

A Plan to Improve the Collection of Mercury Thermostats

Presented to the Joint Standing Committee on Natural Resources

By the Maine Department of Environmental Protection

January 15, 2004

I. Introduction and Background

In May 2003, the Governor of Maine signed into law LD 1159, *An Act to Reduce Mercury Use in Measuring Devices and Switches*. Thermostats are one of the most commonly used measuring devices that contain mercury. The Maine Land and Water Resources Council estimated that mercury thermostats in use in Maine collectively contain over 4,000 pounds of mercury, based on the 1990 census number of building units in Maine.¹ Updating the number of building units according to the 2000 census and assuming these thermostats have an average effective life of 30 years², thermostat replacement annually generates about 200 pounds of mercury into the solid waste stream. (See Appendix 1 for calculations.) Section 5 of LD 1159 directs the Department of Environmental Protection (the Department) to develop a plan by January 15, 2004 to significantly improve collection of mercury thermostats.³

“Mercury-added thermostats. By January 15, 2004, the Department of Environmental Protection shall submit to the Joint Standing Committee on Natural Resources a plan to significantly improve the collection of mercury-added thermostats at the end of their life. The plan must include recommendations regarding responsibility for and participation in the collection, transportation and processing of mercury-added thermostats. The Joint Standing Committee on Natural Resources may report out legislation relating to the collection of mercury-added thermostats during the Second Regular Session of the 121st Legislature.”

To create this plan, the Department convened a stakeholder group to assist in the review and evaluation of the current collection system and its effectiveness, and in the development of recommendations for an improved collection system.

1. Current collection: The Thermostat Recycling Corporation (TRC) Program.

General Electric, Honeywell and White Rodgers have established the Thermostat Recycling Corporation (TRC) to recover and recycle used mercury thermostats. The program began nationally in January 1998 and started in Maine in 2000. Under the program, thermostat wholesalers can sign up and pay to receive a special container for collection of the thermostats. Heating, ventilation and air conditioning (HVAC) contractors then can drop off thermostats with participating wholesalers. When a container is filled, the wholesaler ships it, at TRC’s expense, to a facility where the mercury thermostat switch is clipped and sent for mercury recovery.

The program focuses on the HVAC distribution system because HVAC contractors install the majority of thermostats and purchase them from wholesalers. Participation by all parties is voluntary. Wholesalers are not required to offer the collection service as a condition of selling mercury thermostats made by TRC manufacturers, nor are wholesalers currently offered

¹ Land & Water Resources Council, *Labeling and Collection of Mercury-Added Products: Report to the Joint Standing Committee on Natural Resources, 119th Maine Legislature* (January 1999), p 2-12.

² NEMA claims that mercury-added thermostats last anywhere from 20 to 50 years and are more durable than electronic thermostats. These claims are contradicted by the Frost and Sullivan market survey, *supra* note 5. Frost and Sullivan at page 4-7 reports that the average life span of all thermostats is between 10 and 15 years, and states that electronic thermostats last longer because, unlike mercury thermostats, they do not contain moving parts that wear out. The Department has taken a conservative approach in their calculations by assuming a 30 year span of use for mercury thermostats and a low number of thermostat units per building.

³ PL 2003, c. 221, § 4.

financial incentives or otherwise compensated for their participation. Wholesalers who choose to participate are charged \$15 to cover the initial cost of the storage and shipping container. There is no charge to HVAC contractors for dropping off a mercury thermostat with a participating wholesaler.

To encourage participation, National Electronics Manufacturers Association (NEMA) has publicized the TRC program within the HVAC community through national trade publications and trade association web sites. NEMA also maintains a web site from which interested parties can download a flier on the TRC program, if they are aware that the web site exists. In Maine, NEMA has made direct mailings to HVAC wholesalers asking them to participate and offering signs and collection bins (at a price). To reach contractors NEMA has relied on trade associations such as the Independent Electrical Contractors Association and the Maine Home Builders and Remodelers Association to disseminate information to their members about the TRC program.

The Department has worked with NEMA to help publicize the program and increase the number of participating wholesalers. The Department has identified thermostat wholesalers for TRC's targeted mailings, issued press releases on the program, purchased collection bins from TRC and delivered the bins to wholesalers enlisted by the Department. Six of the 11 wholesalers now participating in the TRC program were enlisted through the Department's efforts. For a complete description of the Department's activities to promote the TRC program, see Appendix 2.

The Department has identified 38 HVAC wholesalers in Maine. Six participated in the TRC program in 2001; eleven in 2002. This low level of participation means that many contractors do not have access to the TRC collection program through the wholesale outlets with which they regularly do business.

In 2001, the TRC program participants in Maine collected and recycled 233 thermostats containing a total of about 1.5 pounds of mercury. In 2002, about 1.8 pounds of mercury were collected. Another 1.4 pounds had been collected in 2003 as of late May. If this recovery rate remained steady for the year, the total annual amount of mercury recovered through the TRC program would represent about 2% of the estimated amount expected from replacement of mercury thermostats in Maine⁴.

To evaluate the TRC program, the Department convened a stakeholder group and hired Portland Research Group to conduct two surveys, one for HVAC wholesalers and one for HVAC contractors. The surveys were designed to identify the strengths and barriers to the current TRC system. Survey results were used during the stakeholder process to evaluate and discuss potential options to substantially increase TRC recycling rates.

⁴ NEMA suggests that the actual mercury recovery rate is somewhat higher because some collected thermostats remain in the wholesalers' possession. Wholesalers ship the thermostats to TRC when the collection bin is full or annually, whichever comes first. NEMA also speculates that the low capture may in part reflect the fact that some homeowners choose to keep their old mercury thermostats when they are replaced.

II. The Stakeholder Process

The stakeholder group (see list in Appendix 3) met three times over a four month period. The first meeting focused on background material, including a review of statutory requirements governing the handling of mercury thermostats (see Appendix 4), discussion of the TRC program in Maine and the statistics of thermostats recycled. The group heard anecdotal information from the representative of the Dead River Company, which has been a state leader in requiring their technicians to recycle mercury thermostats. The principal difficulty cited by the representative concerning the TRC program was the lack of convenient locations with bins to accommodate their technicians statewide. Simply stated, the representative thought that there were not enough bins to make recycling easy. After examining the demographic locations of the participating wholesale outlets, and recognizing that approximately two thirds of the HVAC wholesale businesses do not participate, most of the stakeholder group concurred that there were not enough bins throughout the state to accommodate contractors in a state the size of Maine.⁵

Dead River has made an effort to educate its technicians about recycling and the TRC program. The group agreed that continuous and ongoing education was key to the success of the TRC program. Most felt that TRC had not put adequate effort into the educational program to date.

The second meeting was spent discussing the raw survey data and actions that might improve the TRC program. The group kept coming back to the importance of ongoing education and the importance of making recycling as easy as possible. All concurred that many more bins would be advantageous.⁶

The last meeting was to discuss this report, presented in draft, and the recommended steps to increase recycling rates.

III. Objectives and Results of The Surveys

1. The Survey Objectives

The Department surveyed four audiences: participating HVAC wholesale distributors; non-participating HVAC wholesale distributors; participating HVAC contractors; and non-participating HVAC contractors. The Department had several objectives. They were:

- Evaluate specific issues related to the TRC program;
 - Ease of implementing the program
 - Overall satisfaction
 - Perception of and experiences with the program
- Assess familiarity with and interest in the TRC program;

⁵ Ric Erdheim, representative for TRC and NEMA, thought the State has very good coverage.

⁶ Ric Erdheim, , and Paula Clark, DEP, were not available to participate in this meeting.

- Determine reasons for participation and non-participation in the program;
Identify barriers to participation
Determine incentives that could persuade non-participating wholesalers and contractors to participate

2. Research Method For The Survey of HVAC Wholesale Distributors

After checking with all HVAC wholesale distributors in the state it was determined that there are eleven participating locations, representing six companies, and there were twenty non-participating locations, representing fourteen companies. Telephone interviews were conducted with nine participating and seven non-participating wholesalers. The others, for the most part, declined to participate. The surveys were tailored to whether the wholesaler was participating or not. The surveys took approximately 15 minutes to administer, and were largely open-ended in nature (see Appendix 5). The results from the qualitative research effort for wholesale distributors were used to design a written questionnaire for HVAC contractors.

3. Participating Wholesale Distributor Survey Results

Overall Experience: Five of the nine participating wholesalers rated their overall experience with the TRC Program as excellent, three were neutral, and one wholesaler rated the overall experience as poor. Those who were positive indicated that the program is easy to implement and maintain, and generally problem-free. A couple of wholesalers mentioned that they have not had much experience with the program yet because they have received few thermostats for recycling. Negative comments focused on the need to put more effort into promoting the program to increase awareness and generate more obsolete mercury thermostats for recycling. Two wholesalers who rated the implementation of the program as neutral or difficult explained that the difficulty stemmed from changing people's attitudes and behaviors, overcoming contractor forgetfulness about recycling the thermostats, and making contractors aware of the program. This indicates that more education and outreach could be helpful in increasing recycling rates.

Learning about the Program: Four of the nine wholesalers cited the ME DEP as the way they first learned about the program. One wholesaler mentioned Honeywell as the source, and another said his corporate office introduced him to the program. Three could not recall how they first learned about the program. When asked whom they would turn to if they had questions about the program, wholesalers were most likely to say they would look at the information provided with the bin or contact the Maine DEP. One wholesaler was uncertain about whom to contact.

Reasons for Participating in the Program: The most common reason for participating in the program is to protect the environment. Other reasons are related to the hazardous nature of mercury, the inherent company philosophy of recycling, and demonstrating leadership in the industry.

Estimated Contractor and Homeowner Participation: Participating wholesalers estimated that, on average, only 26% of the HVAC contractors that their business serves participate in the TRC

program. Two of the nine wholesalers said that **none** of the HVAC contractors they serve participate in the program. No one indicated that all of the contractors participate. While a majority (seven of nine) of participating wholesalers said they accept thermostats from municipalities or homeowners, these thermostats account for, on average, only 3% of all thermostats recycled.

Methods to Increase Contractor Participation: The most frequently cited idea to help increase participation among contractors was to create greater awareness about the program. Three wholesalers thought putting up signs would increase participation and two said there needs to be more education around the dangers of mercury. One wholesaler suggested each the following: offering an incentive, offering recycling alternatives for those without a wholesaler nearby, and utilizing other organizations such as the Maine Oil Dealer’s Association to get the word out.

Six of nine said their company has done something to promote participation among contractors. Two said they put up signs provided by the Maine DEP, two said they rely upon salespeople to make customers aware, one included information in the company newsletter, and one wholesaler used a flyer to get the word out. Of the three wholesalers who had not promoted the program, none were aware of any plans to do anything to promote it in the future.

Offering an Incentive: Wholesalers were asked if they thought a bounty, either \$1 per thermostat returned or a dollar coupon towards the purchase of a non-mercury thermostat, would be an incentive to increase contractor participation. Only three of the nine wholesalers thought an incentive would be effective with contractors. The drawbacks of implementing an incentive (among those who were either neutral or negative about the idea) focused on who would be responsible for providing the \$1 to contractors. Two of those who considered the bounty effective indicated that “people will do anything for an incentive,” and the other respondent said that it may be effective for those who do several installations, but not so effective for those who do just a few.

Two-thirds said they would be willing to participate in a bounty program by providing contractors with a “dollar off” coupon. One wholesaler said no to the idea, because he did not want his company to become a redemption center. Two wholesalers were undecided, indicating that they needed more information to make a decision.

Reaction to State Law Requiring Participation: When asked about a state law that would require all HVAC wholesalers to participate in the TRC Program, wholesalers were split evenly on favoring or opposing (four of nine), and one couldn’t commit either way. Most recognized benefits of the state law were that it would create awareness and put everyone on the same playing field. Negative opinions about the law focused on it being unnecessary and difficult to enforce.

4. Survey of Non-Participating Wholesale Distributors

Familiarity with the Program: Familiarity with the program was low among non-participating wholesalers. No one indicated a high level of familiarity, three gave neutral ratings, and four were unfamiliar.

Of the seven non-participating wholesalers interviewed, one had previously participated but stopped. Among those who never participated in the program, four said the telephone interview was their first introduction to the program. Only two were already aware of it, one of whom could identify that he had first heard of the program through a mailing from Honeywell.

Reasons for Not Participating in the Program: Lack of awareness was the most common reason for not participating in the program. Two wholesalers indicated they don't deal with thermostats. One wholesaler said the decision would need to be made at the corporate office.

When asked what could be done to address any concerns about the program to obtain their participation, most (six of seven) indicated that they needed more information. There was one company that had participated in the program for about a year, but stopped, due to safety concerns about the handling of the collected thermostats. While the wholesaler did not indicate any problems with broken thermostats, he expressed his company's concern around the issue of who would be responsible for employee accidents and mercury spills if thermostats were to break.

Reaction to State Law Requiring Participation: Only one out of seven non-participating wholesalers favored a state law requiring all wholesalers to participate. Comments about the proposed state law were varied. Those who were opposed to it thought it was not a big enough issue to require a law, and were not happy about forcing the responsibility on wholesalers.

Miscellaneous Comments: Miscellaneous comments gathered at the end of the interview revealed positive feelings about the program, a desire to learn more, and the challenge of overcoming people's attitudes and behaviors about recycling.

5. Surveys of HVAC Contractors

In addition to the survey of wholesalers, the Department designed two surveys for participating and non-participating contractors. The objectives of the contractor surveys were the same as those of the wholesale surveys. These survey forms were mailed to the 816 HVAC contractors in the State. The response was excellent (See Appendix 6).

- Returned as undeliverable: 94
- Responded that they do not remove or replace thermostats (do not do service work) and did not fill out the survey: 36

This leaves 686 companies that might do service work.

- Responded as a Non-participating Contractor: 174
- Responded as a Participating Contractor: 57

Total Completed Surveys Returned: 231 or 34% of total companies that might do service work.

6. Survey of Participating Contractors

Fifty-seven contractors responded that they participate, or had participated in the TRC program. Most indicated that their overall experience with the TRC program was good to excellent, and that it was easy to drop off the thermostats at the wholesaler's place of business. The majority reported that they had been in the TRC program two to three years.

When asked if they had received adequate information about participating in the TRC program, half of the contractors responded positively, and the other half either strongly disagreed or somewhat disagreed. Most indicated that they anticipate continuing to use the TRC program. The average number of mercury thermostats they remove a year was reported as 28, and most of these contractors indicated that they recycle 90-100% of the mercury thermostats through the TRC system. This would equate to many more returned thermostats than TRC has reported, although some thermostats may be waiting for shipment at the wholesalers'. (Each bin holds approximately 100 thermostats and there are eleven bins statewide, so there is still a discrepancy in the numbers.) The data actually show that more contractors are paying to recycle mercury thermostats through a hazardous waste company using the universal waste system than are using the free TRC system. (See Chart 1 below)

The survey also asked contractors about incentives (a \$1 coupon or \$1 cash per mercury thermostat) and methods (bins located at their place of business) to substantially increase the number of mercury thermostats they recycle through the TRC program. There was no way to predict ahead of time that most contractors would say that they already recycle 90-100% through the TRC program, making it contradictory to claim that any incentive or change would result in substantially more recycling. This makes the negative answers difficult to interpret and leaves open the question of whether the contractors responding negatively did or did not think positively about a bounty program, or whether they felt it simply would not increase their recycling rates because they were already in the 90-100% recycling category. Still, the majority that did respond indicated that a bounty would encourage greater recycling, despite indicating earlier on the survey that recycling rates were already high. Many also indicated that locating a TRC bin at their place of business would help to boost recycling rates. One third of those responding to the question indicated they would not want a bin. Some written comments explained that the wholesale distributor they use actually picks up the mercury thermostats from them when delivering supplies, or that they are at the same location as their distributor.

When asked demographic information, there seemed to be good representation of companies statewide and the majority of those participating were larger companies, with greater than five employees.

7. Survey of Non-Participating Contractors

One hundred and seventy-four HVAC contractors responded that they had never participated in the TRC program. Two-thirds indicated that the DEP survey was their first introduction to the TRC program. Many indicated that they didn't know where to drop off thermostats and needed more information about the program. Forty-five contractors reported that they don't do thermostat removals. (Written comments indicated that many companies listed as HVAC

contractors are fuel supply companies that may contract out the service work. Analysis of the survey data shows that many of the forty-five who reported they do not remove thermostats also did not respond to many of the questions, presumably because the questions did not apply to their business.)

When provided with a very brief description of the TRC program, approximately two-thirds of the contractors indicated that they would be very likely to participate in the TRC program. Close to the same percentage indicated that they would like to have a TRC collection bin at their place of business. Twenty-two percent of those answering the question of whether a bin would be an incentive to participate said it would not, and eleven percent were unsure.

When presented with the option of a bounty, either a \$1 coupon or \$1 cash per mercury thermostat, the majority who responded to the question liked the bounty idea. The idea of cash was, not surprisingly, more appealing than a coupon, with two-thirds of the contractors responding to the offer of cash with a high rating. Written comments at the end of the survey indicated that not enough information was given about how a bounty system could work, with some thinking the cash would come from taxes. There was also concern about who would ultimately receive the \$1, the homeowner, the technician, or the HVAC company. Lastly, there was concern about the administrative burden that would accompany a bounty program. All of these concerns were echoed by a company representative in the stakeholder group and most of the wholesalers.

The non-participating contractors reported that they remove an average of 10 mercury thermostats per year. This annual average is substantially lower than that reported by participating contractors (28). Both groups of contractors indicated overwhelmingly that written information mailed to them would be the preferred method of learning more about the TRC program.

Demographic information indicates that 60% of the responding non-participating companies are small, having less than five employees. This is opposite from the participating group, in which 60% were from companies with greater than five employees.

IV. Findings and Conclusions on the Current TRC Program

1. Overall Experiences:

Participating wholesalers and HVAC contractors have had a positive experience with the TRC program, as most indicated it was easy to implement, maintain or recycle. Negative associations with the program were around two issues: low awareness of the program, and a low level of recycling, even among those who are aware.

On average, only 26% of HVAC contractors are estimated by participating wholesalers to take part in the program. Extrapolating from the number of returned contractor surveys, it is estimated that approximately 26-29% of contractors may be participating in the program. This may be on the high end because those who are participating may be more likely to respond to the survey than those who are not. While most of the participating wholesalers accept thermostats

from municipalities and homeowners, these thermostats account for, on average, only 3% of all thermostats recycled.

More than half of participating wholesalers have not sent in a full container in the past year.

2. Program Awareness:

There is a lack of awareness among contractors and wholesalers about the TRC program. Surveys of both participating wholesalers and contractors reveal that many think program information has not been adequate. There is also a lack of identity of who “owns” the TRC program. The fact that many wholesalers and the majority of contractors were unfamiliar with the TRC program, many having first learned of the program through the Department surveys, indicates that TRC needs to greatly expand its outreach efforts. The program would clearly benefit from an ongoing promotional campaign directed at HVAC wholesale businesses and contractors, municipalities, and homeowners.

- Among those wholesale businesses that never participated in the program, four of six indicated that the telephone interview was their first introduction to the program. (The Department has in the past contacted all wholesalers to inform them about the TRC program, but employees change and, like any education effort, activities and information need to be periodically repeated.)
- Non-participating wholesalers were very receptive to learning more about the program, opening the door for the TRC to convince them to participate.
- A strong two-thirds of non-participating contractors indicated an interest in future participation in the TRC program and would like information mailed to them.
- Half of the participating contractors indicated that TRC’s educational efforts could be improved.

3. Incentives:

Offering a monetary incentive to contractors may help boost participation in the program, and warrants further exploration.

- While only three of nine wholesalers indicated a \$1 incentive for each returned thermostat would be effective with contractors, their concerns focused more on how the incentive would be handled and how it would involve the wholesalers rather than if it would be an effective enticement to draw HVAC contractors into the TRC program.
- Two-thirds of wholesalers said they would be willing to participate in a bounty program by providing contractors with a dollar or a “dollar-off” coupon. Wholesalers were much more receptive to a coupon over cash.

- The majority of HVAC contractors, both participating and non-participating, liked the idea of a bounty of a coupon or cash. Cash was a more popular concept than coupons.
- Clearly not enough information about how a bounty program would work was provided during the surveys, as evidenced by comments of survey participants. This may have led to more negative responses than had the bounty concept been adequately explained.

Increasing the number of bins by making them available to HVAC contractors was a popular concept to increase recycling rates.

- Approximately two-thirds of contractors indicated that they would like to have a bin at their place of business and that this would be an incentive to increased recycling.
- The stakeholder group concurred that an increased number of bins would substantially improve recycling rates.

4. Recycling Rates

Overall recycling rates through the TRC program continue to be poor. Contractors pay hazardous waste companies to recycle more mercury thermostats than use the free TRC program. Less than 2% of the estimated mercury thermostats discarded in Maine in 2002 were recycled through the TRC program.

There seems to be a discrepancy among contractors about how many mercury thermostats they remove per year. Contractors who have been recycling thermostats may have paid more attention to the number they have removed, because of the additional handling necessary to recycle. Still, there is a difference between what they say they have recycled, and what the TRC numbers show. Better tracking of the number of thermostats in the bins may be warranted to get a more accurate account of how many thermostats the TRC program is collecting.

V. Steps to Improve the TRC Thermostat Collection program recycling rates.

Most of the steps described below have been offered in several reports to TRC by the New England states, including Maine. Because TRC does not currently collect a significant portion of the thermostat wastestream, the following may foster improved results.

1. Continuous and greatly expanded educational outreach efforts by TRC;
2. Program expansion to allow contractors to have bins at their place of business, thus making it more convenient to recycle through the TRC program. A goal of placing 100 bins throughout the state by January 2005 is realistic;
3. TRC should allow transfer stations where universal wastes, including mercury thermostats, are collected, to have bins as well;

4. TRC should offer a smaller bin size since it seems that it takes many months to fill a bin at some locations;
5. Bins should be provided free of charge by TRC to HVAC wholesalers, contractors and municipalities upon request;
6. The legislature should consider setting recycling goals for mercury thermostats, similar to those it set for mercury-containing lamps. If the other steps above are implemented, a 70% recycling rate by June 2007 is recommended as a reasonable goal;
7. The bounty program should be further explored and evaluated if TRC fails to achieve an interim recycling goal of 50% by February 2006;
8. The Department should continue to work with the Department of Business and Financial Regulations to provide written materials to HVAC contractors during DBFR licensing and training activities.

If the above actions are recommended by the Committee, TRC should submit an implementation plan for Department approval that outlines the necessary steps and timetables. The plan should be submitted by June 1, 2004.

Appendix 1

Calculations of Mercury in Maine Thermostats and Annual Waste Stream Amounts

In January 1999 the Land and Water Resources Council submitted the report "Labeling and Collection of Mercury-Added Products Report to the Joint Standing Committee on Natural Resources, 119th Maine Legislature 1/1/99 " It provided calculations on the standing stock and waste stream amounts of mercury in Maine. In that report calculations were based on the following assumptions:

- a thermostat has 35 year life span;
- There are on average 1.5 thermostats per home;
- There are 1.25 per business establishment and;
- 83% of all thermostats contain mercury;
- Most thermostats contain 3 grams of mercury.

According to the Thermostat Stakeholder Group convened by the DEP in 2003, thermostats are often changed when new furnaces are installed, or other household remodeling is done. Most furnaces don't last 30 years, and homes are typically remodelled more often than once every 30 years, but for the sake of new calculations a 30 year life span will be used. All other assumptions given in the original report will remain the same, although they are thought to be very conservative. (For example, in the stakeholder group those who work with in the Maine HVAC industry observed that the percentage of mercury thermostats in Maine may be closer to 90%. This 90% concurs with other studies done for US EPA study. It was also observed that the number of thermostats per building unit was very conservative.)

Using these conservative numbers the calculations are as follows.

Using the 2000 US census, there are 651,901 households and 95,000 business establishments in Maine. $(651,901 \times 1.5) + (96,884 \times 1.25) = 1,098,956$ thermostats.

If 83% of this number have mercury, that means $1,098,956 \times 83\% = 912,133$ thermostats with mercury. We know that the most common thermostat has 3 grams of mercury (some have 2 ampules, therefore 6 grams of mercury, and none that we know of have less), so $912,133 \times 3\text{gms} = 2,736,400$ gms. Divide this by 454 gms/lb. = 6,027 lbs of mercury as standing stock in Maine homes and businesses.

Assuming the life of a thermostat is 30 years, each year 1/30th of the thermostats are replaced. $6,027 \text{ lbs.}/30\text{yrs.} = 200 \text{ lbs.}$ Of mercury per year in discarded thermostats. It really doesn't matter if the thermostats are thrown out or held onto, the point is that they are being replaced and could find their way into the garbage at any time.

Standing Stock: 6,027 lbs.

Waste Stream: 200 lbs./year

Appendix 2

DEP actions to improve TRC program

- August 2000: The DEP went through the yellow pages for the state and identified likely wholesalers of mercury thermostats. Each place of business was called to confirm that: (1) they distributed mercury thermostats, and (2) that they were a wholesaler. This information was conveyed to TRC and increased their mailings to wholesalers in Maine from 6 to 29 wholesalers. This resulted in two Maine wholesalers signing up for the TRC program that would not have otherwise.
- September 2000: The DEP issued a press release for the 2 wholesalers in TRC program praising the managers and explaining the TRC program and how to participate. The release received TV and newspaper coverage.
- Fall/Winter 2000: The DEP ordered and paid for 10 TRC collection bins. The DEP then called wholesalers to sign them up with the TRC program and delivered the bins with verbal instructions on how to use them. Eight wholesalers (62% of all wholesalers in program) were signed up for the TRC program through this DEP initiative. (Two later dropped out of program due to liability issues.)
- December 2000: The DEP issued press releases about the 7 wholesalers in the TRC program, explaining TRC program and how to participate. Sent to eleven newspapers. Newspaper coverage received.
- Spring 2001: The DEP did follow up calls to the wholesalers where it had placed the bins to ensure the wholesalers weren't having problems with the program.
- October 2001: The DEP obtained mailing labels for TRC of all HVAC contractors licensed to change a thermostat (17,000 individuals).
- October 2001: The DEP called wholesalers to try to find wholesaler journals or electrical contractor associations where the TRC program could be advertised.
- November 2001: The DEP called NHDES to obtain their signage advertising the TRC program so that DEP could pass this onto TRC to print and send to wholesalers.
- September 2002: A letter sent from Mercury Products Advisory Committee to retailers asking that they pledge to encourage customers to participate in the mercury thermostat recycling program. This involved displaying information developed and printed by the DEP about the hazards of mercury and identifying the mercury thermostat recycling options. Forty-six retailers sign on to the Pledge Program.
- April 2003: The DEP works with the Department of Professional and Financial Regulation to inform HVAC contractors about the requirement to recycle waste mercury thermostats and the availability of the TRC program. DPFRR agrees to include the information in their workshops for HVAC contractors.
- June 2003: The DEP hires a research company to survey all HVAC wholesale businesses in the State to identify the barriers to participation in the TRC program.

- June 2003: The DEP acquires a list of all HVAC service businesses in the State and develops a survey in order to inform contractors about the TRC program and identify barriers to their participation.
- September – November 2003: To continue its investigation of ways to improve the TRC program, DEP convenes a stakeholder group. The group helped analyze the results of the contractor and wholesaler surveys and provided valuable insight into several barriers to TRC program success.

Appendix 3

Mercury Thermostat Stakeholder Group
September 2003

<p>Leslie Anderson Dead River Company 55 Broadway P.O. Box 1427 Bangor, ME 04402</p>	<p>Jon Hinck Natural Resources Council of Maine 3 Wade Street Augusta, ME 04330</p>
<p>Steve Guerney Environmental Health Strategy Center P.O. Box 2217 Bangor, ME 04402</p>	<p>Ric Erdheim NEMA 1300 North 17th Street Suite 1874 Rosslyn, Va. 22209</p>
<p>Paul Moody Office of Licensing and Registration 35 State House Station Augusta, ME 04333</p>	<p>Paula Clark Me DEP 17 State House Station Augusta, ME 04333</p>
<p>Ann Pistell Me DEP 17 State House Station Augusta, ME 04333</p>	

Appendix 4

Maine Statutory Provisions that impact the sale and management of Mercury-added Thermostats

38 MRSA § 1661. This section has been amended several times since the original mercury legislation, P.L. 1999, c. 779, *An Act to Reduce the Release of Mercury into the Environment from Consumer Products*. In the original statute, this section contained the definitions. Thermostats were included in the definition of a mercury-added product.

In P.L. 2001, c. 373, § 1661-A, 1661-B and 1661-C were added. Notification provisions required of the manufacturer of mercury-added products were contained in § 1661-A. This applies to all manufacturers of mercury thermostats that sell their product in Maine. § 1661-B pertains to disclosure of mercury-containing products sold to hospitals, and has no direct impact on thermostat management. § 1661-C bans the sale or distribution of elemental mercury and certain mercury-added products, but thermostats were not included.

P.L. 2001, c. 620 amended § 1661-C to include mercury-added thermostats in the sales ban, starting in January 2006. Two exceptions were made; thermostats used for manufacturing or industrial purposes and thermostats used by a blind or visually impaired person. Exemption criteria were also spelled out. In addition, § 1661-C required the Department to submit a report to the joint standing committee of the Legislature having jurisdiction over natural resources. In the report the Department was required to summarize the notification data and provide a strategy to reduce the mercury content of products.

P.L. 2003, c. 221 further amended the sales ban under § 1661-C to clarify the scope of exemption for thermostats used for manufacturing or industrial purposes. It added a requirement that by January 1, 2004 the Department submit a plan to significantly improve the collection of mercury-added thermostats.

All of the sections noted below impact the management of mercury-added thermostats in the State. None of these sections have been amended since passed in the original legislation, P.L. 1999, c. 779, *An Act to Reduce the Release of Mercury into the Environment from Consumer Products*.

38 MRSA § 1662. Labeling and consumer information required for mercury-added products.

Effective January 1, 2002, a manufacturer may no longer sell at retail or to a retailer in this State, and a retailer may not knowingly sell a mercury-added product unless the item is labeled pursuant to this subsection. The label must clearly inform the purchaser or consumer that mercury is present in the item and that the item may not be disposed of or placed in a waste stream destined for disposal until the mercury is removed and reused, recycled or otherwise managed to ensure that it does not become part of solid waste or wastewater. Manufacturers are required to affix labels that conform to the requirements of this subsection to mercury-added products for sale or distribution in the State.

Note: The Department has adopted mercury product labeling standards by rule. This rule [chapter 870] was adopted in 2001 in advance of the effective date of the labeling requirement and amended in January 2003. The labeling standards mirror labeling standards adopted by the Vermont Agency of Natural Resources. Thermostat manufacturers have submitted a labeling plan to Vermont for approval but that plan has not yet been approved.

§1663. Disposal ban

After July 15, 2002, a person may not knowingly place a mercury-added product such as a thermostat in solid waste for disposal. (This provision does not apply until January 1, 2005 to mercury-added products from a person's home. See §1666 below.)

§1664. Source separation

1. Removal from service; products containing mercury. When a mercury-added product is removed from service, the mercury in the item must be reused, recycled or otherwise managed to ensure compliance with section 1663.

A person who is in the business of replacing or repairing a mercury-added product in households shall ensure, or deliver the item to a facility that will ensure, that the mercury contained in an item that is replaced or repaired is reused, recycled or otherwise managed in compliance with section 1663.

2. Thermostats. A manufacturer of thermostats that contain mercury or a manufacturer of thermostats that may replace thermostats that contain mercury shall, in addition to the requirements of section 1662, provide incentives for and sufficient information to purchasers and consumers of the thermostats for the purchasers or consumers to ensure that mercury in thermostats being removed from service is reused, recycled or otherwise managed in compliance with section 1663. A manufacturer that has complied with this subsection is not liable for improper disposal by purchasers or consumers of thermostats. Manufacturer collection programs conducted in accordance with universal waste rules adopted by the Department meet the requirements of this subsection.

To the best of the Department's knowledge, manufacturers of mercury thermostats have not complied with the above provisions with direct incentives or information to consumers. Limited information has been provided to HVAC contractors through trade journals.

§1666. Household hazardous waste exemption

A person who uses mercury-added products in that person's home is not subject to the provisions of section 1663 or 1664 until January 1, 2005 with respect to those products the person uses in that person's home and is not subject to fines or penalties for noncompliance with the provisions of section 1663 or 1664 with respect to those products the person uses in that person's home.

§1668. Education program

This section requires the Department and the State Planning Office to institute an education program relating to mercury-added products. The education and outreach program activities are summarized in an annual report to the legislature from the Mercury Products Advisory Committee and are available from the Department.

To summarize the key provisions regulating mercury-added thermostats:

1. Manufacturers of mercury-added thermostats must notify and supply the State with information regarding the mercury content of their product.
2. Mercury-added thermostats must be clearly labeled as containing mercury when offered for sale in Maine.
3. Thermostat manufacturers must provide incentives and information to consumers sufficient to ensure that the mercury in the thermostats is properly managed when they are removed from service
4. The sale of mercury-added thermostats after January 1, 2006 is banned unless the thermostat is used by the visually impaired or blind, is used as part of a manufacturing process or the manufacturer obtains an exemption from the commissioner.
5. A mercury-added thermostat from a household may not be disposed of in the solid waste stream after January 1, 2005.
6. A mercury-added thermostat removed from service by a HVAC contractor must be recycled and can not be disposed of in the solid waste stream.

On December 16, 2002 the National Electrical Manufacturers Association (NEMA) submitted a request for an exemption from the ban. NEMA filed the exemption application on behalf of thermostat manufacturers General Electric, Honeywell and White Rogers. In order to receive an exemption NEMA had to demonstrate that

- A. A system exists for the proper collection, transportation and processing of the mercury-added thermostat at the end of its life; and
- B. The specific use or uses of the mercury-added thermostat provide a net benefit to the environment, public health or public safety when compared to available non-mercury alternatives.

The Department subsequently hired the Lowell Center for Sustainable Production to independently investigate the energy efficiency and pricing of four thermostat technologies. After receiving the Lowell report and careful evaluation of all pertinent information, Department staff recommended denial in a draft decision dated May 23, 2003. NEMA has submitted comments on the draft decision. A final decision is pending.

Appendix 5

**Maine DEP
Thermostat Recycling Program
Survey of Participating Wholesalers**

Hello, my name is _____. I'm calling from Portland Research Group, an independent marketing research firm located in Maine. We are conducting a study for the Maine Department of Environmental Protection about your participation in the Thermostat Recycling Program. Please be assured that your responses will be kept strictly confidential and that we are not trying to sell you anything.

(If respondent says they don't have time to talk, set up an appointment)

Date:_____ Time to call:_____

(ONLY IF ASKED ABOUT LENGTH: "This interview will take about 12-15 minutes")

SCREENER

A. I have <COMPANY NAME> listed as one that participates in the Thermostat Recycling Program. Is that correct?

YES 1 (CONTINUE) NO 2 (GO TO NON-PARTICIPATING SURVEY)

B. I have you listed as the contact person at <COMPANY NAME>for the Thermostat Recycling Program. Is that correct?

YES 1 (CONTINUE) NO 2 (ASK FOR NEW CONTACT, REPEAT INTRO)
MAIN QUESTIONNAIRE

1. First, how would you describe your company's overall experience of being involved with the Thermostat Recycling Program? Please use a ten-point scale where 1 means, "poor" and 10 means "Excellent" to indicate your response.

Poor

Excellent

1 2 3 4 5 6 7 8 9 10

1A. Why do you say that? PROBE ABOUT EXPERIENCES -- GOOD AND BAD. IF "Inconvenient" OR "Convenient" OR "Easy" PROBE FOR DETAILS.

2. How long has your company been involved in the Thermostat Recycling Program? (DO NOT READ LIST.)

Less than a year	0	Three years	3
One year	1	DON'T KNOW	9
Two years	2		

3. Think back to when your company first got involved with the program, how easy or difficult was it to **implement the program** at your company? Please use a ten-point scale where 1 means, "Very difficult" and 10 means "Very Easy" to indicate your response.

Very Difficult

Very
Easy

1	2	3	4	5	6	7	8	9	10
ASK Q3A							SKIP TO Q4		

3A. *And why do you say that? PROBE FOR DETAILS. WHAT, SPECIFICALLY, MADE IT DIFFICULT? - EXPLAIN EXPERIENCES.*

4. How did you first learn about the program?

5. What are your main reasons for participating in the program?

6. Who would you turn to if you had questions or needed information about the program?

7. How easy or difficult is it to **maintain the program** at your company? Please use a ten-point scale where 1 means, "Very difficult" and 10 means "Very Easy" to indicate your response.

Very Difficult

Very
Easy

1	2	3	4	5	6	7	8	9	10
ASK Q7A							SKIP TO Q8		

7A. *And why do you say that? WHAT, SPECIFICALLY, MAKES IT DIFFICULT? - EXPLAIN EXPERIENCES.*

8. During the **past year**, about how many times has your company sent in a container of mercury thermostats to TRC?

9. Do you accept thermostats from municipalities or homeowners?

YES 1 CONTINUE

NO2 SKIP TO Q11

10. Of all the thermostats collected during the past year, approximately what percent were from homeowners or municipalities?

_____ %

11. Now I'd like you to think about HVAC contractor participation in the program. About what percent of HVAC contractors that your business serves participate in the TRC program?

_____ %

12. What could be done to get non-participating contractors to participate in the program? IF "Make it more convenient/easier" PROBE FOR WHY CURRENT PROCESS IS DIFFICULT.

13. Has your company done anything to promote participation among contractors?

YES 1 ASK 13 A

NO2 SKIP TO Q14

13A. *What, specifically, has your company done to promote participation from contractors?*

SKIP TO Q15

14. Do you have any plans to promote the program in the future?

YES 1 ASK 14A

NO2 SKIP TO Q15

14A What specific plans do you have to promote the program?

15. One potential idea to increase participation is to provide a bounty or a small monetary incentive to **contractors**. How effective in increasing participation among participating and non-participating **contractors**, do you think it would be to pay them \$1 for each returned thermostat? Please use a ten-point scale where 1 means, "Not at all effective" and 10 means "Very Effective" to indicate your response.

Not at all effective

Very Effective

1	2	3	4	5	6	7	8	9	10
ASK 15A							ASK 15B		

15A. What do you see as some of the drawbacks to implementing a bounty or monetary incentive?

SKIP TO Q16

15B. Why do you say that?

16. Assuming your company would be reimbursed by the thermostat manufacturers, would you be willing to participate in a bounty program by providing contractors who return mercury thermostats a financial incentive such as a dollar or a “dollar off “ coupon for a future non-mercury thermostat purchase?

- YES 1
- NO 2
- DON'T KNOW 9

16A Why do you say that?

17. Would you be in favor of a state law that would require all HVAC wholesalers to participate in the TRC program?

- YES 1
- NO 2
- DON'T KNOW 9

17A Why do you say that? PROBE RESPONSE. IF “ Small wholesalers should not be required to participate”, ASK HOW RESPONDENT DEFINES “Small”. (NOTE TO INTERVIEWER: CURRENT LAW REQUIRES HVAC CONTRACTORS TO RECYCLE MERCURY THERMOSTATS)

18. And finally, do you have any other comments that you'd like to share with me about the Thermostat Recycling Program?

Those are all the questions I have. Thank you for your time. Your comments will be very helpful to the Maine DEP.

19. Gender (RECORD BY OBSERVATION)

MALE 1
FEMALE 2

INDICATE CONTACT INFO BELOW:

NAME: _____

COMPANY NAME: _____

TELEPHONE NUMBER: (_____) _____

CITY/TOWN _____

STATE: _____ ZIP CODE: _____

**Maine DEP
Thermostat Recycling Program
Survey of Non-Participating Wholesalers**

Hello, my name is _____. I'm calling from Portland Research Group, an independent marketing research firm located in Maine. We are conducting a study for the Maine Department of Environmental Protection about the Thermostat Recycling Program. May I speak to the manager?

REPEAT INTRO TO MANAGER.

Please be assured that your responses will be kept strictly confidential and that we are not trying to sell you anything.

(If respondent says they don't have time to talk, set up an appointment)

Date: _____ Time to call: _____

(ONLY IF ASKED ABOUT LENGTH: "This interview will take about 12-15 minutes")

SCREENER

C. Are you the person at <COMPANY NAME> who would make the decision to participate in the Thermostat Recycling Program?

- YES 1 (CONTINUE)
- NO 2 (ASK FOR NEW CONTACT, THANK AND TERMINATE)

MAIN QUESTIONNAIRE

1. How would you describe your level of familiarity with the Thermostat Recycling Program? Please use a ten-point scale where 1 means, "Very Unfamiliar" and 10 means "Very familiar" to indicate your response.

<u>Very Unfamiliar</u>	<u>Very Familiar</u>
1 2 3 4 5 6 7	8 9 10
READ PROGRAM DESCRIPTION	GO TO Q2.

PROGRAM DESCRIPTION: I will now read a very brief description of the program to you. In order to help prevent mercury from contaminating the environment, Honeywell, White-Rodgers and General Electric established the Thermostat Recycling Program or TRC Program. In Maine the program utilizes the network of HVAC wholesale supply companies by providing collection containers at a minimum cost to participating locations. The program enables the public or contractors to return out-of service mercury thermostats to any participating HVAC wholesaler. Once the collection bin is full, TRC covers the costs of shipping and recycling the mercury thermostats. Except for the initial cost of the collection bin, the program is essentially free to both the participating wholesaler and those bringing in the out-of-service thermostats. Through the program, all brands of mercury thermostats are accepted.

2. Would you like to learn more about the program? PROBE: What could be done to better inform HVAC wholesalers about the program?

3. Has your company ever participated in the Thermostat Recycling Program?

- YES 1 SKIP TO Q6 NO 2 CONTINUE

4. Is this call your first introduction to the Thermostat Recycling Program (or TRC program), or were you already aware of it?

FIRST INTRO 1 SKIP TO Q5
ALREADY AWARE 2 CONTINUE

4A. How did you first become aware of the program?

5. Why does your company **not participate** in the program? PROBE FOR DETAILS. IF "Inconvenient" OR "Too difficult": WHAT WOULD MAKE IT MORE CONVENIENT/ EASIER. IF "Costly" EXPLAIN. If "Not aware": BASED ON WHAT YOU NOW KNOW, ARE THERE OTHER REASONS WHY YOUR COMPANY DOESN'T PARTICIPATE?

SKIP TO QUESTION 10.

6. For how long did your company participate in the Thermostat Recycling Program? (DO NOT READ LIST.)

Less than a year	0	Three years	3
One year	1	DON'T KNOW	9
Two years	2		

7. Why did your company **stop** participating in the program? IF "Inconvenient" OR "Too difficult": WHAT WOULD HAVE MADE IT MORE CONVENIENT/ EASIER. IF "Costly" EXPLAIN. PROBE: Anything else?

7A. And how would you describe the response expressed by HVAC contractors when you dropped the program?

8. Think back to when your company first got involved with the program, how easy or difficult was it to **implement the program** at your company? Please use a ten-point scale where 1 means, "Very Difficult" and 10 means "Very Easy" to indicate your response.

Very Difficult

**Very
Easy**

8A. And why do you say that? *WHAT, SPECIFICALLY, MADE IT DIFFICULT? - EXPLAIN EXPERIENCES.*

9. How easy or difficult was it to **maintain the program** at your company? Please use a ten-point scale where 1 means, "Very difficult" and 10 means "Very Easy" to indicate your response.

<u>Very Difficult</u>							Very Easy		
1	2	3	4	5	6	7	8	9	10

ASK Q9A SKIP TO Q10

9A. And why do you say that? *WHAT, SPECIFICALLY, MADE IT DIFFICULT? - EXPLAIN EXPERIENCES.*

10. What could be done to address any concerns you may have to obtain your participation in the program? Anything else?

11. On a scale of one to ten, with one being you would strongly oppose and ten being you would strongly favor, how would you feel about a state law requiring all wholesalers to participate? (NOTE TO INTERVIEWER: CURRENT LAW REQUIRES HVAC CONTRACTORS TO RECYCLE MERCURY THERMOSTATS)

<u>Strongly Oppose</u>							Strongly Favor		
1	2	3	4	5	6	7	8	9	10

11A. And why do you say that?

12. And finally, do you have any other comments that you'd like to share about the Thermostat Recycling Program?

Those are all the questions I have. Thank you for your time. Your comments will be very helpful to the Maine DEP.

13. Gender (RECORD BY OBSERVATION)

MALE 1
FEMALE 2

INDICATE CONTACT INFO BELOW:

NAME: _____

COMPANY NAME: _____

TELEPHONE NUMBER: (_____) _____

CITY/TOWN _____

STATE: _____ ZIP CODE: _____

Appendix 6

Thermostat Recycling Survey For Businesses That Have Never Participated in the Thermostat Recycling Corporation Program

The Maine Department of Environmental Protection is seeking your feedback on the Thermostat Recycling Corporation Program (TRC Program). We would appreciate you taking a few minutes to complete and return this survey. All responses will be confidential and will be reported only in combination with responses from other participants.

1. Is this the first time you've heard of the TRC Program, or were you already aware of it? *(Please check one response)*
 - First introduction (115)
 - Already aware (57) (2) did not answer

2. Why hasn't your company **participated** in the TRC Program? If this is the first you've heard of the program, please indicate all reasons that might prevent your company from participating. *(Please check all that apply)*
 - Wasn't aware of the program (89)
 - Need more information about the program (45)
 - Don't know where to drop off thermostats (70)
 - The location for dropping off is inconvenient (8)
 - Rarely come across mercury thermostats (34)
 - Safety concerns (2)
 - Don't do thermostat removals (45)
 - Against our company's policy (1)
 - Other: Specify: _____ (22)

Please read the following brief program description to gain a better understanding of the TRC Program. In order to help prevent mercury from contaminating the environment and harming human health, Honeywell, White-Rodgers and General Electric established the TRC Program. The program allows anyone to bring out-of-service mercury thermostats to participating HVAC wholesalers for recycling, free of charge. All brands of mercury thermostats are accepted. There are presently eleven participating HVAC wholesalers in Maine.

3. Based on what you now know about the TRC Program, how likely are your company's employees to bring out-of-service mercury thermostats to a wholesaler for recycling? *(Please circle one response)*

Not at all Likely

1 2 3 4 5 6 7 8 9 10

Very Likely

Not at all likely, 1-4 : (27) Somewhat likely, 5-7: (19) Very likely, 8-10: (110) No answer (18)

4. If the TRC Program provided a return postage-paid bin **at your company's location** that you would mail when full, how likely would your company be to participate in the program? *(Please circle one response)*

Not at all Likely

1 2 3 4 5 6 7 8 9 10

Very Likely

Not at all likely, 1-4 : (34) Somewhat likely, 5-7: (17) Very likely, 8-10: (105) No answer (18)

5. How likely would your company be to participate in the program if given the following incentive for **each thermostat** recycled? (Please circle one response for each)

	<u>Not at all Likely</u>							Very Likely		
	1	2	3	4	5	6	7	8	9	10
“dollar-off” coupon to use for a future non-mercury thermostat purchase										
a dollar in cash										

- a. Not at all likely, 1-4 : (36) Somewhat likely, 5-7: (25) Very likely, 8-10: (76) No answer (37)
 b. Not at all likely, 1-4 : (26) Somewhat likely, 5-7: (24) Very likely, 8-10: (90) No answer (34)

6. Approximately how many obsolete mercury thermostats does your company remove? If your company has more than one location, **please answer for your location only.**

Monthly: _____ Annually: _____
Not calculated Total = 1002 from 104 responses No Answer = 70

Which of the following would **help you learn more about the TRC Program?** (Please check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Information mailed to me (104) | <input type="checkbox"/> A website address (25) |
| <input type="checkbox"/> An in-person discussion with a program representative (9) | <input type="checkbox"/> Include it as part of my licensing training (11) |
| <input type="checkbox"/> A telephone conversation with a program representative (12) | <input type="checkbox"/> Other: Specify: _____ |
| | (5) |

1. In which areas of Maine does your company conduct business? (Please check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> South (Cumberland, York counties) (73) | <input type="checkbox"/> Western (Oxford, Franklin, Somerset counties) (37) |
| <input type="checkbox"/> Central (Androscoggin, Kennebec, Sagadahoc, Lincoln, Waldo, Knox counties) (62) | <input type="checkbox"/> North (Aroostook, Piscataquis, Penobscot counties) (36) |
| <input type="checkbox"/> Downeast (Hancock, Washington counties) (23) | |

2. How many employees work for your company? If your company has more than one location, **please answer for your location only.** (Please check one)

Less than 5: (94) 5 to 10: (29) More than 10: (34)
Did not answer = 17

3. Do you have any suggestions to address your company’s concerns about the TRC Program? Comments?

Received 47 comments. _____

Thank your for your time. We appreciate your input.
 Please return your completed survey by October 10th, 2003 in the postage paid envelope to:
 Maine DEP, Bureau of Remediation and Waste Management, 17 State House Station, Augusta, Maine 04333-0017

Thermostat Recycling Survey For Businesses That Participate or Have Participated in the TRC Program

The Maine Department of Environmental Protection is seeking your feedback on the Thermostat Recycling Corporation Program (TRC Program). We would appreciate you taking a few minutes to complete this survey. All responses will be confidential and will be reported only in combination with responses from other participants.

1. First, how would you describe your company's overall experience with the TRC Program? *(Please circle one response.)*

<u>Poor</u>					<u>Excellent</u>				
1	2	3	4	5	6	7	8	9	10
Poor, 1-4: (4)				Fair, 5-7: (21)			Excellent, 8-10: (31) No Answer: (1)		

2. How easy or difficult is it for your company's employees to participate in the program by dropping off thermostats at a wholesaler? *(Please circle one response.)*

<u>Very Difficult</u>					<u>Very Easy</u>				
1	2	3	4	5	6	7	8	9	10
Very difficult, 1-4: (3)			Fair, 5-7: (11)		Very easy, 8-10: (42) No Answer: (1)				

3. How long has your company been involved in the TRC Program?

- One year or less (13) Three years (16)
 Two years (25) We no longer participate (1) No answer: (2)

4. Please indicate the extent to which you, on behalf of your company, agree or disagree with the following statements about the TRC Program. *(Please circle one rating for each)*

	<u>Strongly Disagree</u>		<u>Strongly Agree</u>							
a. We received adequate information about how to participate in the program.	1	2	3	4	5	6	7	8	9	10
b. The drop off location for thermostats is conveniently located for our business.	1	2	3	4	5	6	7	8	9	10
a. Strongly disagree, 1-4: (13) Agree somewhat, 5-7: (15) Strongly agree, 8-10: (28) No answer: (1) b. Strongly disagree, 1-4: (5) Agree somewhat, 5-7: (11) Strongly agree, 8-10: (39) No answer: (2)										

5. Approximately how many obsolete mercury thermostats does your company remove? If your company has more than one location, **please answer for your location only.**

Monthly: N/A Annually: 1466- 53 answered

6. Approximately what percent of the mercury thermostats removed by your company get recycled through the TRC Program?

_____ % **Most responded between 90-100%**

7. Based on current experiences with the TRC Program, how likely are your company's employees to continue participation in the program by bringing out-of-service mercury thermostats to a wholesaler for recycling? *(Please circle one response)*

<u>Not at all Likely</u>										Very Likely	No longer Participate
1	2	3	4	5	6	7	8	9	10		00

Not likely, 1-4: (2) Somewhat likely, 5-7: (3) Very likely, 8-10: (45) No longer Participate: (0) No Ans:(4)

8. If your company has stopped participating, or is not likely to continue to participate in the program, which of the following reasons help to explain why? *(Please check all that apply)*

- | | |
|--|---|
| <input type="checkbox"/> The location for dropping off is inconvenient (3) | <input type="checkbox"/> No longer conduct thermostat removals(1) |
| <input type="checkbox"/> Rarely come across mercury thermostats (3) | <input type="checkbox"/> A change in company policy (0) |
| <input type="checkbox"/> Safety concerns (0) | <input type="checkbox"/> Other: Specify: _____ (3) |
-

9. How likely would your company be to recycle the majority of mercury thermostats if given one of the following incentives for **each thermostat** recycled? *(Please circle one response for each)*

	<u>Not at all Likely</u>							Very Likely		
10. "dollar-off" coupon to use for a future non-mercury thermostat purchase	1	2	3	4	5	6	7	8	9	10
11. a dollar in cash	1	2	3	4	5	6	7	8	9	10

a. Not likely, 1-4: (9) Somewhat likely, 5-7: (8) Very likely, 8-10: (29) No Answer: (11)

b. Not likely, 1-4: (5) Somewhat likely, 5-7: (6) Very likely, 8-10: (31) No Answer:(15)

10. How likely would your company be to significantly increase mercury thermostat recycling if the TRC recycling bin were **at your company's location** rather than at the participating **wholesaler's store**? Note that this would mean your company has a responsibility to mail the bin back to TRC (TRC pays postage) when full. *(Please circle one response)*

<u>Not at all Likely</u>							Very Likely	Would not want a bin		
1	2	3	4	5	6	7	8	9	10	00

Not likely, 1-4: (9) Somewhat likely, 5-7: (4) Very likely, 8-10: (20) Don't want bin: (16) No Ans:(8)

11. In which areas of Maine do you conduct business? *(Please check all that apply)*

- | | |
|---|---|
| <input type="checkbox"/> South (Cumberland, York counties) (26) | <input type="checkbox"/> Western (Oxford, Franklin, Somerset counties) (9) |
| <input type="checkbox"/> Central (Androscoggin, Kennebec, Sagadahoc, Lincoln, Waldo, Knox counties) (15) | <input type="checkbox"/> North (Aroostook, Piscataquis, Penobscot counties) (22) |
| <input type="checkbox"/> Downeast (Hancock, Washington counties) (9) | |

12. How many employees work for your company? *(Please check one)*

Less than 5: (23) 5 to 10: (15) More than 10: (18) No answer: (1)

13. Do you have any suggestions to address concerns you have about the TRC Program? Comments?

14 comments received.

Thank you for your time. We appreciate your input.
Please return your completed survey by October 10th, 2003 in the postage paid envelope to:
Maine DEP, Bureau of Remediation and Waste Management, 17 State House Station, Augusta, Maine 04333-0017