THE CHLORINE INSTITUTE, INC., 2001 L STREET, N.W., WASHINGTON, D.C. 20036 - 4919
202-775-2790
Fax 202-223-7225
http : / / www.CL2.com

Stephen R. Fitzgerald, *Chair*
Carol A. Dudley, *Vice Chair*
Dr. Robert G. Smerko, *President*

FIFTH ANNUAL REPORT TO EPA
For the Year 2001
April 25, 2002

With the submittal of this fifth annual report, the Chlorine Institute member companies are pleased to announce that our goal of reducing mercury use by 50% over the base years of 1990-1995 has been achieved, four years earlier than committed. This is due to diligent work on behalf of our member companies, sharing of information and technology between companies, and other process and system improvements.

Mercury use is detailed in Table 1. The overall reduction to date is 81%. After adjusting for shutdown facilities, the reduction in mercury use by the chlor-alkali industry from the base period is 75 %. Some portion of the reduced mercury use may be attributed to the significant reduction in chlorine produced by the member companies during the year 2001.

For the year 2001 industry activities were similar to past years. Results are detailed in the various task group reports, attached.

A major focus of EPA and Chlorine Institute (CI) members during 2001 continued to center around the proposed Maximum Achievable Control Technology (MACT) standards and the Housekeeping standards. CI members appreciate the opportunity to maintain a dialog on establishing these housekeeping rules and the new MACT standards. EPA and the Chlor-Alkali industry have had extensive dialog in establishing acceptable MACT and housekeeping standards.

The Mercury Issues Management Subcommittee has been designated Mercury Issues Management Steering Committee (MIMSC), reporting directly to the Chlorine Institute's Board of Directors.

Though the goal has been achieved, member companies will continue to share information and technology to optimize and solidify the reductions.

A summary of the various task groups and their activities for 2000 are discussed in appendices A and B.

A Responsible Care® Partner Association

The MIMSC conducted the following activities during the 2001 year:

- Conducted Mercury Issues Workshop at The Chlorine Institute's Annual meeting in New Orleans (3/11/01)

- Approved the issuance of the Mercury Control Guidance Document developed by the Mercury Control Techniques Task Group

- Prepared and submitted the Fourth Annual Report to EPA concerning industry's commitment to a 50% reduction for mercury usage by 2005 (4/13)

- Held industry meeting at Chlorine Institute's office to discuss wastewater issues, pamphlet renewal activities and proposed mercury NESHAP standard for point sources

- Reactivated the Mercury Health Issues Task Group to review and/or revise key pamphlets concerning exposure and medical surveillance

The committee conducted a Mercury Issues Workshop at The Chlorine Institute's Annual meeting in Dallas/Ft. Worth on March 10, 2002.

-One Mercury Cell chlor-alkali facility in Texas was idled in 2001.

-One Mercury Cell chlor-alkali facility in Kentucky was converted to Membrane Technology in late 2001.

Table 1
Chlor-Alkali Mercury Cell Process – USA Only

	1990	1991	1992	1993	1994	1995	Average 1990-95	1996	1997	1998	1999	2000	2001
Total Mercury Purchases - pounds	407,890	330,209	231,872	133,219	268,731	406,517	296,406	242,015	320,460	340,658	214.749	172,885	69,932
Total Mercury Purchases – tons	204	165	116	67	134	203	148	121	160	170	107	86	35
US Gov Hg Consump data (C/A) – tons	272	203	230	198	149	170	204	150	176	No longer being reported.			
Total Mercury Used – pounds	443,024	350,702	296,292	207,066	291,077	330,488	319,775	273,659	232,056	208,863	176,769	158,032	60,062
Total Mercury Used – tons	222	175	148	104	146	165	160	137	116	104	88	79	30
Annual Cl2 Capacity – Tons/yr	1,757,080	1,757,080	1,757,080	1,757,080	1,757,080	1,762,080	1,757,913	1,783,580	1,800,886	1,784,797	1,675,753	1,549,780	1,378,410
Total number of Hg cells	762	762	762	762	762	762	762	762	762	762	706	682	646
Mercury Used – pounds/ton of Cl2 Capacity	0.252	0.200	0.169	0.118	0.166	0.188	0.182	0.153	0.129	0.117	0.105	0.102	0.044

Note: 1 ton = 2,000 pounds

The format for the 2001 data is per the approach suggested by EPA and that used by the Institute in prior years. The 2001 data include the ten facilities operating at year end. Data prior to 1999 are for all facilities then operating when the commitment was made.

Data for 1999 and thereafter exclude Georgia Pacific and HoltraChem – North Carolina which closed during that year.
Data for 2000 and thereafter exclude HoltraChem – Maine which closed during that year.
Data for 2001 exclude Westlake which closed (conversion) during the year.

APPENDICES

Appendix A - Mission Statements of Various Groups

Board Committee on Mercury Issues (BCMI)

The Institute's Board of Directors established an ad hoc Board Committee on Mercury Issues (BCMI) to insure that appropriate oversight is given to monitoring progress being made to achieve the commitment. Reporting to the BCMI is a technical subcommittee, the Mercury Issues Management Subcommittee (MIMSC). (This Board Committee has restructured the Mercury Issues Management Subcommittee into a Steering Committee, which will function similarly to other Chlorine Institute committees. This ad-hoc Board Committee has delegated responsibility to the Steering Committee and to the Chlorine Institute's Board of Directors. Now that the program is progressing as expected, this Board Committee has been sunset.)

Mercury Issues Management Steering Committee (MIMSC)

The mission of the Mercury Issues Management Steering Committee (MIMSC) is to address proactively safety, health, and environmental issues that will impact the manufacture and use of chlor-alkali products produced by the mercury cell process. The steering committee will develop and promote practices that will assist the users of this technology in the achievement of the goal to reduce mercury usage by 50% and in the continued protection of human health and the environment. MIMSC has established numerous technical task groups to carry out its mission. (This Subcommittee has been renamed as indicated with the same mission statement. This Committee will report directly to the Chlorine Institute's Board of Directors.)

The Mercury Emissions Measurement (MEM) Task Group

The mission of the Mercury Emissions Measurement (MEM) Task Group is to identify methods that are technically feasible to measure mercury emissions from cell room operations.

The Mercury Control Techniques (MCT) Task Group

The mission of the Mercury Control Techniques (MCT) Task Group is to identify and communicate control techniques and technologies that can be used by member companies to further reduce mercury emissions from the cell rooms. (The primary mission of this task group has been achieved, with the development and publication of a guidance document. It is in an "inactive" status and may be reactivated when the MACT housekeeping rules are promulgated.)

The Mercury Health Issues Task Group

The mission of the Mercury Health Issues Task Group is to address issues of concern pertaining to the health effects to employees potentially exposed to mercury.

The Mercury Containing Wastes Task Group

The mission of the Mercury Containing Wastes Task Group is to address regulatory issues of concern pertaining to mercury-containing wastes and to interact with EPA concerning regulatory proposals.

The Mercury in Sodium Hydroxide – New Technology Task Group

The mission of the Mercury in Sodium Hydroxide – New Technology Task Group is to identify and evaluate new technologies for further reducing the mercury content of sodium hydroxide to the lowest practical level economically achievable. This task group has completed its missions and has sunset.

The Mercury Water Quality Task Group

The mission of the Mercury Water Quality Task Group is to address issues concerning current and potential technologies and regulatory issues pertaining to waste water effluents. This Task Group was initially formed in 2001.

APPENDIX B - Task Group Progress Reports for 2001 Activities

The Mercury Emissions Measurement (MEM) Task Group

The MEM Task Group continued working with EPA in the development of the new mercury NESHAPS for mercury cell chlor-alkali facilities and the implementation of the Binational Strategy for mercury. The task group also worked with EPA through the Chlorine Institute to gather additional data on major source chlor-alkali facilities using diaphragm and membrane technologies. The EPA will use this data to see if a MACT standard is applicable to all chlorine manufacturing. A number of contacts occurred between CI and EPA.

Significant Activities in 2001

- Made presentation on the status of the new proposed mercury NESHAP at the Chlorine Institute's Mercury Issues Workshop (3/11)

- Attended the Binational Strategy Mercury Work Group meeting in Toronto to continue discussions concerning mercury issues (5/16-5/18)

- Met with industry in Raleigh/Durham to discuss EPA's proposal for point source limits, housekeeping standards and continuous emission monitor(CEM) proposed requirements (8/6)

- Made presentation of the update status of EPA's proposal for new mercury NESHAP MACT standard at The Chlorine Institute's Annual meeting in San Antonio (9/30-10/3)

The Mercury Emission Measurement Task Group will continue to work with EPA and their contractor in the development of a chlorine MACT standard for all major source chlor-alkali manufacturing, if applicable, and the finalization of the new proposed mercury NESHAP MACT standard during 2002. Once the proposal is published, the MEM Task Group will review in combination with the Mercury Control Technique (MCT) Task Group to develop comments on the proposal and discuss them with EPA and their contractor.

The Mercury Control Techniques (MCT) Task Group

This task group completed its assignment with the publication of the guidance document. The task group is inactive at present, awaiting the promulgation of the MACT standards, which may result in further activities by this group.

The Mercury Health Issues Task Group

This task group was re-activated in 2001 and is beginning to review the existing pamphlets for revision or replacement.

The Mercury Containing Wastes Task Group

The Mercury Wastes Task Group continued with its mission of addressing regulatory issues of concern pertaining to mercury-containing wastes and interacting with EPA concerning regulatory proposals. There were no issues that surfaced in 2001 requiring action by this task group.

The Mercury Water Quality Task Group

The Mercury Water Quality Task Group continued its participation in the Federal Water Quality Coalition and its efforts to assist EPA and the States in developing effective 303(d) listing criteria and TMDLs, including appropriate guidance documents.

An exploratory meeting was held with Frontier Geosciences, Inc. in Seattle, WA to evaluate proprietary mercury treatment technology they are developing for the oil & gas industry. This technology does not appear to provide any advantages over sulfide precipitation for chlor-alkali wastewater streams. Documentation developed by the US Dept. of Energy on various alternative mercury treatment technologies was also reviewed.

A significant portion of the year was dedicated to planning an industry workshop regarding optimization of the sulfide precipitation treatment systems currently employed by mercury cell chlor-alkali plants. That workshop took place in January 2002. A guidance document on sulfide treatment optimization is planned for completion by year end 2002.

The following task groups completed their mission and were sunset in 2001 or earlier years.

Board Committee on Mercury Issues (BCMI) (2001)

The Mercury in Sodium Hydroxide – New Technology Task Group (2000)

The Mercury Balance Task Group (1999)

The Mercury in Sodium Hydroxide – Current Technology Task Group (1999)

The Mercury Cell Rubber Lining Task Group (1998)