

**MERCURY
POLLUTION PREVENTION
IN MICHIGAN**

**MICHIGAN MERCURY
POLLUTION PREVENTION
(M2P2) TASK FORCE
FINAL REPORT**

**FINAL
IMPLEMENTATION STRATEGY**

February 1997

MICHIGAN MERCURY POLLUTION PREVENTION TASK FORCE CONCLUSIONS AND RECOMMENDATIONS

KEY:

- = Recommendation complete.
- = Partially implemented or currently underway.
- ✦ = Additional resources needed for full implementation.
- ★ = No progress thus far.
- ✘ = Not possible without additional resources.

Recommendations

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General Public Subgroup Recommendations:

<1> THE STATE OF MICHIGAN SHOULD UNDERTAKE AN AGGRESSIVE, COMPREHENSIVE STATE-WIDE EDUCATION/AWARENESS CAMPAIGN WITH STRONG SUPPORT FROM THE GOVERNOR TO THE LEAD AGENCY TO ALERT PEOPLE ON WAYS THEY CAN REDUCE MERCURY POLLUTION.

status: ✘ Not possible without additional resources.

lead: MDEQ, Environmental Education Coordinator

Chairman, M2P2 Task Force
Plan Implementation Coordinator
Michigan Department of Education
Environmental Assistance Division, Pollution Prevention Section

Establish committee initiative to develop an aggressive and comprehensive campaign including such things as:

- letter(s) from the Governor*
- publication development and distribution mailings*
- educational booths, displays*

strategy
-video
-INTERNET **Mercury** Web Page
-Public service announcements;
television and radio

timeframe: ongoing

implementation :Contractual Assistance is needed to develop, produce and disseminate materials.

The following tools should be developed as part of the state-wide education/awareness campaign:

<2> • **MDEQ SHOULD DEVELOP A MERCURY MANUAL, INVOLVING ALL STAKEHOLDERS.** Information, including an overview of mercury toxicity, known sources and alternatives, spill clean-up precautions and procedures, household hazardous waste and recycling centers that accept mercury-containing products and pollution prevention alternatives are examples of information that should be included in the manual.

status: ✕ Not possible without additional resources.

***lead:* Plan Implementation Coordinator**

Assembled with input and review from the following entities:

Chairman, M2P2 Task Force
MDEQ Environmental Education Coordinator
Environmental Assistance Division, Pollution Prevention Section
Air Quality, Toxics
Waste Management Division
Michigan Chemical Council
Michigan Department of Education

timeframe: One year

implementation: Contractual assistance required.

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<3> • **MDEQ, INVOLVING ALL STAKEHOLDERS, SHOULD DEVELOP ENERGY CONSERVATION AND ENERGY EFFICIENCY MATERIAL FOR DISTRIBUTION.**

The material should emphasize the link between reduced mercury emissions from reduced burning of fossil fuels from energy conservation and efficiency efforts.

status: ✘ Not possible without additional resources.

lead: Michigan Department of Consumer and Industry Services, MPSC

Air Quality Division (review and assistance)
Environmental Assistance Division, EAC (distribution)

timeframe: 6 months; possibly less if incorporated into existing publications

implementation: Resources are unknown.

<4> · MDEQ SHOULD DEVELOP A MERC CONCERN VIDEO.

status: ✘ Not possible without additional resources.

lead: Plan Implementation Coordinator

To be developed through contractual assistance or in partnership with donated services from other organizations such as NWF or possibly another entity during administration of the overall education campaign listed under recommendation 1.

timeframe: One year

implementation: Contractual Assistance required. Promotional effort also needs a marketing/advertising media strategy.

<5> · THE GOVERNOR OF MICHIGAN, THE DIRECTOR OF THE OFFICE OF THE GREAT LAKES, THE DIRECTOR OF MDEQ AND THE DIRECTOR OF MDCH SHOULD CALL UPON RETAILERS TO VOLUNTARILY CEASE DISTRIBUTION OF TOYS, GAMES AND CLOTHING CONTAINING MERCURY.

status: → Partially implemented or currently underway.

lead: Chairman, M2P2 Task Force

Recently (June 1996), it was reported that the Michigan Retailers Association is addressing such a request by soliciting cooperation and encouraging support for the M2P2 recommendations in their newsletter mailed to over six thousand members. Cover letter signed by these key officials soliciting involvement by all retailers would be desirable. Such a letter could be sent out in

a separate mailing for retailers or the Michigan Retailers Association could be asked to include it in a mailing to their members.

timeframe: 1 month; immediate implementation

implementation: Full implementation possible and anticipated, given existing resources.

<6> · MICHIGAN DEPARTMENT OF EDUCATION SHOULD DEVELOP A MERCURY FACT SHEET AND/OR VIDEO FOR SCIENCE TEACHERS.

status: → ★ Partially implemented or currently underway but additional resources needed for full implementation.

lead: Michigan Department of Education

Michigan Chemical Council

(It is my understanding that the Michigan Department of Education has agreed to develop a mercury fact sheet but is hesitant to commit to doing a video, presumably due to funding constraints.)

timeframe: Six Months

implementation: Partial Implementation possible, additional assistance would likely be needed to develop the video. Perhaps the video developed for the overall educational campaign can be of some use to this sector. The original intention was to develop a video of the “density experiment” in science classes to replace the need for science teachers to use elemental mercury in the classroom to demonstrate this characteristic.

<7> · MICHIGAN DEPARTMENT OF EDUCATION SHOULD DEVELOP A MERCURY EDUCATION/ AWARENESS COMPONENT FOR SCHOOL CURRICULUM.

status: ★ No progress thus far.

lead: Michigan Department of Education

University of Michigan, Pollution Prevention Center
Plan Implementation Coordinator
MDEQ, Environmental Education Coordinator

timeframe: One year

implementation: input must be sought from the Dept. of Education, resources currently unknown.

<8> · MDCH SHOULD CONTINUE DISTRIBUTION OF EDUCATIONAL MATERIALS FOR WOMEN OF CHILDBEARING AGE WITH REGARD TO EATING MICHIGAN FISH.

status: → ★ Partially implemented or currently underway but additional resources needed for full implementation.

lead: Michigan Department of Community Health

timeframe: ongoing

implementation: Additional contractual assistance is desired in the development, printing and distribution of educational materials.

<9> DECENTRALIZE THE EDUCATION/OUTREACH PROCESS BY WORKING WITH LOCAL COUNTIES AND CITIES ENCOURAGING MERCURY P2 EDUCATION/OUTREACH AT A LOCAL LEVEL (The City of Detroit's Water and Sewerage Department and the Genesee County education/outreach efforts could serve as models.)

status: → ★ Partially implemented or currently underway but additional resources needed for full implementation.

lead: MDEQ; Environmental Education Coordinator

Plan Implementation Coordinator
Environmental Assistance Division; Pollution Prevention Section
Education and Outreach Section
Michigan Chemical Council

Distribute Merc Concern brochures and disks to all local county health departments. Develop a package of education and promotional materials for townships/cities in such a format that would allow room for inclusion of the sponsoring local entity logo and any related pertinent information.

timeframe: ongoing

implementation: Contractual assistance required and associated with recommendation number 1.

The following tools should be used at the local level to educate the general public and help provide the means for environmentally safe disposal options.

<10> COUNTY ENVIRONMENTAL HOUSEHOLD HAZARDOUS WASTE (HHW) COLLECTION PROGRAMS SHOULD REPRINT THE MERC CONCERN BROCHURES, USE THE MERCURY DISPLAYS AND PROVIDE FOR SAFE COLLECTION AND DISPOSAL FOR MERCURY CONTAMINATED HHW.

status: → Partially implemented or currently underway.

lead: **Plan Implementation Coordinator**
(track, monitor progress and provide support, information and assistance if possible.)

Many communities have already proceeded while more involvement would be anticipated may occur based on the success of future proposed outreach efforts.

<11> LOCAL ENVIRONMENTAL HEALTH DEPARTMENTS SHOULD COLLABORATE WITH LOCAL GOVERNMENTS, PUBLIC AND PRIVATE ORGANIZATIONS, AND GRASSROOTS ORGANIZATIONS TO RAISE MERCURY AWARENESS IN THEIR COMMUNITY.

status: → ✦ Partially implemented or currently underway but additional resources needed for full implementation.

lead: **MDEQ; Environmental Education Coordinator**

Plan Implementation Coordinator
(monitor progress and provide support and information if possible)
see also recommendation number 9.



Health Care Subgroup Recommendations:

<12> MDEQ WORKING IN COOPERATION WITH THE MICHIGAN HEALTH AND HOSPITAL ASSOCIATION (MHHA) SHOULD SEND LETTERS TO ALL MICHIGAN HEALTH CARE FACILITIES ENCOURAGING THE PHASE OUT OF MERCURY-CONTAINING PRODUCTS/DEVICES BY CONTINUING MERCURY P2 EFFORTS WHILE ALLOWING FOR THE EXERCISE OF JUDGMENT BY HEALTH CARE PROFESSIONALS.

status: ★ No progress thus far.

lead: Michigan Health and Hospital Association (MHHA)

Environmental Assistance Division, Pollution Prevention Section

Send letter requesting voluntary compliance. Letter should be jointly signed by the M2P2 Task Force Chair and an official of the MHHA.

timeframe: 1 month (immediate implementation)

implementation: May be accomplished utilizing existing resources.

<13> MDEQ AND THE MICHIGAN HEALTH AND HOSPITAL ASSOCIATION SHOULD CONTINUE THE EDUCATION OUTREACH PROCESS WITH THE HEALTH CARE INDUSTRY. Hospitals, nursing homes and medical office buildings should be included in this target group.

status: → ★ Partially implemented or currently underway but additional resources needed for full implementation.

lead: Environmental Assistance Division, Pollution Prevention Section

Education and Outreach Section

Michigan Health and Hospital Association (MHHA)

National Wildlife Federation

timeframe: 12-18 months

implementation: Much has already been done to access the health care sector although more targeted outreach needs to occur for nursing homes, medical office buildings, Health Maintenance Organizations (HMO's), and insurance companies, etc. Additional assistance is necessary to specifically reach these additional sectors.

<14> HOSPITALS SHOULD DISCONTINUE THE PRACTICE OF SENDING MERCURY THERMOMETERS HOME WITH NEWBORNS.

status: → Partially implemented or currently underway.

lead: Michigan Health and Hospital Association

Chair, M2P2 Task Force
MDEQ Environmental Assistance Division
National Wildlife Federation

This could also be combined with outreach efforts under recommendation number 12 above calling for immediate implementation. Co-authored letter from Chairman M2P2 Task Force and MHHA official or the Environmental Assistance Division Chief.

timeframe: 1 month

implementation: Possible with existing resources.

<15> MDEQ SHOULD EVALUATE VETERINARY CLINIC USES OF MERCURY AND ENCOURAGE SIMILAR MERCURY P2 ACTIVITIES AS IN THE HUMAN HEALTH CARE INDUSTRY.

status: ✕ Not possible without additional resources

lead: Environmental Assistance Division, Pollution Prevention Section;

Develop materials and administer educational and outreach campaign to this user group.

timeframe: 18 months

implementation: Contractual assistance required for researching and developing new materials for Veterinarians as well as displays, presentations and teaching materials targeting MSU's School of Veterinary Medicine.



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Dental Subgroup Recommendations:

<16> ENCOURAGE THE NATIONAL INSTITUTE OF DENTAL RESEARCH AND THE AMERICAN ASSOCIATION OF DENTAL SCHOOLS TO EMPHASIZE THE USE OF DENTAL AMALGAM ALTERNATIVES, WHICH COULD EVENTUALLY REPLACE THE USE OF MERCURY IN DENTAL RESTORATIONS AND OBLIATE THE NEED FOR SOPHISTICATED AND EXPENSIVE FILTRATION SYSTEMS AND PROPER HANDLING PROCEDURES.

status: ★ No progress thus far.

lead: Michigan Dental Association

University of Michigan Dental School
Plan Implementation Coordinator

Transmit letters co-authored by chair of the M2P2 Task Force and the Michigan Dental Association Representative.

timeframe: Two months

implementation: Possible with existing resources.

<17> THE M2P2 TASK FORCE CALLS UPON ALL MICHIGAN DENTAL OFFICES TO ELIMINATE THE USE OF BULK MERCURY.

This recommendation has been implemented through the Detroit Water and Sewerage Department & Michigan Dental Association Dental Task Force efforts and the MWI/ Bulk Mercury Clean Sweep Project.

status: Recommendation complete.

Task considered complete with ongoing collections now offered by the Michigan Dental Association and the Counties of Ingham and Oakland. Final report is available by contacting EAD's, P2 Section.

timeframe: Immediate/completed

<18> THE AMERICAN DENTAL ASSOCIATION, THE MICHIGAN DENTAL ASSOCIATION AND MICHIGAN SCHOOLS OF DENTISTRY SHOULD INCREASE EDUCATION AMONG DENTAL PERSONNEL ABOUT PROPER DENTAL AMALGAM WASTE COLLECTION AND DISPOSITION.

status: → ✦ Partially implemented or currently underway but additional resources needed for full implementation.

lead: Michigan Dental Association

Waste Management Division
EAD, Pollution Prevention Section
University of Michigan

Ensure wide exposure to educational brochures and booklets developed to educate dentists and staff on how to properly manage amalgam wastes. This process may also involve meetings with key individuals in schools that teach dental hygienists. DEQ staff may be asked to provide input into this process and to review or comment on materials as deemed necessary. Education materials may need to be revised to be kept consistent with the proposed amalgam waste tracking system proposed under recommendation 21.

timeframe: 6 months

implementation: Reproduction and distribution assistance may be required for full implementation. At least some effort is possible however, with existing resources.

<19> MDEQ AND THE MICHIGAN DENTAL ASSOCIATION SHOULD USE THE CITY OF DETROIT'S EFFORT TO REDUCE DISCHARGE OF MERCURY WASTE FROM DENTAL FACILITIES AS A PILOT FOR THE REST OF THE STATE TO FOLLOW.

status: → Partially implemented or currently underway.

lead: Michigan Dental Association

MDEQ Surface Water Quality Division; Industrial Pre-Treatment Program
Environmental Assistance Division, Pollution Prevention Section
Detroit Water and Sewerage Department

Share success and make educational tools and materials developed under this project available to others in the Dental community. Publicize achievements and

deliver presentations as to accomplishments. Formulate similar working committees of affected dentists in other areas or regions where mercury discharge limits are exceeded.

timeframe: ongoing, as needed

implementation: Some involvement is possible with existing resources. The extent and number of forming new collaborative partnerships depend primarily upon evolving needs specified in problem areas.

<20> MDEQ AND THE MICHIGAN DENTAL ASSOCIATION SHOULD ENCOURAGE INSURANCE COMPANIES TO DEVELOP PAYMENT PLANS WHICH INCLUDE COMPETITIVE COVERAGE FOR ALTERNATIVES TO DENTAL AMALGAMS.

status: ★ No progress thus far.

lead: Michigan Dental Association

MDEQ Environmental Assistance Division, Pollution Prevention Section

Co-signed letter from Chairman M2P2 Task Force and appropriate MDA officials to major dental insurance carriers.

timeframe: 2 months

implementation: Possible with existing resources.

<21> MDEQ AND THE MICHIGAN DENTAL ASSOCIATION SHOULD DEVELOP AND IMPLEMENT AN AMALGAM WASTE TRACKING SYSTEM.

status: ✘ Not possible without additional resources

lead: MDEQ Waste Management Division

Michigan Department of Community Health
MDEQ Surface Water Quality Division
Plan Implementation Coordinator

All stakeholders should meet with the DEQ to establish an amalgam waste tracking program using manifests or similar paper documentation process in order to track amalgam wastes from dental offices. The major impetus for this effort is to minimize mercury amalgam discharges occurring to wastewater or in general refuse that may be

destined for incineration. Another question under consideration would be to consider whether or not waste amalgam would be regarded as a 'regulated medical waste' material since it may include blood, saliva and human tissues. If so, then this material may require some additional handling/processing procedures prior to recycling.

timeframe: 18 months

implementation: Contractual assistance likely required if DEQ should administering such a program.

<22> THE MICHIGAN DENTAL ASSOCIATION SHOULD ENCOURAGE THE AMERICAN DENTAL ASSOCIATION OR THE INTERNATIONAL STANDARDS ORGANIZATION AND THE NATIONAL SANITATION FOUNDATION TO CONDUCT EFFICIENCY TESTING ON THE SYSTEMS MARKETED FOR THE CAPTURE OF WASTE AMALGAM.

status: → Partially implemented or currently underway.

lead: Michigan Dental Association

Plan Implementation Coordinator
(Monitor process and encourage completion)

Letter transmitted to these organizations signed by Michigan Dental Association Officials.

timeframe: Six months

implementation: Possible with existing resources

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<23> THE NATIONAL INSTITUTE OF DENTAL RESEARCH, THE AMERICAN DENTAL ASSOCIATION AND DENTAL MANUFACTURERS SHOULD CONDUCT ADDITIONAL RESEARCH ON RESTORATIVE MATERIAL ALTERNATIVES AND ALSO CAPTURE TECHNOLOGY FOR DENTAL AMALGAM WASTE.

status: ★ No progress thus far.

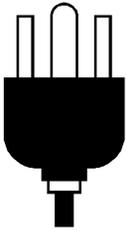
lead: Michigan Dental Association

Environmental Assistance Division, Pollution Prevention Section

Co-authored letter should be transmitted to these organizations signed by M2P2 Task Force Chair and Michigan Dental Association Officials explaining the need for such research asking that they sponsor or at least promote it. This message may combined with other letters from recommendations in the Dental section if deemed appropriate.

timeframe: Two Months

implementation: Possible with existing resources.



Electrical Manufacturers/Users Subgroup Recommendations:

<24> MDEQ SHOULD CONTINUE MERCURY P2 EDUCATION AND OUTREACH EFFORTS BY INFORMING USERS OF THE VARIOUS TYPES OF BATTERIES THAT CONTAIN MERCURY AND PROVIDE INFORMATION ON ALTERNATIVES AND AVAILABLE RECYCLING CENTERS.

status: → Partially implemented or currently underway.

Lead: Environmental Assistance Division, Pollution Prevention Section
Environmental Assistance Center
Information and Assistance Section

Since 1992, mercury in batteries manufactured and sold in the United States has been reduced to all but trace or background levels for what mercury may exist in other compounds. Current legislation should ensure that mercury in batteries will continue to decline. The Michigan Recycled Material Market Directories published annually, by the MDEQ Environmental Assistance Division, currently lists available recycling centers, collection programs and companies that accept batteries for recycling. It is recommended that the practice of making this type of information available continue.

Timeframe: Immediate/Ongoing

Implementation: Possible with existing resources.

<25> MDEQ SHOULD ENSURE THAT MERCURY BATTERY MANUFACTURERS COMPLY WITH MICHIGAN'S NEW BATTERY LAW.

status: Recommendation complete.

Lead: MDEQ, Waste Management Division

Timeframe: Immediate/Ongoing

Implementation: A national law has hence taken effect and consequently this .
recommendation is considered complete.

<26> MDEQ SHOULD WORK WITH LAMP MANUFACTURERS AND ENCOURAGE THEIR CONTINUED EFFORT TO REDUCE THE QUANTITY OF MERCURY REQUIRED FOR OPERATION AND ENCOURAGE DEVELOPMENT OF ECONOMICALLY FEASIBLE ALTERNATIVES WITH COMPARABLE ENERGY EFFICIENCY RATINGS.

status: → Partially implemented or currently underway.

Lead: MDEQ, Environmental Assistance Division, Pollution Prevention Section

Transmit letter to major manufacturers possibly signed by the M2P2 Chair and continue to work with manufacturers encouraging reduced levels of mercury while the Green Lights Program is being implemented in State Facilities.

Timeframe: Three months

Implementation: Possible with existing resources.

<27> MDEQ SHOULD CONTINUE TO WORK WITH USEPA TO ENCOURAGE FACILITIES TO PARTICIPATE IN US EPA'S GREEN LIGHTS PROGRAM.

status: → Partially implemented or currently underway.

Lead: Environmental Assistance Division, Pollution Prevention Section

Michigan Department of Consumer and Industry Services, MPSC
Michigan Department of Management and Budget

MDEQ Director has taken the lead in overseeing Green Lights Program implementation for State Government facilities. The Environmental Assistance Division, Pollution Prevention Section will provide the staff support for this project, as well as, information and assistance for other entities pursuing Green Lights Program participation and involvement in related projects.

Timeframe: Underway/Ongoing

Implementation: Possible given existing resources

<28> MDEQ SHOULD CONTINUE ITS EFFORT ON INCORPORATING THE UNIVERSAL WASTE RULE (UWR) INTO MICHIGAN REGULATIONS TO INCLUDE SUCH MERCURY-CONTAINING WASTES AS THERMOSTATS, BATTERIES, BANNED PESTICIDES AND MERCURY-CONTAINING LAMPS AS UNIVERSAL WASTES. (The final UWR was published FR vol. 60, No. 91, May 11, 1995. This final UWR rule streamlines the hazardous waste management regulations governing the collection and management of batteries, pesticides and thermostats.)

status: Recommendation complete.

Further, MDEQ SHOULD SEEK EXPANSION OF THE RULE TO INCLUDE MERCURY-CONTAINING SWITCHES, THERMOMETERS AND MERCURY-CONTAINING MEDICAL DEVICES TO SIMPLIFY THE COLLECTION AND RECYCLING OF THESE WASTES. [In October 1995 MDEQ-Waste Management Division proposed revisions to update its hazardous waste rules and adopt the UWR (Administrative rules to Part 111 of NREPA, 1994 PA 451, as amended. MDEQ-WMD has proposed the Inclusion of thermostats, batteries, banned pesticides and mercury-containing lamps as universal wastes.)].

status: Recommendation complete.

Lead: MDEQ Waste Management Division

Timeframe: The proposed changes were finalized fall 1996.

Implementation: Complete

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<29> MDEQ SHOULD DETERMINE IF FLUORESCENT LIGHT BARREL CRUSHERS ARE A SIGNIFICANT SOURCE OF FUGITIVE MERCURY EMISSIONS TO THE ATMOSPHERE AND DEVELOP A POLICY/RECOMMENDATION ON THIS PROCESS.

status: → Partially implemented or currently underway.

Lead: MDEQ, Air Quality Division

Some of this work is presently underway but ultimately needs to be pulled together, reviewed and finalized.

Timeframe: Six months

Implementation: Possible given existing resources.

<30> MDEQ SHOULD ENCOURAGE MICHIGAN FACILITIES TO PARTICIPATE IN THE HONEYWELL CORPORATION'S REVERSE DISTRIBUTION RECYCLING PROGRAM FOR MERCURY-CONTAINING THERMOSTATS.

status: ★ No progress thus far.

Lead: MDEQ Environmental Assistance Division, Pollution Prevention Section

Information about this program should be published in the Recycled Materials Market Directories and promoted through EAD newsletters, outreach publications, conferences and co-authored press releases where applicable.

Timeframe: 3 months

Implementation: May be accomplished through existing resources

<31> MDEQ SHOULD EXTEND THE EDUCATIONAL/OUTREACH CAMPAIGN AND COLLECTION PROGRAM FOR PRODUCTS CONTAINING MERCURY IN THE LAKE SUPERIOR BASIN TO MICHIGAN'S LOWER PENINSULA.

status: ✕ Not possible without additional resources.

Lead: Plan Implementation Coordinator

MDEQ Environmental Assistance Division, Pollution Prevention Section
Michigan Department of Agriculture
MSU; Cooperative Extension Service

Use mercury brochures and other educational materials developed for education campaign and secure funding to conduct Statewide clean sweep of mercury products. Also provide these services targeting schools, electrical contractors, dairy farms and households.

Timeframe: 18 months

recommendation 3.4.4 found on pp. 43.

<32> MDEQ SHOULD CONTACT SWITCH MANUFACTURERS AND USERS OF SWITCHES INCLUDING CONTRACTORS AND TRADE ASSOCIATIONS TO IMPROVE THE ESTIMATE FOR MERCURY SWITCHES USE AND DISPOSAL (I.E., IN APPLIANCES SUCH AS FURNACES AND SUMP PUMPS) AND EXPLORE OPPORTUNITIES FOR MERCURY FREE ALTERNATIVES.

status: ★ No progress thus far.

Lead: MDEQ, Environmental Assistance Division, Pollution Prevention Section

Plan Implementation Coordinator

Work with Michigan based switch manufacturer(s) to promote the use of less toxic alternatives or encourage programs that recover and responsibly manage discards and residuals. Explain the Honeywell program and see if they would endorse and support such a concept. Interact with Minnesota officials to track their progress and successes to support similar efforts here.

Timeframe: 9 months

Implementation: Possible by utilizing existing resources.



Chemical Manufactures/Users Subgroup Recommendations:

<33> THE M2P2 TASK FORCE RECOMMENDS THE MICHIGAN CHEMICAL COUNCIL UNDERTAKE AN ASSESSMENT OF THE QUANTITIES AND TYPES OF MERCURY USED BY THE MICHIGAN CHEMICAL INDUSTRY AND THE VOLUNTARY POLLUTION PREVENTION METHODS BEING USED TO PREVENT RELEASES TO THE ENVIRONMENT AND SHARE WITH MDEQ FOR PUBLIC DISSEMINATION.

status: ★ ★ Additional resources needed to complete.

Lead: Michigan Chemical Council

Environmental Assistance Division, Information and Assistance Section
Plan Implementation Coordinator

MCC should conduct an inventory to determine mercury usage by the Michigan Chemical Industry. This information should then be used by the MCC to develop pertinent pollution prevention case studies, fact sheets or other relevant information. This material may then also be incorporated into the public educational program as deemed appropriate.

Timeframe: One year

Implementation: Partial completion likely however additional resources may be required for printing and distribution.

<34> ALL STAKEHOLDERS SHOULD BE INVOLVED IN THE DEVELOPMENT OF A NATIONAL LABELING REQUIREMENT FOR PRODUCTS OR COMPONENTS WHICH CONTAIN A SIGNIFICANT PERCENTAGE OF MERCURY FOR ITS FUNCTION OR AS AN ADDED INGREDIENT. THIS WOULD ALLOW CONSUMERS AND BUSINESSES TO MAKE INFORMED CHOICES IN EFFORTS TO SUPPORT POLLUTION PREVENTION PROGRESS.

status: → Partially implemented or currently underway.

Lead: Plan Implementation Coordinator

The M2P2 Task Force letter of earlier Recommendations to the National Mercury Task Force addressed this issue. Additional letters of support could sent to appropriate Washington groups and individuals such as the Consumer Products Safety Commission from Chairman, M2P2 Task Force. Also, further opportunities may arise as plan implementation unfolds.

Timeframe: Ongoing monitoring for additional opportunities.

Implementation: Possible with existing resources.

<35> MICHIGAN SHOULD PROVIDE INCENTIVES TO PROMOTE VOLUNTARY POLLUTION PREVENTION EFFORTS. MANY OF THESE EFFORTS HAVE ALREADY BEEN EXTREMELY SUCCESSFUL. INCENTIVES COULD INCLUDE TAX CREDITS OR GRANTS THAT COULD

BE GIVEN TO COMPANIES FOR POLLUTION PREVENTION TRAINING AND EDUCATION.

status: → ✦ Partially implemented or currently underway but additional resources needed for full implementation.

Lead: Environmental Assistance Division, Special Projects Coordinator

The Environmental Assistance Division should continue to evaluate and provide additional incentives such as grants and tax credits for new or expanded P2 program efforts in accord with the Statewide Pollution Prevention Strategy. Other incentives such as the Clean Corporate Citizen Program and the Michigan Business Pollution Prevention Partnership should be enhanced or expanded to reward mercury minimization and pollution prevention efforts. (See Also Recommendation # 59)

Timeframe: 18 months/ongoing

Implementation: Depending upon the level of commitment, additional resources may be required in order to implement.

<36> INCREASE THE DIALOGUE WITH INDUSTRY TOWARD FURTHER VOLUNTARY POLLUTION PREVENTION INITIATIVES. AT THE NATIONAL LEVEL THE CHEMICAL MANUFACTURER'S ASSOCIATION RESPONSIBLE CARE® PROGRAM MAY BE THE APPROPRIATE AVENUE TO BRING MORE FOCUS ON MERCURY POLLUTION PREVENTION OPPORTUNITIES IN THE CHEMICAL INDUSTRY. ONGOING INVOLVEMENT OF THE MICHIGAN CHEMICAL COUNCIL IS ENCOURAGED AT THE STATE LEVEL.

status: → Partially implemented or currently underway.

Lead: Michigan Chemical Council

MDEQ Environmental Assistance Division, Pollution Prevention Section

Enhance partnership and encourage continued involvement with the Chemical Industry for further progress toward pollution prevention initiatives both at the State and national level.

Timeframe: Ongoing

Implementation: Possible with existing resources.

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<37> THE M2P2 TASK FORCE URGES THE CONTINUED EFFORT BY THE MDEQ INDUSTRIAL PRETREATMENT PROGRAM STAFF TO DISSEMINATE INFORMATION TO LOCAL PRETREATMENT AUTHORITIES AND OTHERS ON MERCURY-CONTAINING PRODUCTS AND PROCESSES AND OPPORTUNITIES FOR P2.

status: Recommendation complete.

Lead: MDEQ Surface Water Quality Division, Industrial Pre-treatment Program

Educational materials have been sent to all WWTP's. Mercury presentations and displays continue to be featured at annual conferences and periodic meetings.

Timeframe: Ongoing

<38> THE THRESHOLDS FOR MERCURY EMISSIONS UNDER THE TOXIC CHEMICAL RELEASE INVENTORY (TRI) MAY NEED TO BE EVALUATED. THIS REPORTING THRESHOLD MAY BE OF QUESTIONABLE UTILITY GIVEN THAT THE PRESENT REPORTING THRESHOLD FOR MERCURY IS 10,000 POUNDS/YEAR AND THE MICHIGAN ANTHROPOGENIC ATMOSPHERIC EMISSIONS ARE ESTIMATED TO BE BETWEEN 8,000-10,000 POUNDS/YEAR. TRI reporting is required by Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA 313).

status: Recommendation complete.

Lead: MDEQ Environmental Assistance Division, Pollution Prevention Section,
Grants and Information Unit

Work at the federal and state level to investigate the best methods to collect and utilize this data. Research the process for modifying this reporting threshold for Michigan companies. Develop and implement a strategy to make appropriate adjustments and thereby obtain this important data.

Timeframe: 6-9 months

<39> THE MICHIGAN CHEMICAL COUNCIL AND MDEQ SHOULD WORK COOPERATIVELY AT IMPROVING THE INVENTORY OF MERCURY RELEASED INTO MICHIGAN'S ENVIRONMENT FROM THE MICHIGAN CHEMICAL INDUSTRY TO IMPROVE THE SCIENTIFIC BASE OF KNOWLEDGE IN MICHIGAN.

status: Recommendation complete.

Lead: Air Quality Division, Toxics Unit

MDEQ Environmental Assistance Division, Pollution Prevention Section,
Grants and Information Unit

Air Quality Division is continuing their efforts to refine a comprehensive air toxic Regional Air Pollutant Inventory Development System (RAPIDS) for all sources including point area and mobile sources.

Timeframe: Task considered complete. Will require ongoing maintenance and updates.

<40> WITH THE ASSISTANCE OF THE MANUFACTURING AND CHEMICAL SECTORS THE MDEQ SHOULD UNDERTAKE MORE EDUCATIONAL EFFORTS ON P2 EFFORTS REGARDING MERCURY. THE INFORMATIONAL FLYER ON AQUEOUS CLEANERS IS A GOOD EXAMPLE OF WHAT MIGHT BE DONE (APPENDIX I).

status: ★ No progress thus far.

Lead: Michigan Chemical Council Coordinator

MDEQ Environmental Assistance Division, Pollution Prevention Section
Information and Assistance Section
MDEQ; Environmental Education Coordinator

The Michigan Chemical Council should develop appropriate mercury pollution prevention fact sheets and educational materials. They may also desire to become involved with the Michigan Department of Education and the Department of Environmental Quality in the development of appropriate materials encouraging mercury pollution prevention. EAD's P2 Section should assist by making printed materials available to the public and featuring MCC speakers at appropriate conferences.

Timeframe: Ongoing



Automobile Subgroup Recommendations

<41> THE AMERICAN AUTOMOBILE MANUFACTURERS ASSOCIATION SHOULD DEVELOP A MERCURY-CONTAINING SWITCH REMOVAL PROCEDURE FOR CURRENT VEHICLES BY DISMANTLERS TO FOSTER SAFE HANDLING AND DISPOSAL.

status: → Partially implemented or currently underway.

Lead: American Automobile Manufacturers Association (AAMA)

MDEQ, Waste Management Division

Staff has recently reviewed and commented on some draft procedures presently under development.

Timeframe: 6 Months

Implementation: Possible with existing resources

<42> MDEQ SHOULD FOLLOW UP ON THE LETTER FROM THE ASSOCIATION OF INTERNATIONAL AUTOMOBILE MANUFACTURERS (AIAM) REQUESTING ASSISTANCE IN ADDRESSING DISPOSAL/RECYCLING NEEDS REGARDING MERCURY SWITCHES IN THE CURRENT FLEET OF THEIR MEMBER COMPANY VEHICLES.

status: Recommendation complete.

Lead: American Automobile Manufacturers Association (AAMA)

MDEQ Waste Management Division

International manufacturers have phased out the use of mercury in switches due to recommendations previously put forth in Sweden.

Timeframe: 2 months

Implementation: Recommendation considered complete.

<43> THE AMERICAN AUTOMOBILE MANUFACTURERS ASSOCIATION OR MDEQ SHOULD PROVIDE THE SWITCH REMOVAL PROCEDURE TO AIAM FOR A DETERMINATION OF APPLICABILITY TO THE VEHICLES NOTED IN RECOMMENDATION 42 ABOVE.

status: → Partially implemented or currently underway.

Lead: American Automobile Manufacturers Association (AAMA)

MDEQ Waste Management Division

Timeframe: Three to six months

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<44> MDEQ SHOULD PROVIDE ADEQUATE RESOURCES FOR QUALITY ASSURANCE CHECKS ON THE MICHIGAN CRITICAL MATERIALS REPORT AND COMPUTER PROCESSING IF THE REPORT IS TO PROVIDE A RELIABLE BASIS FOR MONITORING USE AND POTENTIAL RELEASES OF MERCURY IN THE FUTURE.

status: ✘ Not possible without additional resources.

Lead: MDEQ, Surface Water Quality Division

Investigations by the M2P2 Task Force discovered that some of the data was questionable as to its accuracy. In order to be meaningful, quality assurance measures should be put into place.

Timeframe: 12-18 months

Implementation: Undergoing review and modifications.



Utility Sector Recommendations:

<45> THE M2P2 TASK FORCE, MDEQ AND THE MICHIGAN PUBLIC SERVICE COMMISSION SHOULD ENCOURAGE USEPA TO FINALIZE THE MERCURY AND UTILITY STUDIES AND ENSURE THAT SIGNIFICANT RESOURCES ARE ALLOCATED TO DETERMINE THE SCIENTIFIC BASIS TO PROMULGATE NATIONAL STANDARDS FOR MERCURY EMISSIONS FROM ELECTRIC UTILITY BOILERS.

status: → Partially Implemented or currently underway.

Lead: MDEQ, Air Quality Division

Michigan Department of Consumer and Industrial Services, MPSC

On November 29, 1995; MDEQ-AQD submitted a letter to US EPA generally concurring with the December 1995 final draft Mercury Study report. MDEQ-AQD staff also continue to track the progress on the EPA Utility Study, as required by the 1990 amended CAA 112(n)(1)(A). MDEQ submitted comments through State and Territorial Air Pollution Program Administrators (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO) on the draft utility study and participated in numerous conference calls to discuss report progress. This study is delayed, however an interim final copy was released October 4, 1996 and a final report is expected at the end of 1996, pending negotiations with the Sierra Club.

Timeframe: 2 months

Implementation: Possible given existing resources

<46> THE MPSC AND THE MDEQ, WORKING IN COOPERATION WITH MICHIGAN UTILITIES, SHOULD SUPPORT ADDITIONAL RESEARCH EFFORTS TO EVALUATE THE FULL ENVIRONMENTAL COSTS AND IMPACTS OF MERCURY EMISSIONS AND SUBSEQUENT DEPOSITION FROM ELECTRIC POWER GENERATION.

status: **x** Not possible without additional resources.

Implementation: More resources are needed.

Lead: Chairman, M2P2 Task Force

Department of Consumer and Industrial Services, MPSC
Plan implementation Coordinator
MDEQ Air Quality Division
Electric Power Generation Utility Companies
Michigan Department of Community Health

Dialog should be established with groups such as 'Resources for the Future' to encourage someone conduct this additional research.

Timeframe: Ongoing

<47> MICHIGAN UTILITIES SHOULD CONTINUE TO SUPPORT PROJECTS ON EVALUATING RENEWABLE ENERGY SOURCES, INCLUDING WIND AND SOLAR ENERGY. THE RESULTS OF ALL APPLICABLE STUDIES

SHOULD BE SHARED WITH THE MPSC AND MDEQ AND IF DETERMINED TO BE ECONOMICALLY AND TECHNICALLY FEASIBLE, ADDITIONAL RELIANCE ON RENEWABLES SHOULD BE IMPLEMENTED.

status: → Partially implemented or currently underway.

Lead: Department of Consumer and Industrial Services, MPSC

Electric Power Generation Utility Companies
Plan Implementation Coordinator

Timeframe: Ongoing

<48> THE M2P2 TASK FORCE CALLS UPON ELECTRIC UTILITIES TO FACTOR IN THE COSTS AND BENEFITS OF MERCURY EMISSIONS CONTROL INTO ALL ENVIRONMENTAL IMPACT STATEMENTS (EIS) REQUIRED UNDER FEDERAL AND STATE LAW.

status: ★ No progress thus far.

Lead: Michigan Department of Consumer and Industrial Services, MPSC

Utilities

MPSC should track progress and confirm that this recommendation is being implemented.

Timeframe: One month and ongoing thereafter as needed while an EIS is prepared.

<49> THE M2P2 TASK FORCE CALLS UPON MICHIGAN UTILITIES TO DEVELOP A PLAN WITH TIMETABLES AND GOALS THAT ARE MEASURABLE, IN QUANTITATIVE OR OTHER TERMS, AS WELL AS MEANS TO ACHIEVE THE GOALS, TO FURTHER REDUCE MERCURY USAGE OR EMISSIONS FROM THE GENERATION OF ELECTRICITY AND/OR OTHER SOURCES. THIS PLAN SHOULD BE SUBMITTED TO MDEQ AND MPSC AND PROGRESS IN ACHIEVING MERCURY REDUCTIONS SHOULD BE REPORTED ON AN ANNUAL BASIS. (See Section 4.4 for the list of various types of activities that could be implemented to reduce mercury usage or emissions from Michigan utilities.)

status: ★ No progress thus far.

Lead: Utilities

Michigan Department of Consumer and Industrial Services, MPSC
MDEQ Air Quality Division, Toxics Unit

Work with Jan Pattrick and Greg White from PSC to develop a joint letter for the M2P2 Task Force Chair and John Strand to sign. We may also possibly want to tie this to the mercury Cap and Trade concepts being put for in Minnesota.

Timeframe: 18 months

Implementation: Can be accomplished utilizing existing resources.



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State Government Recommendations:

**<50> MICHIGAN SHOULD:
ALLOCATE THE NECESSARY RESOURCES TO IMPLEMENT
THE MERCURY P2 RECOMMENDATIONS WITHIN THIS
REPORT.**

status: ✘ not possible without additional resources.

Lead: MDEQ, Director & Deputies

Air, Environmental Assistance, Waste Management & Surface Water Quality;
Division Chiefs and Programs (impacted by M2P2 report recommendations)

Timeframe: Begin immediate implementation of those recommendations for which resources are available. Additional resources needed are being identified, sought after and secured.

**<51> MDEQ SHOULD TAKE THE LEAD IN CONTINUING TO FACILITATE
THE IMPLEMENTATION OF THE NUMEROUS RECOMMENDATIONS IN
THIS REPORT. THESE RECOMMENDATIONS ENCOMPASS
COMMUNICATION, COORDINATION, EDUCATION, TRAINING AND
DECENTRALIZATION OF MERCURY P2 EFFORTS TO THE LOCAL LEVEL.**

THE FOLLOWING ARE MORE SPECIFIC RECOMMENDATIONS TO THE MDEQ, BUT SHOULD INVOLVE ALL STAKEHOLDERS:

status: → Partially implemented or currently underway.

Lead: Plan Implementation Coordinator

DEQ, Director
DEQ Divisions; AQD, SWQD, EAD, WMD, OGL
and affected Departments; DMB, DCH, CIS
& other Stakeholders

<52> • FACILITATE P2 BY OTHER STATE DEPARTMENTS REGARDING MERCURY.

(see: recommendation #51 above)

status: ✦ Additional resources needed for full implementation.

<53> • DEFINE SUCCESS. I.E. HOW DO WE MEASURE SUCCESS OF MERCURY reduction efforts?

status: ✦ Additional resources needed to complete.

Possible suggestions include amount of mercury collected, # of brochures sent out, attendance at related events, etc.

(see: recommendation #51 above)

<54> • CONTINUE COMMUNICATION WITH MANUFACTURERS AND END USERS OF MERCURY-CONTAINING PRODUCTS/DEVICES AND IDENTIFY POTENTIAL MERCURY POLLUTION PREVENTION POSSIBILITIES AND ENCOURAGE IMPLEMENTATION.

status: → ✦ Partially implemented or currently underway but additional resources needed for full implementation.

Lead: Environmental Assistance Division, Pollution Prevention Section

Continue to form partnerships and promote the introduction of environmentally acceptable substitutes for mercury in applications such as schools and the dairy farming community.

Timeframe: Ongoing.

Implementation: Additional resources necessary for implementation of special projects such as clean sweep collection programs.

<55> · DEVELOP A “MERCURY MANUAL” FOR THE MDEQ-EAC; ENVIRONMENTAL ASSISTANCE CENTER, INVOLVING ALL STAKEHOLDERS AND SHARE WITH MDEQ DISTRICT OFFICES.

status: ✘ Not possible without additional resources.

Lead: Plan Implementation Coordinator

MDEQ Environmental Education Coordinator
MDEQ Environmental Assistance Division; Information and Assistance Section
MDEQ Waste Management Division
Other DEQ Divisions as necessary

Timeframe: One Year (contractual assistance)

Implementation: Manual would be developed by consultant under direction and input of the Divisions listed above. Additional resources must be secured in order to implement. Document might be made available to District staff over the INTERNET. (See Also Recommendation #2.)

<56> · COORDINATE THE DEVELOPMENT OF ADDITIONAL EDUCATION/OUTREACH MATERIALS.

status: ✘ Not possible without additional resources

Lead: DEQ, Environmental Education Coordinator

Chairman, M2P2 Task Force
Michigan Department of Education
Environmental Assistance Division, Pollution Prevention Section
Plan Implementation Coordinator
Michigan Chemical Council
Other contributing stakeholders

(See Also Recommendation #1.)

<57> . WORK WITH THE VARIOUS DIVISIONS IN MDEQ (AIR, WATER AND WASTE) TO COORDINATE PERMITTING AND COMPLIANCE ISSUES RELATED TO MERCURY.

status: → Partially implemented or currently underway.

Lead: MDEQ Environmental Assistance Division, Permits Coordinator

MDEQ Air Quality Division; Toxics
Plan Implementation Coordinator

A multi-media (informal) discussion group has been formed in AQD to consider development of a process to coordinate multi-media issues related to bio-accumulative chemicals of concern, which includes mercury. This effort could be formalized and expanded to include input from other Divisions.

Timeframe: Ongoing

Implementation: Feasible given existing resources

<58> . INCLUDE MERCURY P2 INFORMATION IN MDEQ STAFF TRAINING.

status: ★ ★ No progress thus far. Additional resources needed for full implementation.

Lead: MDEQ Environmental Assistance Division, Pollution Prevention Section

MDEQ, Environmental Education Coordinator

The mercury manual and relevant case studies could be used for training purposes through development of the notebook as well as INTERNET postings. Mercury information could also be provided through Pollution Prevention Integration training materials and the associated newsletter.

Timeframe: Ongoing

Implementation: Additional resources necessary for development, printing and distribution of materials.

<59> . DEVELOP A MECHANISM TO RECOGNIZE MERCURY-FREE

COMPANIES/INSTITUTIONS OR COMPANIES/INSTITUTIONS THAT HAVE MADE A SIGNIFICANT MERCURY REDUCTION EFFORT.

status: ★ ★ No progress thus far. Additional resources needed for full implementation.

Lead: MDEQ, Environmental Assistance Division, Special Projects

Chairman, M2P2 Task Force

This may involve rewarding companies that have found and promoted suitable substitutes for compounds/devices that contain mercury or a facility such as a hospital committing to eliminate all but 'essential' uses within its' facility. The "Reward(s)" could provide recognition under an existing program such as the MBP3 Program or in the C3 program or may require development of an entirely new program.

Timeframe: 6-9 months

Implementation: Implementation is deemed possible if incorporated into an existing Department Program. If a New Program is required , resources should be allocated to establish and implement.

<60> · MDEQ SHOULD CONSIDER A PERIODIC MERCURY MEETING WITH KEY STAKEHOLDERS TO MAINTAIN FOCUS ON VOLUNTARY MERCURY P2 EFFORTS AND ACCOMPLISHMENTS.

status: ★ ★ No progress thus far. Additional resources needed for full implementation.

Lead: MDEQ, Environmental Assistance Division, Education & Outreach Section

Plan Implementation Coordinator

After the first 12 months of implementation, either build a significant mercury component into the Waste Reduction and Energy Efficiency Workshop or conduct a separate mercury conference. Feature accomplishments thus far to date and solicit additional support to carry out remaining recommendations.

Implementation : A separate mercury conference is preferred however such an effort will require additional financial support to accomplish.



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The State of Michigan should first set a positive example by implementing mercury P2 activities:

<61> THE STATE OF MICHIGAN SHOULD BECOME A U.S. EPA GREEN LIGHTS PARTNER.

status: Recommendation complete.

Lead: MDEQ Environmental Assistance Division, Pollution Prevention Section

Michigan Department of Management and Budget (DMB)

Timeframe: Ongoing

<62> THE STATE OF MICHIGAN DEPARTMENT OF MANAGEMENT AND BUDGET (DMB) SHOULD DEVELOP A STATE PURCHASING POLICY THAT IDENTIFIES MERCURY-CONTAINING PRODUCTS AND PURCHASES MERCURY-FREE ALTERNATIVES, WHEN AVAILABLE.

status: → Partially implemented or currently underway.

Lead: DMB; Purchasing

Plan Implementation Coordinator (tracking progress)

Timeframe: six months with ongoing monitoring

<63> THE STATE OF MICHIGAN SHOULD RECYCLE MERCURY-CONTAINING PRODUCTS AND WASTES, WHERE FEASIBLE.

status: → Partially implemented or currently underway.

Lead: DMB; Office Services Division

Plan Implementation Coordinator (tracking progress & assistance)

Recycle mercury containing products and devices including fluorescent lamps.

Timeframe: Ongoing

<64> MDEQ AND THE MICHIGAN DEPARTMENT OF PUBLIC HEALTH (MDPH) SHOULD PROVIDE THE NECESSARY RESOURCES TO IMPROVE MICHIGAN'S MERCURY INVENTORY DATA WITHIN THE STATE AND ESTABLISH DATABASES OF INFORMATION ON MERCURY.

status: ✘ Not possible without additional resources.

Lead: MDEQ, Director

MDCH, Director

MDEQ Air Quality Division

MDEQ Surface Water Quality Division

MDEQ Waste Management Division

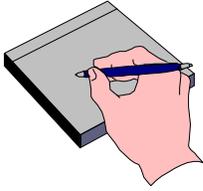
MDEQ Environmental Assistance Division

Michigan Department of Community Health, Health Risk Assessment

Necessary resources should be provided to MDCH and the line divisions of MDEQ including Surface Water Quality Division (SWQD), Air Quality Division (AQD), Waste Management Division (WMD) and the Environmental Assistance Division (EAD) to better quantify mercury sources and evaluate trends within the state. Examples of data needed would include sediment, fish and human tissue monitoring data. For example AQD is working on RAPIDS and SWQD is developing a monitoring plan. MDCH is seeking funding to do follow up work on the Michigan Algonac Fisheater study to determine the current mercury exposure status of fisheaters around this known site of mercury exposure. MDCH also continues to try to obtain approval and funding to initiate a systematic human monitoring program which would allow MDCH to follow trends in body burdens of xenobiotic chemicals.

Timeframe: Ongoing

Implementation: Some preliminary efforts have been initiated. Additional resources are being sought for these initiatives through a variety of sources.



Suggested Mercury Legislation

The following Mercury legislation should be considered to facilitate mercury P2 efforts.

<65> · THE STATE OF MICHIGAN SHOULD CREATE, BY STATUTE, A MICHIGAN ENERGY BANK WITH THE AUTHORITY TO FINANCE ENERGY AUDITS AND ENERGY-RELATED CAPITAL IMPROVEMENTS FOR PUBLIC BUILDINGS, INCLUDING THOSE OCCUPIED BY STATE AGENCIES AND LOCAL SCHOOL DISTRICTS. Energy efficiency projects can reduce the demand for electricity supplied by coal-fired power plants, which may reduce the consumption of coal by these power plants. Reducing the consumption of coal, reduces the release of mercury to the atmosphere by coal-fired power plants.

status: → Partially implemented or currently underway.

Lead: Department of Consumer and Industry Services, MPSC

MDEQ Legislative Liaison
Plan Implementation Coordinator

DEQ's Director sent a letter to the Director of Department of Consumer and Industry Services offering to assist them in developing such a program.

Timeframe: Six months

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<66> · THE STATE OF MICHIGAN SHOULD ENACT LEGISLATION OR REVISE RULES THAT BRINGS THE STATE'S HAZARDOUS WASTE REGULATIONS INTO CONFORMANCE WITH THE UNIVERSAL WASTE RULE AS IT PERTAINS TO MERCURY THERMOSTATS, BATTERIES AND BANNED PESTICIDES FURTHER, MICHIGAN SHOULD SEEK EXPANSION OF THE RULE TO INCLUDE MERCURY-CONTAINING LAMPS AND SWITCHES, THERMOMETERS AND MERCURY-CONTAINING MEDICAL DEVICES TO SIMPLIFY THE COLLECTION AND RECYCLING OF THESE WASTES.

status: Recommendation complete.

Lead: MDEQ, Waste Management Division

Plan Implementation Coordinator (tracking)

Timeframe: Immediate

<67> · THE STATE OF MICHIGAN SHOULD ENACT LEGISLATION THAT EDUCATES THE PUBLIC ON THE RESPONSIBILITY OF INDIVIDUALS TO DIVERT MERCURY-BEARING MATERIALS FROM THE MUNICIPAL WASTE STREAM. SIMILAR TO LEGISLATION ENACTED IN MINNESOTA, THE LEGISLATION SHOULD PROHIBIT THE KNOWING DISPOSAL BY ANY PERSON OF MERCURY-BEARING THERMOMETERS, TOYS, GAMES, BATTERIES, FLUORESCENT LIGHTS AND THERMOSTATS IN A WASTE STREAM DIRECTED TO AN INCINERATOR. BECAUSE THE LEGISLATION IS DESIGNED TO EDUCATE INDIVIDUALS AND BUSINESSES, IT SHOULD SPECIFICALLY EXEMPT INCINERATOR OPERATORS FROM ENFORCEMENT FOR VIOLATIONS COMMITTED IN THE NORMAL COURSE OF INCINERATOR OPERATION. (This recommendation should be evaluated following implementation of the CAA, Section 129 standards that requires mercury controls for all municipal waste combustors.)

status: ★ No progress thus far.

Lead: MDEQ Air Quality Division, Toxics

MDEQ, Legislative Liaison
Plan Implementation Coordinator

Timeframe: To be evaluated following compliance with Section 129, CAA Standards.

[The Healthcare Subgroup, not necessarily the entire M2P2 Task Force, also recognizes that if voluntary P2 efforts are not successful in reducing mercury in health care institutions, then legislation should be considered, including:]

<68> · THE STATE OF MICHIGAN SHOULD SUPPORT LEGISLATION THAT REQUIRES HEALTH CARE FACILITIES TO DEMONSTRATE THAT THEY HAVE INSTITUTED A PROCESS TO REDUCE USES AND SEPARATE WASTES KNOWN TO CONTAIN MERCURY FROM THEIR WASTE STREAM BEFORE WASTES ARE SHIPPED FOR INCINERATION OR INCINERATED ON SITE.

status: ★ No progress thus far.

Lead: MDEQ, Legislative Liaison

Plan Implementation Coordinator

Plan recommends adopting 'wait and see' approach.

Timeframe: For future consideration.....



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The M2P2 Task Force Also Recommends the Following Efforts be Implemented on a National Scale:

<69> · MICHIGAN SHOULD CHALLENGE ANALYTICAL STANDARDS SETTING AGENCIES INCLUDING EPA AND THE STANDARD METHODS JOINT EDITORIAL BOARD TO ADDRESS MERCURY POLLUTION PREVENTION OPPORTUNITIES THROUGH REVISIONS TO APPROVE ANALYTICAL METHODS AND DIRECTIONS FOR LABORATORY USE, HANDLING AND RECYCLING OR PROPER DISPOSAL OF MERCURY.

status: Recommendation complete.

Lead: M2P2 Task Force Chair

Timeframe: Completed in National Recommendations

<70> · MICHIGAN SHOULD PURSUE OTHER SECTOR STANDARD SETTING ORGANIZATIONS ASSOCIATED WITH THE DESIGN PHASE OF PRODUCTS WHICH MAY HAVE A SIGNIFICANT IMPACT ON ELIMINATING/LOWERING MERCURY USE IN FUTURE PRODUCTS. (EFFORTS SIMILAR TO THE SAE P2 WHITE PAPER SHOULD BE PURSUED BY THE STATE AND OTHER KEY STAKEHOLDERS

status: ★ ✕ No progress thus far. Not possible without additional resources.

(- SEE SECTION 3.6.3. of the M2P2 Task Force Final Report)

Lead: Environmental Assistance Division, Pollution Prevention Section

Affected Stakeholders

Consult standard setting organizations as needed to shift industry toward lessening manufacturers demands for mercury usage. Identify new opportunities as they arise.

Timeframe: Ongoing

Implementation: More resources are essential.

ATTACHMENTS

-ONE



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Recommendations for a National Effort

The M2P2 Task Force recommended that :

· USEPA SHOULD PURSUE A VOLUNTARY P2 INITIATIVE FOR MERCURY WITH THE CHLOR-ALKALI INDUSTRY. EMPHASIS SHOULD BE PLACED ON CONVERSION FROM THE MERCURY CELL PROCESS TO EITHER THE MEMBRANE CELL OR DIAPHRAGM CELL PROCESS. ALTHOUGH NO FACILITIES ARE LOCATED IN MICHIGAN, OUR STATE CAN BE IMPACTED BY ATMOSPHERIC TRANSPORT AND DEPOSITION FROM OUT-OF-STATE FACILITIES.

In addition:

The following recommendations were made to the National Mercury Task Force

1) ESTABLISH A NATIONAL PUBLIC EDUCATION/AWARENESS AND OUTREACH PROGRAM TO EDUCATE CONSUMERS AND END-USERS OF

MERCURY-CONTAINING PRODUCTS ON POLLUTION PREVENTION OPPORTUNITIES AND AVAILABLE ALTERNATIVES TO THESE PRODUCTS AS WELL AS ENERGY CONSERVATION OPPORTUNITIES. THE EDUCATIONAL INFORMATION SHOULD EXPLAIN THE LINK TO FISH CONSUMPTION ADVISORIES WITH FOCUS ON SUBSISTENCE FISH EATING POPULATIONS. THE INFORMATION SHOULD RAISE THE AWARENESS OF THE PUBLIC ABOUT MERCURY CYCLING IN THE ENVIRONMENT, AND ITS TOXICITY POTENTIAL AND PERSISTENCE.

2) EMPHASIZE MERCURY P2 EFFORTS THROUGH EXISTING EPA INITIATIVES SUCH AS PROJECT XL, 33/50, THE COMMON SENSE INITIATIVE OR MODEL AN EFFORT THAT FOLLOWS THE NATIONAL LEAD EDUCATION AND ABATEMENT PROGRAM.

3) INCREASE DIALOGUE WITH INDUSTRY AND MANUFACTURERS ON WAYS TO DECREASE AND/OR ELIMINATE MERCURY FROM PRODUCTS AND PROCESSES. THESE DISCUSSIONS SHOULD ALSO INCLUDE CONSIDERATION OF THE EFFECTS OF IMPORTED MERCURY-CONTAINING PRODUCTS AND MERCURY STOCK AVAILABILITY (DOMESTIC AND IMPORTED) ON EMISSIONS AND P2 EFFORTS. ORGANIZATIONS APPROACHED SHOULD INCLUDE TRADE ASSOCIATIONS, BROAD BASED ORGANIZATIONS AND VOLUNTARY STANDARDS ORGANIZATIONS SUCH AS THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) AND THE AMERICAN SOCIETY OF TESTING AND MATERIALS (ASTM). FOR EXAMPLE, DISCUSSIONS SHOULD CONSIDER THE USE OF ENVIRONMENTAL MANAGEMENT SYSTEMS AND LIFE CYCLE ANALYSIS IN THE DEVELOPMENT OF PRODUCT RELATED STANDARDS TO HELP RAISE THE AWARENESS OF DESIGN ENGINEERS ABOUT TOXIC SUBSTANCES, INCLUDING MERCURY, AT THE FRONT END OF PRODUCT DEVELOPMENT.

4) ENCOURAGE VOLUNTARY PHASE OUT OF NONESSENTIAL USES OF MERCURY AND REPLACEMENT WITH ENVIRONMENTALLY SAFE ALTERNATIVES. MANY STATES ARE RELUCTANT TO ACT IN THE ABSENCE OF A CONSISTENT, NATIONAL POLICY WHICH LEVELS THE PLAYING FIELD. EPA COULD SHOW LEADERSHIP BY CREATING A NATIONAL FORUM WITH THE STATES AND OTHER KEY STAKEHOLDERS IN REGARDS TO MERCURY EMISSIONS AND REDUCTION GUIDELINES.

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5) EXPAND THE UNIVERSAL WASTE RULE FOR MERCURY-CONTAINING PRODUCTS, SUCH AS FLUORESCENT LAMPS, SWITCHES, HIGH-INTENSITY DISCHARGE LAMPS, THERMOMETERS AND MERCURY-CONTAINING MEDICAL EQUIPMENT.

6) FOSTER VOLUNTARY NATIONAL RECYCLING AND/OR BUY BACK PROGRAMS FOR MERCURY-CONTAINING WASTES INCLUDING FLUORESCENT LIGHTS. THE RECYCLING EFFORT FOR FLUORESCENT LIGHTS COULD POSSIBLY BE IN CONJUNCTION WITH THE EPA GREEN LIGHTS PROGRAM.

7) CONTINUE EPA'S EFFORT TO ENCOURAGE NATIONAL ENERGY CONSERVATION, INCLUDING COMMUNICATIONS ON THE BENEFITS OF REDUCED EMISSIONS OF POLLUTANTS FROM FOSSIL FUEL BURNING. EPA SHOULD BROADEN ITS EFFORT BY WORKING IN COOPERATION WITH THE DEPARTMENT OF ENERGY.

8) DEVELOP A NATIONAL LABELING REQUIREMENT FOR PRODUCTS OR COMPONENTS WHICH CONTAIN A SIGNIFICANT PERCENTAGE OF MERCURY FOR ITS FUNCTION OR AS AN ADDED INGREDIENT. THIS WOULD ALLOW CONSUMERS AND BUSINESSES TO MAKE INFORMED CHOICES IN EFFORTS TO SUPPORT POLLUTION PREVENTION PROGRESS.

9) CONTINUE EPA'S EFFORT TO FIND AN ALTERNATIVE TO THE INCINERATION OF ORGAN-MERCURIC WASTES. PURSUANT TO RCRA, AN ALLOWED TREATMENT OF ORGANIC WASTES CONTAINING MERCURY IS INCINERATION. THIS PRACTICE HAS CONTRIBUTED TO THE ANTHROPOGENIC MERCURY LOADINGS INTO THE ENVIRONMENT IN MICHIGAN AND MAY UNDERMINE MANY OF THE CURRENT P2 EFFORTS UNDERWAY.



Additionally, the following research and data needs were recommended to the National Mercury Task Force:

(Recommendations number 1-6 were adopted from the Michigan Environmental Science Board's report, "Mercury in Michigan's Environment: Environmental and Human Health Concerns (A Science Report to Governor John Engler)" April 1993.

1) Pregnant Women In The Nation Should Be Periodically Monitored To Determine The Current Level Of Exposure To Mercury And Whether The Exposure Is Changing. Hair and/or blood should be sampled at intervals not exceeding 5 years.

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2) Ambient air monitoring should be conducted in and around urban areas to determine the sources and the geographic extent of high mercury concentrations. Elevated levels of ambient mercury have been found in Detroit and Chicago.

3) Undertake a national-scale investigation to obtain speciated mercury measurements in the plumes of all major mercury emission source types. This information is needed to determine which sources should be controlled and the impact any control measure will have on observed mercury concentrations. Plume measurements are much more useful than stack measurements because some gaseous mercury-two in the stack is likely to condense out to particulate mercury-two after exiting the stack. Concurrent stack and plume measurements will help determine the rate of this transformation.

4) Conduct a national study on mercury mass balance in clouds to provide insight on the importance of nucleation scavenging versus in-cloud oxidation. Cloud chambers could be utilized to test the importance of in-cloud elemental mercury oxidation, gaseous mercury-two washout and particulate mercury-two nucleation scavenging. This needs to be done in order to determine which form of mercury should be controlled.

5) Make a determination as to whether or not soils are a net source or sink for mercury by applying state-of-the-art dry deposition measurement techniques. Vertical profiling as a function of time of day and season are needed to characterize this source/sink. This information is needed in order to quantify the impact of reducing anthropogenic mercury emission sources.

6) EPA should establish a central repository to collect and maintain information resulting from various states, federal, regional and international research investigations and information on various state, federal and international legislative initiatives. The collected information should be developed into a comprehensive and up-to-date database on mercury. Currently, there is no single agency that tracks all the various mercury research issues.

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7) EPA should use multi-route exposure assessment modeling before establishing national emission limits for sources known to emit mercury. (Municipal waste incinerator standards and other incinerator standards must consider the bioaccumulative impacts of mercury in establishing adequate control levels. These standards should also include requirements for source reduction and pollution prevention of mercury-containing materials.)

8) Provide additional resources for the development of continuous emission monitoring (CEM) of mercury from such sources as incinerators and utilities.

9) In efforts to improve the scientific base of knowledge, the reporting thresholds for mercury emissions under the Toxic Chemical Release Inventory (TRI) may need to be evaluated. TRI reporting is required by Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA 313).

10) EPA's Science Advisory Board, perhaps through the Clean Air Science Advisory Committee (CASAC), should review and scientifically evaluate the accumulated mercury information and provide recommendations to the Administrator based on new data and/or advancements in the understanding of mercury in the environment. As new research information becomes available, there will be a need for EPA to scientifically evaluate the material in terms of its impact on ongoing and/or proposed programs.