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May 20, 2009

Matthew Hughes, Environmental Engineer
Wheelabrator Technologies, Inc.
4 Liberty Lane West
Hampton, NH 03842

Dear Mr. Hughes:

Thank you for the 2008 Material Separation Plan 4 ("MSP4") Annual Reports. The Massachusetts Department of Environmental Protection ("MassDEP") has reviewed the Wheelabrator Technologies facility reports for Millbury, North Andover and Saugus and has found that the reports include all relevant elements and provide good summaries of your MSP4 programs.

The Wheelabrator reports will be posted on MassDEP's website in the next month along with a summary comparison of MSP results across facilities. We look forward to working with you on the continued implementation of MSP4.

As discussed in our MSP strategy meeting on May 4, 2009, a MSP5 draft for CY10 is due by August 1, 2009. And unlike previous MSPs, MSP5 will be a three year plan.

Sincerely,

Greg Cooper, Deputy Division Director
Consumer Programs
Bureau of Waste Prevention

cc: Pat Scanlon, Scanlon Associates

Material Separation Plan
For the Diversion of Mercury
(MSP4, January 1 - December 31, 2008)

Annual Report

Wheelabrator Saugus J.V.

February 2009

Materials Separation Plan
Annual Report on the Results of the Mercury Recovery Program

Introduction

This report presents annual results of Materials Separation Plan (MSP4). It includes activities for the period covering January 1, 2008 to December 31, 2008. The report describes the activities involved in the design, implementation and operation of the Mercury Recovery Program (MRP) in each community. Each MRP is community focused, locally based and operated. Wheelabrator provides all of the technical, logistical and financial support for each program. The corner stone of the MRP Program are the community collection sites. Each community has at least one, often two and in some cases three centrally located and easily accessible locations in the city or town where residents can safely dispose of products that contain mercury.

MRP for 2008 consisted of the following elements:

Regional Outreach
Local Outreach / Education
Mercury Separation and Recycling
Thermometer Exchange
Thermostat Recovery
Thermostat Reimbursement Program
School Clean Sweeps
Button-Cell Battery Collection
Bulk Mercury Collection
Fluorescent Lamp Reimbursement
Hardware store collection site development
Purchase of Sheds for Community Program

Wheelabrator has continued to develop, expand and improve the MRP in each community participating in the program.

The Regional Outreach coordinated by IWSA placed promotions radio spots in local radio stations in the Spring and Fall. New posters and flyers were developed and distributed to the communities.

The Local Outreach placed five 15 inch advertisements in the local newspapers in each community, promoting the local Mercury Recovery Program, informing residents where they could safely dispose of mercury products in their community. These advertisements are an important aspect of the overall educational and outreach effort.

The Mercury Separation and Recycling, Local Community Collection Program was continued in each of the participating communities. Each community's collection site(s) is monitored on a regular basis. When the collection pails are full they are serviced promptly by the service provider. The program collects elemental mercury and a wide variety of mercury containing devices including: fever thermometers, lab thermometers, thermostats, mercury switches, sphygmomanometers, button-cell batteries, barometers and an assortment of miscellaneous

mercury containing items. This year a small two-gallon pail was distributed to the cities and towns for the storage of any elemental mercury that may be brought into the collection site.

This year there were three new communities, Medford, Milton and Woburn. All three communities have started the community collection program and Milton received a Universal Waste Shed. They along with Woburn have started a fluorescent lamp collection program. Medford does not have space for a shed but is considering other options for a lamp recycling program.

Training and education is conducted with personnel at each site on an ongoing and as needed basis.

The collection of thermostats continues to expand in each community.

The Thermostat Rebate Program provides economic incentives through a financial reimbursement for plumbing supply businesses to recycle thermostats collected by their customers; plumbers, pipe fitters, electricians etc. This program has worked very well with larger plumbing supply businesses. The number of thermostats collected through this program continues to expand.

School Clean Sweeps collection program continues to be offered to local school systems on an as needed basis.

Button-cell batteries continued to be collected utilizing small collection boxes. The Button-cell Battery Reimbursement Program continued to be offered to communities. Several additional communities participated in the program.

The Fluorescent Lamp Reimbursement offered financial reimbursement for costs related to the disposal of mercury containing lamps such as fluorescent and HID bulbs.

The on-going program providing storage sheds for Universal Waste provided sheds to several communities for the storage of fluorescent lamps and other Universal Waste.

The Mercury Recovery Program has been successful in removing thousands of mercury containing products from the municipal solid waste stream. The Program through its regional and local educational outreach efforts, has contributed to a greater awareness on the part of residents regarding the potential impacts of mercury on human health and the environment. Residents are increasingly aware of where in their community they can safely dispose of mercury and products containing mercury. Resources, such as storage sheds and printed posters and flyers have assisted in the increasing community awareness. The program continues to evolve as new approaches encouraging participation in the safe removal of mercury from the waste stream are implemented.

1. Regional Outreach

The Integrated Waste Services Association coordinated the regional education / outreach program for five Massachusetts' waste-to-energy facilities including facilities located in Saugus, North Andover, Millbury, Haverhill, and West Wareham.

Integrated Waste Services Association's activities in support of Massachusetts' Waste-to-Energy Facilities' Materials Separation Plan (MSP4) for 2008 were well received within each community. This following report, prepared by IWSA, describes the activities involved in the design, implementation and operation of IWSA's Program in support of the five waste-to-energy plants operating in Massachusetts and their Mercury Recovery Programs (MRP). Each facilities' MRP is community focused, locally based and operated; and the IWSA activities are designed to support in a coordinated fashion the MSPs on a regional basis.

IWSA's Annual Report on the Results of the Mercury Recovery Program

1. Introduction

The Integrated Waste Services Association's activities in support of Massachusetts' Waste-to-Energy Facilities' Materials Separation Plan for 2008 continues the direction set in prior years. This report describes the activities involved in the design, implementation and operation of IWSA's Program in support of the five waste-to-energy plants operating in Massachusetts and their Mercury Recovery Programs (MRP). Each facilities' MRP is community focused, locally based and operated; and the IWSA activities are designed to support in a coordinated fashion the MSPs on a regional basis.

IWSA Regional Program activities for 2008 consisted of the following elements:

Radio Advertising for "Keep Mercury From Rising"
Evaluation & Analysis of the "Keep Mercury From Rising" campaign
Revision & Update of Website www.keepmercuryfromrising.org
Development and distribution of new print materials to facilities, the public and media

2. Regional Education Program "Keep Mercury From Rising"

The Integrated Waste Services Association coordinated the regional education / outreach program for five Massachusetts' waste-to-energy facilities including facilities located in Saugus, North Andover, Millbury, Haverhill, and SEMASS.

a) Objectives

In 2008, the Regional Outreach Plan supported individual facility programs by the continued promotion of the media campaign, "Keep Mercury from Rising". This campaign included two waves of radio advertisements designed to reach the broadest possible audience. The campaign used targeted advertising educating the listeners about the concerns related to mercury. The advertisements also encouraged residents to contact their local health departments to receive more information about mercury and find out where in their communities they could dispose of mercury containing devices.

The objectives for 2008 were met and included the following:

The Regional Outreach Program continued to raise awareness about mercury-containing products in the home and the proper handling and disposal of these products;

The Program provided information and promote local recycling events;

The Program continued to build an integrated communications program that leveraged opportunities for incremental, free media, and worked synergistically with the efforts of individual waste-to-energy facilities.

b) Tactics

A public survey was completed in May 2008 measuring the effectiveness of the educational campaign "Keep Mercury From Rising." Findings from this survey guide the development of the Regional Program. The website, www.keepmercuryfromrising.org, continues to be more user-friendly, and includes more contact information and contractor material, as well as continuing to provide information and assistance with recycling of mercury-containing products to the general public. IWSA produced five videos in 2003 for each waste-to-energy plant, and these videos are available on the website. The videos show the unique and effective programs now in place to keep mercury containing products out of the waste stream.

Survey

The effectiveness of the regional education campaign is in large part measured by an annual research survey. The polling is designed to measure positive changes in public attitudes and behaviors, as well as the receptiveness of the message. The survey questionnaire was in the field during May 2008, and consisted of 400 completes, providing a 95% confidence level.

The fragile Massachusetts economy of 2008 took its toll on the thinking and opinions of its residents in this study. We measured dramatic year-over-year increases on issues like unemployment and the state budget, as well as increased expectation/responsibility assigned to government and government agencies when it came to environmental issues.

Respondents continue to say they are willing to pay much more for equivalent non-mercury containing items, despite the failing economy. Despite the faltering economy, mercury awareness continued to climb in key categories – it just was not matched with the associated urgent actions measured in previous years because it appears that consumers have economic challenges on the front burner today.

Fluorescent light bulb awareness has doubled since 2001 (58% vs. 29%) and was up 11 points since last year. For the first time ever, over 60% of all households said they used *several bins* for different types of products (plastic vs. newspaper). Circular wall thermostat awareness continued its climb to 68% awareness vs. 58% in the year 2005. Glass thermometer mercury awareness rebounded to 92% - a five-year high. Fish advisory awareness (86%) also rebounded and was just one point short of its all time high. Owners of mercury products were given the highest responsibility for safe disposal (4.3 mean), while waste companies (3.5 mean) were assigned the lowest responsibility rating recorded in eight years.

The polling also reflected hard realities in the public's balancing of economic and environmental priorities. Recycling participation (80%) has now fallen for the second year in a row and is down 6 points from its high of 86% in 2006. Urgency to replace a mercury item

was replaced by convenience as fewer respondents (48% today vs. 61% in 2006) would immediately stop using a mercury item in the home, if labeled, and would *wait* to replace it, as needed.

ii) Advertising

In 2008, IWSA continued to air the radio spot that was developed in 2007. The new spot capitalizes on the educational outreach in past years and offers listeners a proactive message on what to do with items that contain mercury. Set to a catchy jingle, the advertisement reminds people which products are most likely to contain mercury and "Don't Put Mercury in the Trash!". The advertisement directs listeners to the Keep Mercury From Rising website or their local health departments for more information. The radio spot is available for download on KeepMercuryFromRising.org.

IWSA purchased two separate two-week radio buys in 2008 and advertised on radio stations that broadened our geographic outreach. Radio is a targeted medium that provides cost-efficient mass communication and built frequency of message delivery.

The first two-week radio buy was implemented April 21 through May 2, 2008. Markets targeted by the radio buy were Boston, Worcester, New Bedford, and Cape Cod. In order to maximize the dissemination of the message, IWSA purchased another two-week radio buy that aired September 22 through October 3, 2008. Based on the results of the survey conducted after the radio ad, we believe the plan was successful in increasing public awareness.

iii) Web-based Tool

The www.keepmercuryfromrising.org website was completely redesigned in 2008. The new design is attractive and user-friendly. It provides new and improved information in a manner that will entice the user to explore the site and benefit more from its contents.

The site continues to provide information in the following categories:

Home – includes background on Keep Mercury From Rising and information on calling 1-866-9MERCURY for more information about safe disposal options.

Drop-off sites – provides information on where to drop-off mercury containing items.

Spills – provides a variety of information on actions one should take in the event of a mercury spill.

FAQs/Surveys –provides answers to common questions, as well as information derived from our surveys.

Video – provides the five videos developed by the facilities.

Links – links were proactively sought and added to this page and efforts were made to increase the number of other website that link to http://www.keepmercuryfromrising.org.

Media – provides the audio files for past and present radio advertisements as well as pdf files for our new and popular print materials.

Print Materials

IWSA continues to disseminate the popular print materials developed in 2007 to reinvigorate the regional campaign. The materials include posters identifying items containing mercury and where you can bring those items in for exchange. IWSA also developed an eye-catching handout in the shape of a trash can that opens and discusses the types of mercury containing items that should not be put in the trash. These trash can flyers were extremely popular and demand was high. Tens of thousands of these flyers were printed in 2008 and continue to be very popular in every place that they are used.

Video

The five-minute "Keep Mercury from Rising" educational video was completed for each facility in 2003. The video explains the need to recycle mercury-containing products and the efforts undertaken by the state of Massachusetts and waste-to energy facilities to reduce the amount of mercury entering the environment.

The video now is being used at the five waste-to-energy facilities for educational purposes during tours and other meetings. Copies of the video have been made available to local cable access television stations and a "B-roll" of visuals and sound is available for media covering MSP events. Copies of the video also have been given to local public officials to be shown at meetings, schools, senior citizen centers, and other organizations that would benefit from viewing the video. As noted above, the video also may be viewed at the website.

C) 2008 Expenditures

Activity	Actual Expenditure
Survey	**$18,000**
Media Buys	**$92,410**
Website	**$13,925**
Print Materials	**$18,647**

2. Local Outreach / Education

The local outreach / education effort consisted of several activities with a goal of increasing community awareness concerning mercury. The outreach / educational effort focused on three principles of proper management of mercury and products containing mercury. It identified the environmental and health impacts of mercury, identified products containing mercury and provided instructions on how residents can properly manage and dispose of mercury in their community. These activities consisted of newspaper advertisements, continued use of "Keep Mercury from Rising" video for presentations, educational flyer

mailings to contractors, development and distribution of new posters and flyers to the communities and continued local display of the educational boards.

a) Newspaper Advertisements

The Mercury Recovery Program continued to be advertised in local newspapers. This local outreach activity has proven to be an effective method of educating residents about mercury and the need to properly dispose of products that contain mercury. The local program coordinators consistently report that there is always an immediate increase in activity after an ad runs in their local newspaper.

The newspaper ads were specific to each community's program. They informed residents of the potential harmful effects of mercury to human health and the environment and instructed residents where they could safely dispose of mercury containing products in their community.

A total of 60 ads were placed in local newspapers promoting the program. The vast majority of the newspapers are weekly publications usually published on Wednesday or Thursday of the week.

One of these ads was for a special project.

Most of the ads were 5" x 5" ads. Just one of the ads was a combined ad for multiple communities. The towns of Gloucester and Rockport share an ad that is much larger in size than the normal ad. A total of five ads were planned for each community. The ads were placed in each community's local newspaper for the months of: March, April, May, September and October. This included one additional ad that was placed for a Household Hazardous Waste collection.

Half of the ads were generic to the program, listing a variety of common products that contain mercury. All of these products could be properly disposed of at the local collection site (s). The ads also informed residents of the on-going thermometer exchange program and encouraged them to exchange their mercury fever thermometer for a new digital thermometer. The other two ads were specific to thermostats, encouraging contractors and residents to properly dispose of these products at the local collection site.

b) "Keep Mercury from Rising" Video

The video that was developed in 2004 continues to be used by local coordinators in promoting the program in their communities when the program is presented to local organizations and schools.

The program coordinator often uses the film as part of presentations to boards of selectman, boards of health and other community groups. The film continues to be made available to local groups, organizations and schools through the Board of Health offices in each community.

Wheelabrator Saugus continues to show the film for educational purposes during tours, trainings and other meetings.

c) Educational Display Board

The educational display boards that were distributed to each community in 2002 are still being effectively utilized in the local community outreach campaign. Several of the boards are permanently displayed at the city or town hall. In many communities the boards are periodically displayed and rotated among the local libraries, senior citizen centers, health fairs and town meetings. These boards compliment the other local outreach efforts reinforcing the importance of properly disposing of mercury containing devices. The program coordinator regularly uses the display boards for presentations of the program to boards of selectman, boards of health and other community groups.

New communities received new educational boards mounted on a new thin plastic background. The color of the boards was brightened and they can be used indoor or outdoors. The earlier educational boards could only be used indoors. The coordinators on the newer programs were very thankful to receive such a useful educational tool.

d) Special Mailing to plumbing contractors in each community

A special 9 inch by 5 inch postcard **(Attachment #1)** was mailed to each plumbing contractor within the service area. The postcard was black and red and very eye catching. It read, “Attention Contractors, The Massachusetts “Mercury Management Act” makes it Illegal to improperly dispose of Thermostats and other items containing mercury in the trash. Bring Thermostats and other items containing mercury, “Free of Charge” to your local Inspectional Services or Health Department”. A number of contractors have told me that they saw the postcard.

e) Promotional display boards

Promotional display boards were made for and distributed to each community. The boards were enlarged copies of the new posters made last year **(Attachment # 2)**. They are on corrugated plastic and can be used outdoors. All of the promotional posters and educational boards up to now were designed for indoor use. It became apparent that the communities could use a promotional board that could be used for both indoor and outdoor. The boards are two feet by three feet in size. One is green and is specifically for the collection of fluorescent lamps with large pictures of different lamps. The other board is blue and is specifically for the collection of household universal wastes such as thermometers, thermostats, switches and button-cell batteries. Again there are large pictures of each of these items. On the bottom of the board is a large blank area where specific instructions can be written.

Each community received one of each type of display board. If the community was working with their local hardware store in a program to collect fluorescent lamps they received an extra green board for use at the hardware store.

3. Mercury Separation and Recycling, Local Community Collection Programs

The community based collection sites continue to be the cornerstone of the overall Mercury Recovery Program. Each community has at least one; some have two centrally located,

easily accessible collection site(s). These sites are typically located at the Board of Health office, Department of Public Works and or the Transfer Station.

There is a minimum of two five-gallon pails for the collection of mercury containing items at each of these sites. The second pail is the backup and is to be used only after the first pail becomes full. The individual(s) at each site responsible for the daily management of the program have been trained in the proper handling and management of mercury containing products. They have also been trained in the proper clean-up procedures in the case of a spill. Each location has a mercury spill kit and a box of zip-lock plastic bags. Written instructions are on the spill kit itself as well as on each five-gallon pail. Due to the fact that there are frequent changes in personnel, training is reviewed with the staff on an as-needed basis during visits to the collection sites. In most cases some form of training and education takes place on each visit.

The MRP service provider for 2008 was Enviro Safe / Triumvirate. Enviro Safe was purchased mid-year. There was clearly a new business plan and the decision was made to switch vendors. Complete Recycling Services will be the new vendor as of January 1, 2009.

Attached to each five-gallon pail are two stickers. One sticker contains the program instructions with information about what to do in case of a mercury spill. The other larger sticker identifies the program, lists a few of the representative mercury containing products and gives instructions about what to do when the pail is full. The local program coordinators are instructed to secure the lid and call the 800 telephone number for a pickup. Contractually, the service provider provides pick-up and recycling services for the pail normally within two weeks of being notified.

In the event that a large quantity of elemental mercury is found in a residents home, special arrangements can be made for a pick up to occur at that location. This aspect of the program is referred to as bulk mercury collection. Usually a resident will call the Board of Health about having a bottle or container of mercury. The Board of Health will then contact the program coordinator who will go to the site, examine the mercury, seeing what type of container it is in and in turn calls the service provider for a pickup.

Medford, Milton and Woburn are new participants in the program in 2008. Medford has a population of 56,000, Milton's population is 26,000 and Woburn's is 38,000. Medford has a collection program at their Department of Public Works in City Hall. They are very limited for space at the town yard and can not accept a shed at this time. They are attempting to locate a suitable location and would like to start a fluorescent lamp collection program. Milton started the community collection program at their Board of Health office. They also received a Universal Waste Shed and have started a lamp collection program. Woburn has started a community collection program at the Health Department at their City Hall. Woburn also received a Universal Waste Shed and has started lamp collection program.

4. Thermometer Exchange

The permanent Thermometer Exchange Program continues to be a very popular component of the overall MRP. All of the participating collection locations appreciate the ongoing exchange program and consider the program as an important outreach component for the overall mercury recovery program. A total of 487 thermometers were collected in 2008. This

was less than was collected in 2007 (644) but the overall total was fairly consistent with the total amount collected last year. Overall the number of thermometers collected each year remains at about the same level. When a resident comes into the collection location to exchange a mercury thermometers for a new digital thermometer many of the local coordinators use this time to further educate them about mercury and other aspects of the program.

Each community has an ample supply of thermometers. Some of the communities still are giving out older thermometers that were used at the beginning of the program. These supplies of older thermometers are beginning to be replaced with the newer model. It is anticipated that the numbers of thermometers collected will continue to slowly decrease over the next few years.

5. Thermostat Recovery

The passage of the Mercury Recovery Act has had a positive impact on the overall quantity of mercury containing products that have been removed from the municipal waste stream. This Act in conjunction with the Mercury Recovery Program's radio spots, mailing to contractors and local newspaper advertisements along with the local promotion of the program with posters and flyers etc. appears to have increased general awareness about mercury in the population and of the need to properly dispose of mercury containing wastes. There has been a distinct increase in the number of thermostats recovered in 2008. This year the Mercury Recovery Program did one mailing to contractors encouraging them to properly dispose of thermostats. This was the same postcard that was sent in 2007. It was sent to the plumbers' address of licensure, normally their home address. There were also ads in the local newspaper specific to thermostats.

In combination, these efforts have resulted in 354 thermostats and 22 switches (each equivalent of one thermostat) or a total of 376 thermostats recovered. This is about half the total collected in 2007. It is unclear at this time why this number is so low compared to last year. Several large communities that are low income and multi-cultural such as Revere, Everett, Chelsea just do not generate large numbers of mercury containing items. Regardless the program continues to have the desired effect in removing thermostats from the municipal waste stream.

6. Thermostat Reimbursement Program

The Thermostat Reimbursement Program has been in place now for two years and has been extremely successful at a few plumbing supply businesses. The one plumbing supply business that did sign up for the program, Salem Plumbing Supply in Beverly did not request a pickup in 2008. We have been unsuccessful in locating another suitable business within the service area that is interested in participating in the reimbursement program. The coordinator intends to work to identify another plumbing supply business willing to participate in 2009. With the inclusion of new communities a suitable plumbing supply business willing to participate may be able to be located. The program has been highly successful in both the Wheelabrator Millbury and Wheelabrator North Andover service areas.

The program is designed to provide plumbers and contractors a financial incentive to properly dispose of thermostats at Plumbing Supply businesses. These businesses are where the majority of thermostats are purchased (points of purchase) and are logical locations for plumbers and contractors to properly dispose of these used devices. A total rebate of $5.00 per “whole thermostat” was offered to the plumbing supply businesses. A $3.00 rebate to be paid to plumbers and contractors who brought in thermostats and $2.00 for to the plumbing supply business for each thermostat recovered.

7. School Clean Sweeps

The School Clean Sweeps Program in 2008 continued to be offered to school systems for elemental mercury and products containing mercury. The program provides a free service to school systems to inspect chemical storage areas and science laboratories and for the safe removal of elemental mercury and products or devices containing mercury. In addition to the removal service the program also provides replacement products for certain items targeted for removal. Replacement products consisted of lab thermometers, digital barometers and portable and wall mounted sphygmomanometers.

There were no Clean Sweep Programs in 2008.

8. Button Cell Battery Collection

The Button Cell Battery Collection is an on-going effort in each community. Each community has received a supply of small collection boxes for button-cell batteries. They are encouraged to distribute the boxes to targeted businesses and certain community locations for the collection of button-cell batteries. Key locations in any community consist of points of purchase such as drug stores, jewelry stores, hearing aide stores and camera stores. Also community locations such senior citizen centers, health offices and libraries are fairly good locations for the collection of button-cell batteries. With limited resources it is difficult for many communities to distribute and collect the collection boxes. Very often the only collection point is the Board of Health office.

40.82 pounds of button-cell batteries or approximately 31,449.60 button-cell batteries were collected in 2008. This is more than three times the number of batteries collected in 2007. Only the City of Gloucester is participating in the Button-cell battery reimbursement program. Other communities that are generating batteries have found it difficult to locate a organization in their community interested in participating in the program.

The Button-cell Battery Reimbursement Program can be successful if properly implemented in a community. The local coordinators are encouraged to identify an interested organization in their community to participate. Once a group has been identified and agrees to participate they receive set-out collection boxes, information as to which locations are best to place the boxes such as drug stores, jewelers, audiologists, senior citizen centers, camera stores etc. At the end of the year all the batteries collected that calendar year are counted and the group receives a payment of $100.00 per pound up to a maximum of $500.00 in any given year. The only requirement on the part of the local organization is that they are asked to visit each location on a monthly basis to check on the boxes and remove any button-cell batteries in the boxes and bring them to the collection site.

The local coordinators are reminded about the program and encouraged to find a local group several times throughout the year **(Attachment #3)**. All express an interest in finding a group to participate in the program but have a difficult time identifying such a group willing to participate.

Only $130.00 was paid to a participating organization this year. The group in Gloucester failed to check on the boxes on a monthly basis. When they did go around, towards the end of the year, all the boxes were gone. It is important to show a presence at the drop-off locations on a regular basis or the people at the locations surmise that the program has ended and throw the boxes away. This group is going to try again in 2009.

9. Bulk Mercury Collection

Each community has been informed that a special collection program is available for elemental mercury. If a large quantity of elemental mercury or devices containing a quantity of mercury is identified in the community, a special pickup of the mercury (or devices) is available. All of the program coordinators are regularly reminded of this special collection service in the event of such a discovery.

In 2008 there were no bulk mercury collections.

10. Fluorescent Lamp Reimbursement Program

There has been a steady increase in the collection of fluorescent lamps over the past several years. Of the fourteen communities participating in the Mercury Recovery Program twelve have active fluorescent lamp collection programs collecting lamps from municipal buildings and public schools. Two communities, Marblehead and Swampscott that started the overall program last year implemented a fluorescent lamp collection program in 2008. Two communities, Milton and Woburn are new communities and just started their program in the second half of 2008. Both communities received a Universal Waste Shed. Medford, also a new community is the only community that does not have a program in place to collect fluorescent lamps. The Department of Public Works city yard is too small to accommodate a storage shed. The Recycling Coordinator and I will be working on finding a location in 2009.

a) Hardware Stores

Out of fifteen communities, eight are currently working with their local hardware store making it convenient for residents and small businesses to recycle their fluorescent lamps. These communities include: Beverly, Everett, Gloucester, Lynn, Marblehead, Rockport, Saugus and Swampscott. The City of Everett has two hardware stores

participating. The Town of Ipswich decided to discontinue participating with their hardware store. This is the only community that has discontinued the program once it was established. The Department of Public Works Director is understaffed and the recycling center is within a couple of blocks from the hardware store. Residents can bring their fluorescent lamps to this site when it is open on the weekends.

The program is presented as a partnership with the community to remove mercury from the municipal waste stream. The hardware stores are set up as a collection point for the town. When the drums or boxes are full the store calls the town. The DPW then comes and picks up the full drums and leave them empty drums. These lamps are then combined with their regularly collected municipal lamps.

The inclusion of the hardware stores has contributed to a significant increase of the number of fluorescent lamps collected in 2008. All of the programs are working fine with residents and small businesses providing them with a convenient local place to properly dispose of their fluorescent lamps.

b) Results for the Fluorescent Lamp Reimbursement Program

In 2008 a total of 71,390 linear feet of fluorescent lamps were collected. This represents and increase of over 23,000 linear feet of lamps being collected as compared to the total of 47,971 linear feet collected in 2007. In 2007 there was an increase of over 20,000 linear feet over the 2006. The quantity of lamps collected continues to increase at about 20,000 linear feet per year. With the new communities that have joined the program over the past two years most of which have just started their collection programs it is anticipated that there will be a steady increase in the amount of fluorescent lamps collected over the next few years.

There has been a significant increase in the number of other types of fluorescent lamps collected in 2008. In 2008, a total of 944 different types of fluorescent lamps (compacts, circular, U-shaped, HID and UV lamps from Tanning Salons) were collected as compared to 627 in 2007. This represents an increase of 317 lamps.

It was expected that there would be a significant increase in the number of compact fluorescent lamps collected in 2008. This was not the case. The total number of compact fluorescent lamps collected in 2008 was only 386. In 2007 a total of 317 compact fluorescents were collected, this only represents an increase of just 28 lamps. Essentially the amount collected was the same as in 2007. It is anticipated that with the new communities that have just started their programs in conjunction with the local hardware stores now collecting lamps this number will increase substantially in the coming years.

These popular lamps are just now beginning to show up in the collection stream in ever larger numbers. The majority of these compact lamps are generated in the home. They are sturdy little bulbs that when disposed of in household trash usually will make it to the trash-to-energy facility in tact. Most residents are still unaware that these lamps contain mercury. This will be an ongoing challenge to educate the public regarding the proper disposal of these lamps.

Another challenge for the reimbursement program is the high cost of disposing of these lamps. The lowest amount charged by a recycling vendor today is .36 cents per lamp. This compares to .26 cents per four foot straight lamps. The reason for this is that each lamp has to be disassembled by hand as opposed to mechanically with the four foot lamps. There are two vendors that are used by the communities for the disposal of their lamps. The program coordinator has had discussions with each about the need to develop a mechanical process for the processing of these lamps. With the ever increase in the number of these lamps being collected this could be a budget buster in the future. Both companies have informed the program coordinator that they are working on developing such a process.

11. Purchase of sheds for the storage of Universal Waste

The purchase of storage sheds for the storage of fluorescent lamps and other universal waste has been very successful. Having a shed assists the community in establishing a comprehensive fluorescent lamp collection program. The sheds that have been provided to the communities are of the highest quality and will last for many years. They have proven to be an invaluable asset in facilitating the collection of fluorescent lamps.

Five communities received Universal Waste Sheds in 2008, these included the towns of: Marblehead, Swampscott, Woburn, Milton and Saugus.

12. Program Results

The total net amount of mercury collected through the Mercury Recovery Program for 2008 weighed 32.20 pounds. This total net amount of mercury is substantially less than 2007. The total number of mercury containing devices is mixed. The total number of thermometers and thermostats decreased while the total number button-cell batteries and fluorescent lamps increased. There was a substantial drop in the total amount of elemental mercury recovered in 2008. Of the 25.93 pounds there was 19.81 pounds of elemental mercury. In 2007 there was a net total of 107.08 pounds of mercury with 93.96 pounds of elemental mercury. This is a decrease of over 74 pounds of elemental mercury.

The combined educational / outreach effort including regional radio ads, “Keep Mercury from Rising” video, mailings, flyer distribution, local promotions have all helped raise awareness of the health and environmental concern associated with the improper disposal of mercury and products that contain mercury.

The number of fever and lab thermometers collected decreased slightly from what was collected in 2007. The total number of thermometers collected in 2008 was 487 compared to a total of 644 in 2007. The overall recovery of thermometers has leveled off resulting in a relatively constant participation in the exchange program.

A total of 376 thermostats and switches were collected in 2008. This is a decrease from the total of 687 collected in 2007. It is unclear as to why this total is less than last years’ total. It is anticipated that this number will increase in 2009. It is counter intuitive that this number would

be less. Both of the other Wheelabrator facilities saw an increase in the number of thermostats collected. Both of those facilities also had a plumbing supply business actively participating in the thermostat reimbursement program.

The new mercury regulation in combination with the mercury regulations passed by the majority of local Boards of Health plus the ongoing educational and outreach programs (mailings, posters, radio and newspaper advertisements) in the communities have all contributed to an increase in awareness about products that contain mercury and how to properly dispose of these products. There should be a continued number of these mercury containing devices collected in coming years.

There were no large bulk collections of elemental mercury in 2008.

Five communities; Marblehead, Swampscott, Milton, Saugus and Woburn all started fluorescent lamp collections program in 2008 for their municipal buildings and schools. Milton, Saugus, Woburn, Marblehead and Swampscott all received Universal Waste Sheds. None of these communities had a pickup in 2008 so it is anticipated that we will see a significant increase in the total number of fluorescent lamps collected in 2009. Eight of the fifteen communities are working in partnership with their local hardware stores providing a convenient location for residents and local businesses to properly dispose of their fluorescent lamps.

A total of 71,390 linear feet of fluorescent lamps were collected in 2008. This represents and increase of over 23,000 linear feet of lamps being collected as compared to the total of 47,971 linear feet collected in 2007. A total of 944 different types of fluorescent lamps (compacts, circular, U-shaped, HID and UV lamps from Tanning Salons) were collected in 2008 as compared to 627 collected in 2007. Although this is not a large increase over what was collected in 2007, it is moving in the right direction.

If the collected straight fluorescent lamps were placed end to end they would stretch a total of 13.51 miles.

In conclusion, the Mercury Recovery Program continued to operate very successfully in 2008. All but one of the fifteen communities have implemented most of the components of the program. The decrease in the overall net mercury recovered is a direct result of the decrease in the amount of elemental mercury collected through the program in 2008. Although the net amount of mercury and number of thermometers and thermostats were less, the number of fluorescent lamps increased. It is suspected that the demographics of the participating communities contributed to the decrease in the number of mercury containing products collected. With the new communities that have started the program in the past two years it is anticipated that the total number of mercury containing products will be much higher in the coming years. The continuing regional and local outreach efforts have been very effective in educating residents about mercury and its potential harm to human health and the environment. It is anticipated that the overall Mercury Recovery Program will experience continued success in 2009.

Material Separation Plan - Saugus – Expenses – 2008

	Expenses	Budget	Balance
Expenses: Includes: consultant fees, travel, supplies, office expense	**$49,145.18**	**$49,000.00**	**$(-145.18)**
Wheelabrator Technologies: Administrative Costs	**$ 3,500.00**	**$ 3,500.00**	**$0**
Wheelabrator Saugus: Administrative Costs	**$ 5,000.00**	**$ 5,000.00**	**$0**
Insurance: Includes cost of liability and disability insurance	**$ 2,475.53**	**$ 3,000.00**	**$ 524.47**
Subtotal Administration Costs	**[$60,120.71]**	**[$60,500]**	**[$379.29]**
Regional Outreach (IWSA): Includes: Cost of Regional Outreach Program	**$39,600.00**	**$39,600.00**	**$0**
Local Outreach			
Newspaper Ads	**$18,159.45**	**$23,500.00**	**$ 5,340.55**
Special Ads	**$ 435.00**	**$ 4,700.00**	**$ 4,265.00**
Educational Boards	**$ 1,446.76**	**$ 2,100.00**	**$ 653.24**
Community Collections Includes: Cost of collection and sorting	**$ 2,474.55**	**$ 5,000.00**	**$ 2,525.45**
School Clean Sweeps	**$ 0**	**$ 500.00**	**$ 500.00**
Bulk Collection	**$ 0**	**$ 500.00**	**$ 500.00**
Thermostat, Plumbing Supply Pickup Costs	**$ 0**	**$ 3,000.00**	**$ 3,000.00**
Thermometers Exchange Includes: Cost of purchasing thermometers	**$ 5,000.00**	**$ 5,000.00**	**$ 0**
Thermostat, Contractor Mailing: Includes: Cost of printing and mailing postcards	**$ 2,846.41**	**$ 4,000.00**	**1,153.59**
Fluorescent Lamp Reimbursement: Includes: Cost of reimbursement to cities and towns	**$ 5,450.21**	**$ 7,000.00**	**$ 1,549.79**
Universal Waste Sheds: Includes: Cost of Community Universal Waste Sheds	**$ 9,585.00**	**$11,700.00**	**$ 2,115.00**
Thermostat Reimbursement Includes: Reimbursement to plumbing contractors	**$ 0**	**$ 5,000.00**	**$ 5,000.00**
Button-cell Battery Reimbursement: Includes: Cost of reimbursement to community groups	**$ 130.00**	**$ 4,000.00**	**$ 3,870.00**
Contingency	**$0**	**$10,000.00**	**$10,000.00**
Subtotal Program Costs	**[$ 85,127.38]**	**[$115,400.00]**	**[$40,472.62]**
TOTAL	**$145,248.09**	**$186,100.00**	**$40,851.91**
Annual Tonnage	**432,070 tons**		
Expenditures, Cents / Ton	**.336**		