

Material Separation Plan for the Diversion of Mercury

(MSP7)

January 1, 2018 – December 31, 2022

**Wheelabrator North Andover Inc.
North Andover, MA.**

August 2017

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Introduction

In 1998, the Massachusetts Department of Environmental Protection promulgated regulations governing the emissions from Municipal Waste Combustors (MWCs) [310 CMR 7.08 (2)]. Section 7.08(2)(f)(7)(a) requires that owners or operators of MWCs prepare and submit a materials separation plan (MSP) for the diversion of mercury-bearing products from municipal solid waste. MSP1 was implemented on January 1, 2000 and completed on June 30, 2002. MSP2 was implemented on July 1, 2002 and completed on June 30, 2004, MSP3 was implemented on July 1, 2004 and was completed on December 31, 2006. MSP4 was implemented on January 1 2007 and was completed on December 31, 2008. MSP4 was subsequently extended through calendar year 2009 and was completed on December 31, 2009. MSP5 was implemented on January 1, 2009 and was completed on December 31, 2012. Current plan MSP6 was implemented on January 1, 2013 and will be completed on December 31, 2017. MSP7 will be implemented on January 1, 2018 and will be completed on December 31, 2022.

Facility Description

The Wheelabrator North Andover waste-to-energy facility consists of two, identical mass-burn, municipal waste combustion (MWC) units, each with a capacity to combust 750 tons of municipal solid waste per day. The facility is located at 285 Holt Road, North Andover, MA.

Goal of the Plan

The overall goal of this Material Separation Plan (MSP) for the Wheelabrator North Andover municipal waste combustion facility is to attempt to divert mercury-containing products from the municipal solid waste stream that potentially could be delivered to the Wheelabrator North Andover facility. To accomplish this goal, Wheelabrator North Andover will attempt to educate municipal officials, school officials, health care professionals, the general public and businesses regarding the need to divert mercury-containing products from the municipal solid waste (MSW) stream and to provide a source of information concerning proper disposal. Wheelabrator North Andover will also provide resources for those that wish to properly dispose of and recycle their mercury-containing products.

Plan Development Process

The development of MSP7 was accomplished through numerous discussions with community coordinators for the Mercury Recovery Program, municipal officials in participating communities and Massachusetts Department of Environmental Protection staff.

Target Sectors

The target sectors for this Plan are the general public, local Health, Public Works, Building Departments, plumbing, electrical and building contractors, and schools within the Wheelabrator North Andover service area.

Service Area

The Wheelabrator North Andover facility currently serves twenty-two communities (see Table 1). The service area consists of primarily the Merrimack Valley in northeastern Massachusetts. Geographically from Amesbury in northeast Massachusetts, west to Pepperell, southeast to Acton to Watertown, northeast to Manchester and north to Newburyport.

Expanded Participation in the WTI Mercury Recovery Program

Any community contracted with Wheelabrator for trash disposal is automatically included in participation in the WTI Mercury Recovery Program. Currently twenty-one communities are under contract directly with Wheelabrator North Andover. One community, the City of Lawrence, has their trash disposal contracted with an independent trash company. If a community is not directly contracted with Wheelabrator for trash disposal but rather a private trash hauler they can still participate in the program. If it is verified that this particular community's trash will be exclusively disposed of at a Wheelabrator facility for a minimum of two years then that community is eligible to participate in the WTI Mercury Recovery Program. The City of Lawrence participates in WTI Mercury Recovery Program under the expanded program provisions.

Description of Activities

Outreach/Education

- **Goal**
The goal of the Outreach/Education portion of MSP7 is to educate the general public about the potential effects of mercury on human health and the environment. Also, its goal is to inform residents, municipal officials, health professionals, contractors and school officials about common mercury-containing products, proper handling of mercury containing devices and how to utilize the community based collection program for the proper disposal of mercury and products containing mercury.
- **Website – “Keep Mercury from Rising”**
This internet-based community information resource is available at: www.keepmercuryfromrising.org. The website reflects the overall program theme and campaign with a focus on facility programs and the mercury-containing items in trash including information regarding where to find the products in the home and where those products should go for proper disposal.

Wheelabrator North Andover in conjunction with the other two Wheelabrator facilities plans to continue to maintain and enhance, as necessary, the website “Keep Mercury from Rising .org”, developed by the Energy Recovery Council. It is a functional site with good information and will continue to be offered and updated as needed with new information. Energy Recovery Council will continue to monitor the web-site and its future development at the direction of Wheelabrator.

Certain information contained in the current website will be updated in MSP7 to include listing of participating hardware stores for the collection of fluorescent lamps, with times of operation and store links. Information contained under “Frequently Asked Questions” section will also be updated.

Budget Estimate:

2018
5,000

2019
5,000

Regional Outreach

- **General Discussion**

Wheelabrator North Andover proposes to work in conjunction with the other two Wheelabrator Waste to Energy facilities located in Millbury and Saugus, Massachusetts in devising and implementing a regional outreach/education program.

The three Wheelabrator MWCs subject to 7.08(2)(f) have service territories that range from the Atlantic coast to Worcester and from New Hampshire to Rhode Island and Connecticut. All of these facilities also have a percentage of their waste coming from non-specific markets. Therefore, the Regional outreach/education program, in addition to targeted local programs, has the ability to reach the greatest numbers of people and businesses.

The Regional program will not target specific municipalities in Massachusetts, but will focus on development and delivery of generic messages to educate consumers and others who handle mercury products. These messages may include: identification of mercury-containing products, efforts to raise awareness of health risks of improper disposal of mercury products (thermometers, thermostats, fluorescent lighting, button-cell batteries etc.) in the normal course of residential and commercial refuse collection, and providing consumers and others who handle mercury products with information concerning the proper method of recycling and/or disposal of such products.

The Regional program will use mass communication channels to reach the greatest number of Massachusetts's citizens, as well as smaller subsets of high-end users of mercury products, with specific action steps to be taken to help ensure that mercury containing products are properly recycled and/or disposed.

Regional Outreach Programs

- **Radio Advertisements**

Radio is a targeted medium that provides cost-efficient mass communication and quickly builds frequency of message delivery. Radio added-value programs can provide an opportunity to interact with local communities. There are several radio stations (talk radio) that provide an excellent opportunity for on-air discussions regarding different aspects of the Mercury Recovery Program. These programs also allow for direct communication with residents, as they often will call into the program with specific questions.

Wheelabrator North Andover plans to implement a twelve-week radio buy in April / May and September / October in both locally based smaller wattage radio stations and also in selected larger wattage radio stations. A broad variety of radio stations will be chosen to assure a broad spectrum of the population has the opportunity to hear the promotional advertisements. The advertisements will identify mercury containing products, talk about the need to properly dispose of these products because of their impacts on human health and the environment and will provide information regarding their local program, who to contact, and where they can properly dispose of these products in their community.

Budget Estimate:

2018
45,115

2019
39,785

Local Outreach Programs

- **Objectives**

- The objectives of the Local Outreach Program are:
- Inform the public (local residents) within the respective MWC facility's service area regarding the potential harm mercury poses to human health and the environment
- Identify common products that contain mercury
- Provide information about the local Mercury Recovery Program
- Provide information on the proper methods for handling and disposing of mercury containing products

Local outreach activities will primarily include informational advertisements in local media, e.g., newspapers, regarding local mercury recycling programs such as thermometer exchange programs, mercury drop-off locations and times, Household Hazardous Waste Day collections etc., and production and distribution of other materials as needed for informing the public about mercury and the various MSP Programs.

The MSP Administrator has arranged with a news service to place ads in local newspapers. Therefore, a single ad placement will reach most, if not all, local newspapers in the Wheelabrator North Andover Contract Communities. In some cases advertisements will be placed jointly for two or more communities in the same newspaper, such as Methuen and Lawrence in the Eagle Tribune.

Budget Estimate:	<u>2018</u>	<u>2019</u>
• 8 newspaper ads per year / community (144 ads @ \$340.00 each (1 st year))	\$48,960	
• 8 newspaper ads per yr. / community (144 ads @ \$350.00 each (2 nd year))		\$50,400
• HHW / Special ads per year 9 ads @ \$340.00 each (1 st year)	\$3,060	
• HHW / Special ads per year 9 ads @ \$350.00 each (2 nd year)		\$3,150
Total	\$52,020	\$53,550

- **Educational Boards**

Each year there are requests for educational boards that communities use to promote their Mercury Recovery Programs. These are large, graphic, colorful educational presentations printed on a firm plastic board. These can be attached to walls or used in educational presentations. They have three distinct messages: environmental concerns, which products contain mercury, and where these products can be safely disposed / recycled in their community.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$1,000	\$1,000

- **Educational Desktop Displays**

A few years ago educational desktop displays were distributed to Boards of Health and DPW offices for display. They were also distributed to each community library. There are two different desktop displays; one (blue) depicts the regular community based collection

program for the collection of thermostats, thermometers, button-cell batteries etc. The other (green) depicts the fluorescent lamp collection program. These stand-alone desktop displays can be displayed on desks, counters, tables etc.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$1,000	\$1,000

Mercury Recovery Program

- **Objectives**

Since the implementation of MSP1 each community has had their own locally based Mercury Recovery Program. The goal of the Mercury Recovery Program is to provide a centrally located and easily accessible site or sites in each community for the safe disposal of mercury and products containing mercury. Working closely with the Directors of Health, Boards of Health, Department of Public Works, Recycling Coordinators, Building Departments, other municipal officials and local residents' successful collection programs have been implemented in each community. The goal for MSP7 is to continue the development of these local collection programs in order to maximize the recovery of mercury and products containing mercury, thereby diverting these items from entering the municipal solid waste stream. The Mercury Recovery Program consists of several components as discussed below.

- **Community Based Collection Program**

In each participating Contract Community there is at least one, and often two or three collection sites. At each site there is a minimum of two five-gallon plastic collection pails, a box of plastic zip lock bags and a mercury spill kit. Once the pail is full of mercury containing devices, the local coordinator at that particular site, or the MSP administrator, calls the 800 telephone number prominently displayed on the front of the pail for a pickup. Complete Recycling Solutions Inc. is the service provider for the program and normally will pickup the full pail within two weeks. Upon picking up the full pail, an empty pail is left at the site.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$7,000	\$7,000

- **School Clean Sweeps**

The School Clean Sweeps Program was initiated in the first MSP and has been offered ever since. The school systems have all conducted Clean Sweeps and have removed most of the mercury containing devices. On occasion, schools that have conducted what they considered to be a thorough clean-out of mercury and mercury containing devices, have identified additional items containing mercury requiring an additional visit to that particular school system. The Clean Sweeps Program will continue to be offered to the school systems throughout MSP7, on a maintenance basis. The Clean Sweeps Program will identify mercury-containing devices and assist the schools in their proper disposal and provide replacement non-mercury products as needed.

The School Clean Sweep Program will replace on a one to one basis most common devices found in the science laboratories and nurses offices, i.e. lab thermometers, sphygmomanometers and barometers. Non-mercury replacements will be exchanged for

these three mercury-containing items. If a school system determines that they would like a review or a full Clean Sweeps Program one will be provided.

A full School Clean Sweeps Program consists of an initial consultation, normally associated with a site visit. All of the schools in that particular school system are notified by an official of the school system regarding the impending program and provided with instructions regarding the identification of mercury and products containing mercury, collection and exchange of replacement products. Elemental mercury and devices containing mercury are identified and usually consolidated at the high school prior to the actual Clean Sweep. On a specific agreed upon date the service provider will go to the designated location at the high school and safely remove any collected elemental mercury and or products that contain mercury. Replacement products will be exchanged on a one to one basis at that time.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$500	\$500

- **Bulk (Miscellaneous) Mercury Collection Program**

The Bulk Mercury Collection Program was implemented in MSP2. When needed this program has been very beneficial. Large quantities of elemental mercury have been found in basements, garages, closets etc. The largest quantity of elemental mercury recovered was located in a wooden barrel in a resident's backyard. In these instances the program manager first inspects the elemental mercury, its location and the container that it is in. The service provider is then contacted, given the specific information on estimated weight, type of container the mercury is in and any other specific information needed for the safe removal of the mercury. The service provider will then go to that specific location to pick up the mercury.

The Bulk Mercury Collection Program will be continued in MSP7.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$500	\$500

- **Thermometer Exchange Program**

An important component of the overall program has been the Thermometer Exchange Program. Although the actual number of thermometers collected through this aspect of the program has leveled off over the past few years there continues to be a certain number of residents that exchange mercury fever thermometers each year. The local coordinators in the Boards of Health or Department of Public Works still consider this aspect of the program important as an advertising tool and promotion for the program.

This program will be continued throughout MSP7. Each community will maintain a supply of new digital fever thermometers to be given to residents in exchange for glass mercury fever thermometers that they bring in for safe disposal. Additional digital thermometers will be provided to each community on an as needed basis.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$1,000	\$1,000

- **Sphygmomanometer Recovery**

In conjunction with the local community contact the collection of sphygmomanometers (blood pressure units) will be emphasized. Medical facilities, doctor's offices, dentist's offices, nursing homes will be contacted and informed that their local collection site for mercury containing items will take their sphygmomanometers free of charge. If a facility has five or more units they can either bring them into the community collection site or they will be picked up at their location.

Budget Estimate	<u>2018</u>	<u>2019</u>
	\$1,000	\$1,000

- **Thermostat Program – Mailing to Contractors**

Each year a direct mail campaign is conducted as a direct outreach to specific contractors who come in direct contact with installation and removal of thermostats. The primary focus of this outreach is directed towards plumbers, HVAC contractors, electricians and building contractors that do renovations.

The Mercury Recovery Act in Massachusetts now makes it illegal for any individual or business to improperly dispose of mercury or mercury containing devices. Contractors are the most likely to come in contact with a used thermostat when changing out old heating or cooling systems or just through energy saving efforts on the part of the homeowner.

As in past years, a postcard mailing will be conducted two to four times a year specifically targeting plumbing contractors, HVAC contractors, electricians and home improvement contractors with information regarding the passage of the Mercury Recovery Act. The postcard will be mailed to the address of licensure for each contractor informing them where they can safely dispose of thermostats and other mercury containing devices.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$11,000	\$11,500

- **Thermostat Rebate Program for Plumbing Supply Businesses and Contractors**

The Thermostat Rebate Program for thermostats is offered to plumbing supply businesses in the Wheelabrator service area. In the past this program has been fairly successful in recovering thermostats from these businesses. The small financial incentive has proven to be effective in motivating contractors and supply businesses in properly disposing of these devices.

This program will continue to be offered to local plumbing supply businesses for MSP7. Each participating business will be provided with collection pails for the thermostats along with flyers for distribution to contractors. These flyers can also be used for window displays informing contractors that this business is participating in the program. The business will be reimbursed five dollars (\$5.00) for each mercury thermostat collected. In turn the business will be expected to reimburse each contractor three dollars (\$3.00) per mercury thermostat.

Budget Estimate (Rebate)	<u>2018</u>	<u>2019</u>
	\$1,000	\$1,000

Plumbing Supply Collection Costs:	\$ 500	\$ 500
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- **Thermostat Collection Program from Auditors**

A program to assist companies that perform home energy audits properly dispose of the thermostats that are replaced in homes and businesses is being developed. Wheelabrator in partnership with these companies will provide a system to collect these thermostats from multiple locations as needed and safely dispose of them.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$8,000	\$8,000

- **Fluorescent Lamp Reimbursement Program**

The Fluorescent Lamp Reimbursement Program reimburses communities the full cost of recycling fluorescent lamps up to the amount listed in the Massachusetts Procurement Contract which at present is currently six cents per linear foot. This program has been very successful in encouraging communities to implement fluorescent lamp collection programs. Communities normally collect fluorescent lamps from municipal buildings and throughout the school system. Some communities also offer residents and small businesses the opportunity to recycle their fluorescent lamps. This program specifically excludes street lamps and ballasts. All lamps must be properly packaged. Additional charges by the service provider that result from the lamps not being properly packaged and ready for shipment will not be covered.

Several years ago local hardware stores were invited to participate in the program in partnership with their local community. These hardware stores are located in communities that do not otherwise have a convenient location for resident to properly dispose of their fluorescent lamps. These hardware stores provide a convenient drop-off location for residents interested in properly disposing of their fluorescent lamps. Fiber drums and or boxes are left at the participating hardware stores for the collection of four-foot fluorescent lamps and miscellaneous lamps such as u-tubes, circulars and compact fluorescents. Currently there are four hardware stores participating in partnership with their local community in the WTI North Andover service area. When the drums and or boxes are full, the community' DPW will pick them up, leave replacements, and bring the lamps back and put into their inventory. These partnerships have been extremely successful resulting in thousands of fluorescent lamps, primarily compact fluorescents, being diverted from the municipal waste stream.

The Fluorescent Lamp Reimbursement Program will continue in MSP7.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$22,000	\$23,000

- **Universal Waste Shed**

Wheelabrator has provided sturdy, attractive storage sheds for communities for the storage of Universal Waste. These sheds have primarily been used to store fluorescent lamps and mercury containing devices. They have proven to be essential in the success of local community programs.

From time to time new communities contract with Wheelabrator and often require a shed in order to implement a collection program for fluorescent lamps. In some cases larger communities have requested a second shed because they find one shed is just not enough to handle the volume of lamps collected. Often these additional sheds are placed at a different location in the community, such as at the school department. School departments

are typically the largest generator of fluorescent in a community and often transport of the lamps from the schools to the central collection location (shed) is problematic.

One shed is budgeted each year for the possibility of a new community being contracted or an additional shed is needed in a particular community. The sheds are delivered and erected on an appropriate site selected by the community. Each shed has a sign identifying it as a Universal Waste Shed and lists the products considered as Universal Waste. Universal Waste Sheds will continue to be offered to communities in MSP7.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$3,000	\$3,200

- **Button-cell Battery Rebate Program**

The Button-Cell Battery Collection Program is a voluntary program offered to each community. Small collection boxes, including a colorful pictorial sign that attaches to the back of the box, is provided to each community.

Several years ago the Button-cell Battery Rebate Program was implemented. This has proven to be extremely successful in recovering mercury containing button-cell batteries. Each community can have one local non-profit organization participate. It is important that the participating group can sustain the program over multiple years. Currently WTI North Andover has eighteen communities participating. There are a variety of different organizations participating including: Council on Aging, Friends of Council on Aging, Recycling / Sustainability Committees, Garden Clubs, Women's Clubs, Rotary Clubs, Veterans Organizations, High School Environmental Clubs, etc.

These participating organizations are charged with distributing the collection boxes to locations throughout the community. The organization monitors the boxes and on a periodic bases the button-cell batteries are collected and deposited into the community five-gallon collection pail at either the BOH, DPW or Transfer/Recycling Center. At the end of the year each community group is compensated for the button-cell batteries they have collected that calendar year. They each receive \$100.00 per pound up to ten pounds in a calendar year.

This program has been extremely successful in recovering mercury containing button-cell batteries. It is a win-win for everyone. The local community group receives much needed money for their activities, and tens of thousands of these batteries are removed from the municipal trash.

There are three prerequisites for participation:

- Sustainability – The local organization must be able to conduct the program for multiple years. Organizations need to be well established and known in the community, and do good work in and for the community.
- Monitoring – The local organization places the small collection boxes in a variety of locations throughout the community such as senior citizen centers, Council on Aging, assisted living and nursing homes, drug stores, camera stores, jewelry stores etc. The organization monitors the boxes on a regular basis, collecting the button-cell batteries, putting them into a plastic bag and depositing them at the community collection container.
- Payment – At the end of each calendar year, the weight of the button-cell batteries collected during that year is tabulated. The organization is then

reimbursed \$100.00 per pound up to a total of ten pounds. Payment will be made in the beginning of the following year.

Flyers for the program are also provided that can be posted on walls or in windows. A desk-top display to help each organization promote the program, identify it as a fund-raiser for the local group is also provided.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$15,000	\$16,000

Mercury Spill Allowance

Since the beginning of the program there have been three small spills of mercury. In each case Wheelabrator responded quickly to the incident with resources for a quick clean up and complete resolution of the problem.

Budget Estimate:	<u>2018</u>	<u>2019</u>
	\$1,500	\$1,500

Miscellaneous and Additional Mercury Products

Wheelabrator will continue efforts to identify additional products that contain mercury and if possible include these products in the program.

Program Administration

The Mercury Material Separation Program will be managed by the Wheelabrator North Andover facility. Wheelabrator North Andover has retained Mr. Patrick Scanlon of Scanlon Associates to conduct the general administration of the Plan. Mr. Scanlon will be responsible for ensuring the elements of the Plan are accomplished and for administering the budget. Mr. Scanlon will also coordinate with MADEP to minimize duplication of efforts between this MSP and DEP's on-going efforts.

Budget Estimates

The budget estimates contained in this plan were based on the previous three-year averaged throughput at the WTI facility. Each year's plan is based on the actual throughput tonnage at the WTI facility for the previous year. This plan contains, for planning purposes only, the estimated budget for the first two years of the plan. The budget for the last three years are not estimated at this time and will be submitted at the beginning of each calendar year as part of an annual modification to the plan.

At the beginning of each year a modification for the coming years estimated budget is submitted to the MADEP. This modified budget accurately reflects the amount of money available for the administration of the program for that specific calendar year. Also, dynamics of the implementation of the MSP may change during any given year and the modification may reflect an alteration or change in one or more operational aspects of the program.

Measurement and Evaluation

Compliance with the Material Separation provisions requirements of 310 CMR 7.08 will be based upon the implementation of this Plan, e.g., implementation of a regional and local outreach program, offering a thermometer exchange program, etc. This MSP does not estimate the amount of mercury expected to be diverted or the participation rate (i.e., number of people who will be moved to action). Experience and time have prioritized activities that have the greatest likelihood of success. However, an accurate accounting of the amount of mercury diverted from trash, even in hindsight, is difficult, if not impossible. A person persuaded by this MSP's Outreach Programs to

properly recycle mercury may take the product to a resource provided by a waste-to-energy facility, or may use one of a number of other means that are not evaluated by the facility's MSP. A significant amount of the mercury diverted by the outreach efforts may be disposed or recycled in a non-MSP location or as part of other collection programs. Indeed, if the education efforts provided by this MSP are successful, consumers will hopefully purchase non-mercury-containing products as a substitute for mercury-containing items.

Complete Recycling Services (CRS), a hazardous waste service company has been hired by Wheelabrator to service the community collection sites, School Clean Sweeps and bulk mercury collection programs. All mercury containing devices collected by the Mercury Recovery Program will be identified and counted or weighed. Each pail that is collected by CRS will be emptied onto a sorting table, counted and consolidated. The contents of each pail will be tabulated and the results of this process will be provided to the MADEP as part of the Program's Annual Report.

Table 1. Contract Communities - Wheelabrator North Andover Inc.

Community Population:

Acton	21,929
Amesbury	16,283
Arlington	42,844
Belmont	24,729
Billerica	40,243
Boxborough	4,996
Carlisle	5,852
Hamilton	7,764
Lawrence	76,377
Lexington	31,394
Lincoln	6,362
Lowell	106,519
Manchester	5,136
Methuen	47,255
Newburyport	17,416
No. Andover	28,352
Pepperell	11,497
Ipswich	13,175
Waltham	60,636
Watertown	31,915
Wenham	4,875
Wilmington	<u>22,325</u>
TOTAL	627,874

Source: U.S. Census, 2010

MSP7 Estimated Budget for 2 Years

Number of Contract Communities Served - 22

Three year Average, processed tons – 457,670

Budget Estimate for 2018 through 2022 will change depending on total tonnage processed in each successive year. See attached Budget Estimate.

WTI No. Andover- MSP7– 5-Year Budget– January 1, 2018– December 31, 2019

<u>Admin Costs</u>	<u>2018</u>	<u>2019</u>
Fees & Expenses	31,000	32,000
WTI Admin Cost	3,500	3,500
WTI N.A. Admin Cost	5,000	5,000
Insurance	<u>3,200</u>	<u>3,300</u>
Sub-Total	42,700	43,800

Web-based Outreach

Website Management (ERC))	5,000	5,000
Regional Outreach		
• Radio Advertisements	45,115	39,785
Local Outreach		
▪ News ads, 8 per year / community 144 @ \$340 each (1 st year)	48,960	
▪ New ads, 8 per year / community 144 @ \$350 each (2 nd year)		50,400
▪ HHW / Special ads per year 9 ads @ \$340 each (1 st year)	3,060	
▪ HHW / Special ads per year 9 ads @ \$350 each (2 nd year)		3,150
▪ Replacement of Ed Boards	1,000	1,000
▪ Replacement of Desktop Displays	<u>1,000</u>	<u>1,000</u>
Sub-Total	54,020	55,550

Collection Costs

Community Collection Costs	7,000	7,000
School Clean Sweeps	500	500
Bulk Collections	500	500
Plumbing Supply Collection Costs	<u>500</u>	<u>500</u>
Sub-Total	8,500	8,500

Programs

Thermometer Exchange	1,000	1,000
Sphygmomanometer Recovery	1,000	1,000
Thermostat Contractor Mailing (3 mailings @ \$3,700 each.)	11,000	11,500
Thermostat Collection Program – Auditors	8,000	8,000
Fluor Lamp Reimbursement	22,000	23,000
Universal Waste Shed (1 Unit)	3,000	3,200
Thermostat Rebate (Plumb Supply)	1,000	1,000
Button Battery Program	15,000	16,000
Mercury Spill Allowance	<u>1,500</u>	<u>1,500</u>
Sub-Total	63,500	66,200
Contingency	<u>10,000</u>	<u>10,000</u>
TOTAL	\$228,835	\$228,835

- 3 year average processed tonnage = 457,670 X .50 = \$228,835

- **Budget estimates for years 2020, 2021 and 2022 will be similar to previous annual totals with program variations that will be based on the previous year's waste volume that will be submitted to MADEP on an annual basis as a modification to the current MSP7.**

Appendix #1

WTI Saugus - MSP 7 – Mercury Conversion Factors

Researched by Karen Thomas of NEWMOA

Used in reporting mercury diverted through Material Separation Plans Effective July 1, 2004

Mercury Items

Grams of Mercury

All amounts shown are “per unit”, unless otherwise noted.

4ft. Fluorescent Lamps	20 mg (5mg per linear foot)
Fever Thermometers	1g
Lab Thermometers	3g
Sphygmomanometers (Blood Pressure Monitors)	110g
Barometers	500g
Sling Psychrometers	6g
Thermostats	4.5g
Switches (small)	4g
Switches (large)	6g
Button Cell Batteries	9mg (40 batteries per ounce) 5.76 gr per pound
U-Tube Fluorescent Lamps	17.5mg
Circular Bulb Fluorescent Lamps	17.5mg
Compact Lights	17.5mg
HID Lamps	35mg
UV Tanning Bulbs	30 mg
Float Switches	4.5 gr