statewide mercury TMDL emissions inventory 2005-2025; example pictures of mercury products

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %



PROJECT TITLE: Bounty and Outreach Program for Enhanced Recovery of Unwanted Mercury

I. PROJECT STATEMENT

Mercury, in bulk and in devices (mercury), is dangerous to humans and the environment. Mercury is banned from disposal in solid waste and wastewater in Minnesota. Regardless, mercury is still improperly managed, causing human and environmental health concerns, often at high cost. In early 2017, a residential mercury spill in New Ulm cost \$160,000 to clean up at public expense. A 2004 spill in Rosemount exposed many children and adults to dangerous levels of mercury. Public clean-up costs were \$525,000. Mercury emissions limit safe consumption of fish from Minnesota waters.

MPCA proposes a mercury bounty and outreach campaign to ‘flush out’ old mercury and devices from households and businesses statewide to ensure proper management of these unwanted items. The project will raise awareness of mercury’s dangers, help all Minnesotans identify mercury devices, publicize four major statewide collection programs, and pay a bounty, which serves as a marketing tool and incentive for program use.

The project will help permanently prevent spills and releases by eliminating inventories of unwanted mercury, since new products and mercury are no longer sold in Minnesota. The project supports the Statewide Mercury TMDL goals of reducing mercury emissions and deposition to lakes and rivers so that fish are safe to eat for everyone, including sensitive and subsistence populations.

MPCA forecasts show Statewide Mercury TMDL emission goals will not be met because improper disposal of mercury will continue unchanged. Mercury emissions from fossil fuel combustion and taconite processing are point sources that are easily measured and controlled, versus myriad devices in homes and businesses statewide.

The program will partner with, promote, track participation, and pay bounties for bulk mercury and devices collected through these four existing statewide collection programs.

<i>All devices and bulk mercury:</i>	<i>Specific devices:</i>
Regional Household Hazardous Waste Programs (HHW)	Thermostat Recycling Corporation Program (TRC)
Very Small Quantity Generator Programs (VSQG)	Nat’l Vehicle Mercury Switch Recovery Program (NVMSRP)

Examples of devices that the education and outreach program will help identify:

Households: Barometers, manometers, thermometers, silent wall switches and other household switches, HVAC thermostats, devices in household appliances and heating/cooling equipment, sporting goods, antiques.

Businesses: Barometers, manometers, thermometers, thermostats, switches and relays, measurement and control devices, boiler and appliance components, vehicle switches, medical devices.

Bounties, coupled with strong outreach, have proven effective at enhancing participation and recovery.

- A 2002 Ramsey County/MPCA pilot project paid county salvage yards \$1 per vehicle switch and resulted in 100% yard participation, recovery of 8700 switches (23 lb) from 14,000 vehicles and high awareness/motivation.
- The National Vehicle Mercury Switch Recovery Program (2006-ongoing) has operated with 12 state-level payment programs in place for 8 to 14 years. States with payments and outreach programs have the highest recovery rates. Nine of the 12 states with payments are above (22%-56%) the national recovery rate of 20% for 2006-2016. Minnesota’s rate has been strong in the past but dropped below 20% in 2016.
- Maine and Vermont require a payment of \$5 for each mercury thermostat recovered. They have the highest recovery rates in the nation, exceeding the recovery rates in most states by a factor of three or more.

II. PROJECT ACTIVITIES AND OUTCOMES

1. *Create and market program with partners and communications consultant. Educate Minnesotans about dangers of mercury, identification of mercury products, and where to take them for proper management and bounty payment. Outcome: Minnesotans have high awareness of mercury dangers and devices that contain mercury, and bring those mercury items to the appropriate collection program and receive payment. Programs recover significantly more mercury and reduce mercury spills and disposal in solid waste and wastewater.*
2. *Develop participant tracking systems with partners and pay bounties to participants. Outcome: Participants identify and bring significant new mercury to programs and are paid for their efforts in a timely manner.*



Environment and Natural Resources Trust Fund (ENRTF)

2018 Main Proposal

Project Title: Bounty and Outreach Program for Enhanced Recovery of Unwanted Mercury

3. Monitor program performance and awareness. Survey participants and public. Track recovered materials and evaluate recovery relative to benchmarks. Complete interim and final reports. Outcome: Program, results, and effectiveness are documented in a timely manner and publicly available for others to use.

Activity 1: Create and market program with partners and communications consultant **Budget: \$92,000 plus in kind contributions**

Outcome	Completion Date
1. Outreach materials and campaign developed with partners, communications consultant	12/18
2. Outreach/publicity materials distributed to general public and targeted participants	12/18-ongoing

Activity 2: Pay bounties to program participants tracked through partner programs **Budget: \$ 375,000 plus in-kind contributions**

Outcome	Completion Date
1. Participant tracking systems are in place for all collection programs	12/18 or sooner
2. Bounties provided to participants	12/18-ongoing

Activity 3: Monitor program performance and citizen awareness, assess ongoing needs **Budget: \$ in kind**

Outcome	Completion Date
1. Track mercury device recovery and compare to benchmarks	Ongoing
2. Survey general public/participant awareness and adjust program as needed	Ongoing
4. Interim and Final Reports	8/19 and 8/20

Preliminary mercury collection goals, unit bounty, rationale for goal, and budget (per year):

Quantity/type	unit bounty	est'd mercury	Collection goal Rationale	Budget
15,000 devices	\$3	165 lb	50% increase, based on historical data	\$45,000
22,500 vehicle switches	\$3	60 lb	70% recovery based on NVMSRP Retirement Model	67,500
20,000 thermostats	\$3	185 lb	Double current per capita recovery rate to 36/10k pop	60,000
400 pounds	\$5	400 lb	Based on historical data	2,000
Contingency at 8 percent			HHW disposal assistance, bounty administration	13,000
BOUNTY PROGRAM TOTAL PER YEAR				\$187,500

III. PROJECT STRATEGY

A. Project Team/Partners

The MPCA Project team and inkind support includes 0.15 FTE technical staff from the Resource Management and Assistance Division and 0.25 FTE staff from the Communications/Outreach Section. Partners include HHW programs, VSQG programs, TRC, and NVMSRP. Bounties will be distributed in cooperation with the partners to households and businesses that turn in bulk mercury and devices. The MPCA will contract with a Communications Consultant to assist with statewide outreach that will include paid advertising.

B. Project Impact and Long-Term Strategy

Reduce mercury releases and expensive spills by increasing awareness of mercury dangers, increasing recognition of bulk mercury and devices, increasing awareness and use of existing statewide collection programs, and rewarding Minnesotans for delivering mercury to collection programs. Since new mercury products are no longer being placed on the market, this program can help permanently remove mercury and eliminate releases. The project will help the agency and partners assess program effectiveness and the need for longer term programs.

C. Timeline Requirements

This proposal is planned and budgeted for two years, FY19 and FY20, and the MPCA requests that it be allowed to continue the program for an additional year with the funding that is requested if it is not all spent in two years.

2018 Detailed Project Budget

Project Title: Bounty and Outreach Program for Enhanced Recovery of Unwanted Mercury

INSTRUCTIONS AND TEMPLATE (1 PAGE LIMIT)

Attach budget, in MS-EXCEL format, to your "2018 LCCMR Proposal Submission Form".

(1-page limit, single-sided, 10 pt. font minimum. Retain bold text and DELETE all instructions typed in italics. ADD OR DELETE ROWS AS NECESSARY. If budget item row is not applicable put "N/A" or delete it. All of "Other Funds" section must be filled out.)

IV. TOTAL ENRTF REQUEST BUDGET: 2 years (no cost extension to year 3 requested)

BUDGET ITEM <i>(See "Guidance on Allowable Expenses", p. 13)</i>	AMOUNT
Personnel:	NA
Professional/Technical/Service Contracts: Communications Consultant	\$ 8,000
Professional/Technical/Service Contracts: Statewide Advertising Communications	\$ 84,000
Acquisition (Fee Title or Permanent Easements): <i>In this column, indicate proposed number of acres and name of organization or entity who will hold title.</i>	NA
Travel: <i>Be specific. Generally, only in-state travel essential to completing project activities can be included.</i>	NA
Additional Budget Items: Funds for payment of bounties for unwanted mercury collected through project partners, as described in proposal.	\$ 375,000
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 467,000

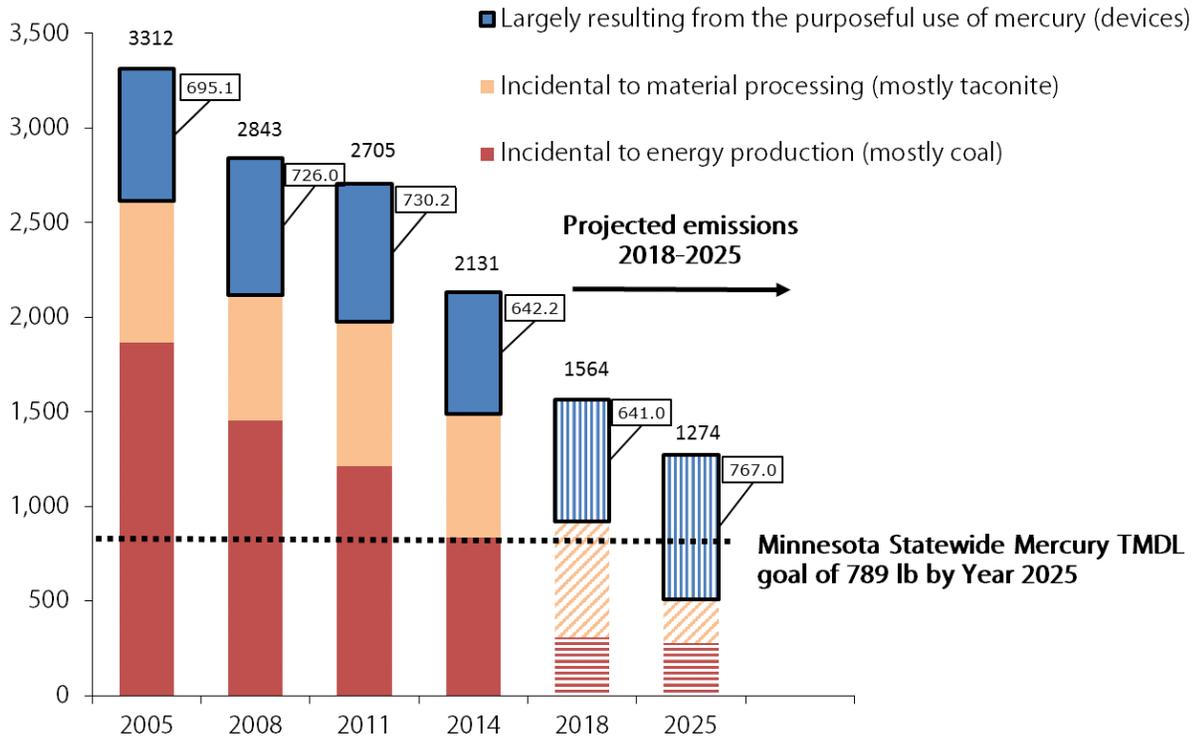
V. OTHER FUNDS *(This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)*

SOURCE OF FUNDS	AMOUNT	Status
Other Non-State \$ To Be Applied To Project During Project Period:	NA	<i>Indicate: Secured or Pending</i>
Other State \$ To Be Applied To Project During Project Period:	NA	<i>Indicate: Secured or Pending</i>
In-kind Services To Be Applied To Project During Project Period: <i>MPCA Staff 0.15 FTE technical staff Resource Management and Assistance Division</i>	\$ 24,000	<i>Indicate: Secured</i>
In-kind Services To Be Applied To Project During Project Period: <i>MPCA Staff 0.25 FTE Communications staff from the Communications/Outreach Section</i>	\$ 40,000	<i>Indicate: Secured</i>
Other Funding History:	NA	

2014 Minnesota Mercury Emissions Inventory and Forecasts for the Statewide Mercury TMDL

Source categories in each column are shown in the same order as legend

Total and purposeful use emissions are shown for each year in pounds



Examples of Household Mercury Devices

Oven Thermometer	Silent Wall Switch	Home Boiler Control (Aquastat)	HVAC Thermostat

Examples of Business Mercury Devices

Displacement Relays	Tilt Switches used in Industrial Controls	Gas Burner Valve Mercury Flame Sensor tube	Vehicle Switches

John Gilkeson, Planner Principal-Toxics Reduction

j

651-757-2391

520 Lafayette Rd. N., St. Paul, MN 55155



Planner Principal-Toxics Reduction, Product Sustainability and Partnerships Unit

This position exists to develop statewide policy and programs for identification, prevention, and management of toxic products in accordance with state laws and rules; lead staff for mercury product reduction activities for the Statewide Mercury TMDL Implementation Plan; serve as liaison with other states in the Toxics in Packaging Clearinghouse and Interstate Mercury Education and Reduction Clearinghouse; and coordinate toxics reduction activities with other states as appropriate.

John Gilkeson Professional History:

Minnesota Pollution Control Agency and Minnesota Office of Environmental Assistance
Planner Principal, 1999-present
Pollution Control Specialist Senior, 1991-1999

University of Minnesota, Center for Urban and Regional Affairs
Consultant, 1989-1990
Research Assistant, 1985-1989

Education:

University of Minnesota, Hubert Humphrey Institute of Public Affairs, Graduate Studies
University of Minnesota, Institute of Technology, Graduate Studies in Mechanical Engineering
University of Minnesota, Institute of Techology, Bachelor of Mechanical Engineering

Major Projects:

State representative to National Steering Committee of National Vehicle Mercury Switch
Recovery Program, 2006-present
Lead staff for states – EPA-States Mercury Stewardship Initiative, 2002-2003
Toxics in Packaging Clearinghouse, member 2002- present and Chair 2015-present
Interstate Mercury Education and Reduction Clearinghouse member, 2005-present, Chair of
Labeling Committee, 2013-present.