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# *Solid Waste Interstate Transportation Act of 2005: Analysis and Implementation Plan*



*Garbage Plow. Photo courtesy of the Earth Institute.*

Presented by: Solid Waste Management Workshop Group

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## ***Executive Summary***

Municipal solid waste management presents a problem to society: waste generation is increasing at the same time that the landfill capacity near population centers is decreasing. A fundamental component of the disposal solution has been the transportation of waste across state lines. States such as New York and New Jersey, with little remaining disposal capacity transport an increasing portion of their municipal solid waste to states with greater disposal capacity, such as Pennsylvania and Virginia. Nationwide, total imports of out-of-state waste have tripled since the late 1980's to 39 million tons in 2003.<sup>1</sup>

Every year since 1990, a concern over the environmental and health effects of waste transport and disposal on importing states has led to the introduction of bills in Congress that restrict this interstate movement of municipal solid waste.<sup>2</sup> An Act of Congress is needed because the commerce clause of the U.S. Constitution severely limits the ability of states to regulate interstate commerce. Strong resistance from the waste management industry and the major exporting states has prevented any of these bills from being passed. The most recent bill, H.R. 274, the Solid Waste Interstate Transportation Act of 2005, was introduced by Representative Jo Ann Davis of Virginia.

After assuming (for the sake of our management simulation) that the Solid Waste Interstate Transportation Act had in fact become law, the Columbia University Solid Waste Management Workshop Group designed a plan for its implementation. The Act will be implemented by the Environmental Protection Agency Office of Solid Waste. We propose the creation of a new Branch, called the Municipal Waste Interstate Transport Branch. The Municipal Waste Interstate Transport Branch activities will include: educating states about the new law through the creation of guidance documents; improving waste transport and disposal data collection; assisting EPA regional offices with their new responsibilities; and, most importantly, preventing conflicts that will almost inevitably arise with interstate waste transport limits.

The work of the new branch will require 14 permanent staff members to be hired from within and outside the EPA. Contractor services will also be extensively utilized to complete the first year goals of the Branch. The proposed first year budget of the Municipal Waste Interstate Transport Branch is approximately \$2.3 million, 3% of the total budget of the Office of Solid Waste. The program plan also contains a master calendar to schedule the program's first year, and a performance management system to ensure achievement of key objectives and continuous improvement.

## ***Introduction***

This report summarizes two semesters of work in the Workshop in Applied Earth Systems Management in the Environmental Science and Policy Master of Public Administration program at Columbia University. A group of twelve students analyzed the science and policy implications of a proposed, but not yet enacted piece of legislation – the Solid Waste Interstate Transportation Act of 2005. In the first semester we studied the scientific issues addressed by the

legislation, and in the second we assumed that the legislation had in fact passed and designed a plan for its implementation.

### Defining Municipal Solid Waste

Municipal Solid Waste (MSW) does not have a single authoritative definition in any existing statute, but generally it is used to refer to all household waste and some light commercial waste.<sup>3</sup> The Environmental Protection Agency (EPA) defines MSW as “everyday items such as product packaging, grass clippings, furniture, clothing, bottles, food scraps, newspapers, appliances, paint, and batteries”.<sup>4</sup> The examples of MSW given by H.R. 274 include “food and yard waste, paper, clothing, appliances, consumer product packaging, disposable diapers, office supplies, cosmetics, glass and metal food containers, and household hazardous waste.” It is important to note that the Act does not consider recyclable materials separated from the waste stream to be MSW.<sup>5</sup>

### Legislative Summary

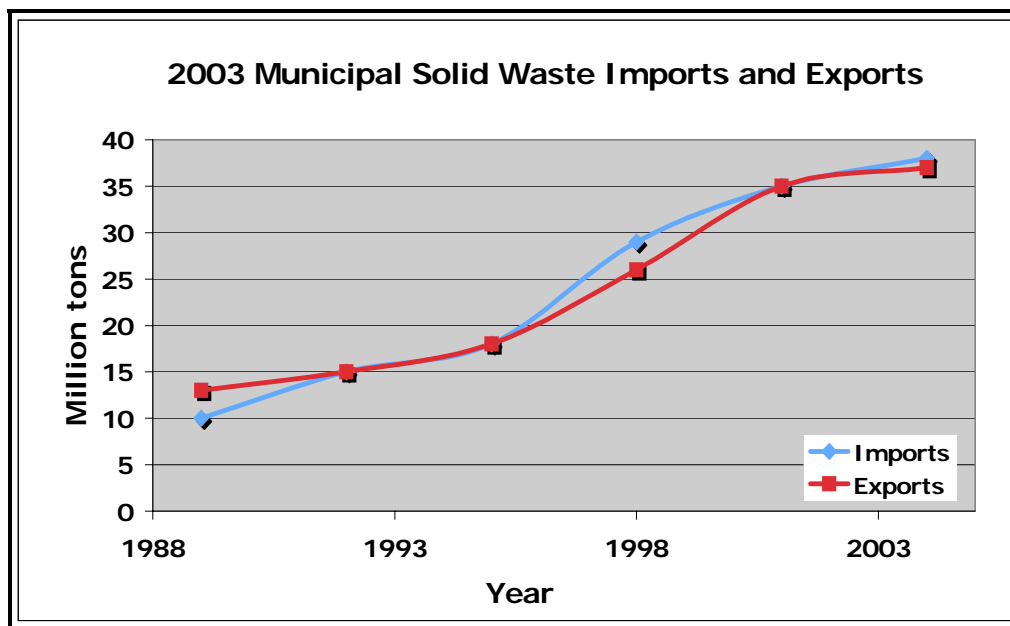
H.R. 274, the Solid Waste Interstate Transportation Act of 2005, was introduced by Representative Jo Ann Davis from the Commonwealth of Virginia. As a major importer, Virginia received over 5 million tons of MSW imports in 2003.<sup>6</sup> The bill places a presumptive ban on the interstate transport of MSW, unless the disposal facility receiving the waste can prove that they qualify for an exemption. Exemptions are allowed for existing contracts, permits, and host community agreements. Host community agreements are a specific type of contract between disposal facility operators and the local government with jurisdiction over the facility. Host community agreements specify what type of fees the facility operator will pay to the local government, as well as the operating rules for the facility. Under H.R. 274, new host community agreements will require an additional environmental assessment of the disposal facility and must specifically state how much out-of-state waste will be allowed.<sup>7</sup>

The exemption from the presumptive ban provided by a host community agreement is immediately invalidated if the facility is found to be in violation of any federal or state environmental laws.<sup>8</sup> The presumptive ban and new host community agreements will make the interstate transport of MSW more difficult; however, even if these requirements are met the amount of waste transported overall will not necessarily decrease. Despite the uncertain consequences, an important part of the intent of the bill is to reduce the interstate transport of MSW.

A second major component of H.R. 274 is the granting of limited power to states to restrict the amount of out-of-state MSW received at disposal facilities within their state. States cannot stop all out-of-state waste from going to a disposal facility; they must allow at least 20% of the waste processed at each facility to be from out-of-state. The percentage limit cannot make the amount of out-of-state waste received less than that which was received at that facility in 1993. The bill responds to the history of litigation on the topic of limiting imports by stressing the importance of non-discrimination based on state of origin. The percentage limits in the bill are optional so it is difficult to predict how many states would choose to use this power if they had the option. The percentage limits could create a perverse incentive for exporting states to send their waste even farther away to states without any percentage limits.<sup>9</sup>

## ***Interstate Transport of Municipal Solid Waste: A Growing Issue***

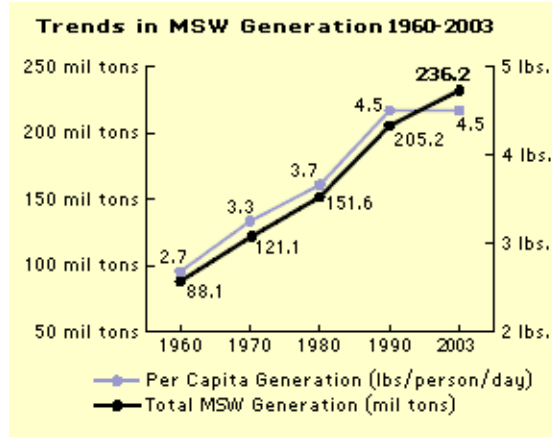
According to the Congressional Research Service, 39 million tons of MSW was imported across state boundaries in 2003, as compared to only 14.45 million tons a decade earlier. There was an 11% increase in just two years from 2001 to 2003.<sup>10</sup> Figure 1 shows the increasing trend in MSW imports since the late 1980's – a tripling of interstate waste transport over 15 years. Three main factors are behind this remarkable increase in interstate transport of MSW: increased generation, the geographic distribution of landfill capacity, and consolidation of the waste management industry.



**Figure 1** Source: Congressional Research Service<sup>11</sup>

### Increased Waste Generation

As depicted in Figure 2, per capita MSW generation increased from 2.7 pounds per person per day in 1960 to 4.5 pounds in 2003. Total U.S. waste generation has continued to rise since 1990, despite a level rate of per capita generation, due to population growth. Increased generation of waste increases the demand for disposal capacity. Since the majority of waste is produced in cities and municipal landfill capacity is all but exhausted, increased generation of waste forces waste managers to transport MSW to alternate landfill sites.<sup>12</sup>



**Figure 2** Source: U.S. Environmental Protection Agency<sup>13</sup>

### Geographic Distribution of Landfill Capacity

From 1993-2002 the number of U.S. landfills decreased by 54%.<sup>14</sup> However, while small landfills have closed, new massive regional landfills have increased total disposal capacity in the U.S.<sup>15</sup> Although urban centers produce more MSW, there is little space around them available for new landfills. The development of large regional landfills has also been encouraged by implementation of Subtitle D of the Resource Conservation and Recovery Act. Subtitle D requires landfill liners and expensive leachate collection systems that large landfills can more easily provide because of economies of scale.<sup>16</sup> The per ton dumping fee (called the tipping fee) is much lower at large new landfills far from the population centers. The cost of MSW transportation was estimated to be \$900 million per year in 2000.<sup>17</sup> The great variation in tipping fees across the U.S. makes interstate transportation of MSW economical, despite the transportation cost.<sup>18</sup>

### Consolidation of Waste Management Industry

Three companies (out of the top 100) gross 67% of the revenue earned for U.S. municipal solid waste management – Waste Management, Allied Waste, and Republic Services.<sup>19</sup> As smaller landfills are closed in favor of large regional landfills, companies prefer to redistribute waste to their own facilities rather than pay competitors with closer landfills to take the waste.<sup>20</sup>

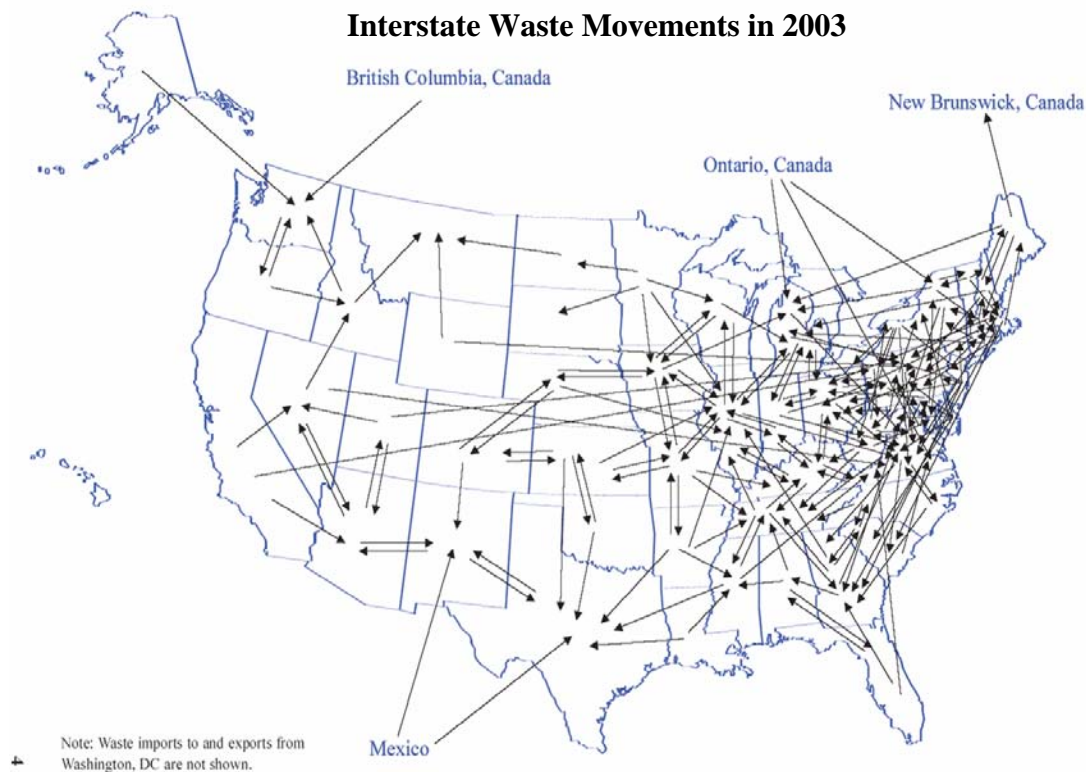
## ***The Environmental and Health Impacts of Solid Waste Transport and Disposal***

A large part of the concern that led to the introduction of H.R. 274 stems from the environmental consequences of waste transport and disposal. While improvements in disposal technologies control some of the impacts of solid waste disposal, a level of detrimental environmental impact is unavoidable. It is important to note that the environmental impacts of waste transport and disposal have complex causal chains with numerous areas of uncertainty that make accurate predictions about impacts difficult to make. The chronic effects of exposure to low doses of contaminants are especially uncertain. This section summarizes some of the key environmental consequences from the transportation of waste, landfills, and incinerators.

## Transport

148,000 vehicles carry 39 million tons of MSW across state lines each year.<sup>21</sup> These vehicles include diesel trucks, trains and barges, with the primary mode of MSW transport being diesel trucks. Figure 3 illustrates the transport patterns of both MSW and hazardous waste across state lines.

The increase in truck traffic for MSW transport on the highways leads to congestion and a higher probability of traffic accidents. A study in Houston, TX, found that 81% of all major freeway collisions, disabled vehicles, and hazardous material spills involved large trucks.<sup>22</sup> Almost 60% of traffic congestion in the United States is caused by such incidents.<sup>23</sup>



**Figure 3** Source: *National Solid Wastes Management Association*<sup>24</sup>

Many environmental pollutants are contained in diesel exhaust, including particulate matter, nitrogen oxides, carbon dioxide, volatile organic compounds, and polycyclic aromatic hydrocarbons.

- Particulate matter is the term used for all the small suspended particles in the atmosphere, including dust, smoke, and soot. Diesel engines create 66% of the national particulate air pollution from on-road sources.<sup>25</sup> Particulate matter is strongly linked to “aggravated asthma, increases in respiratory symptoms like coughing and difficult or painful breathing, chronic bronchitis, decreased lung function, and premature death.”<sup>26</sup>
- In 2001, 79% of all nitrous oxide emissions in the transportation sector were attributed to highway vehicles. Diesel-powered vehicles were responsible for the majority of these



emissions.<sup>27</sup> Nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>) are collectively referred to as nitrogen oxides (NO<sub>x</sub>) because these compounds rapidly interchange throughout the day. Ultraviolet radiation splits NO<sub>2</sub> into NO and an oxygen molecule. This free oxygen molecule can react with atmospheric oxygen to form ozone, which is a harmful air pollutant in the lower atmosphere. It contributes to smog and can cause deleterious health effects, including lung damage, respiratory irritation, reduced cardiovascular functioning, and possibly some forms of cancer.<sup>28</sup> The presence of ozone in the lower atmosphere is also toxic to plants; it reduces photosynthesis, contributes to cell damage, and increases vulnerability to disease.<sup>29</sup> NO<sub>2</sub> can also oxidize to form nitric acid (HNO<sub>3</sub>), which can condense in water droplets and fall as acid rain.

- Diesel vehicles are the main source of the greenhouse gas carbon dioxide (CO<sub>2</sub>), contributing 83% of U.S. CO<sub>2</sub> emissions in 2002.<sup>30</sup>
- Volatile organic compounds (VOCs) can damage liver, kidney, and nervous system functioning, and many have been classified by the EPA as probable human carcinogens.<sup>31</sup>
- Polycyclic aromatic hydrocarbons (PAHs) are created as part of an incomplete combustion process and they typically exist in complex mixtures with other combustion products. Many PAHs are considered to be probable human carcinogens.<sup>32</sup>

These negative environmental and health risks are all related to the transport of waste. However, once MSW reaches its final destination there are additional environmental and health hazards inherent in the disposal methods.

### Landfills

Landfills are shallow depressions in the ground that are typically lined with a two-foot layer of clay and high-density plastic liner designed to prevent contamination of underlying soil and groundwater. Landfills are the disposal method for about 55% of all MSW generated in the U.S.<sup>33</sup>

One byproduct of landfills is leachate: the waste-water formed when rainwater and liquid waste percolate through solid waste and absorb various contaminants. Leachate contamination of groundwater is a serious concern because groundwater supplies the drinking water for 51% of the total population of the U.S. and 99% of the rural population.<sup>34</sup> Contaminants often found in leachate include heavy metals, xenobiotic organic compounds, and dissolved organic matter.

- Heavy metals derived from electronics include lead, cadmium, mercury, arsenic and chromium. The average CRT (cathode-ray tube) computer monitor or television contains four pounds of lead.<sup>35</sup> Different heavy metals affect the body in different ways, but typical health consequences include damage to the kidneys, liver, lungs, and brain.<sup>36</sup>
- Xenobiotic organic compounds include polychlorinated biphenyls (PCBs), pesticides, solvents, gasoline, and oil. The possible health effects of xenobiotic organic compounds include nervous system damage, liver and kidney damage, and reproductive effects. Many xenobiotic organic compounds are also probable human carcinogens.<sup>37</sup>
- Dissolved organic matter created by the breakdown of food and paper waste can change redox conditions in groundwater and promote algal blooms in surface water.<sup>38</sup>

Another byproduct of landfills is air pollution. Landfill emissions contain about 30 of the 188 toxic air pollutants listed for regulation under the Clean Air Act.<sup>39</sup> In the U.S., landfills are

the single largest human-related source of methane emissions, accounting for 34% of the total emissions.<sup>40</sup> The decomposition of organic wastes in the absence of oxygen results in the generation of methane (CH<sub>4</sub>) and carbon dioxide (CO<sub>2</sub>). Methane is a potent greenhouse gas; the effect of one methane molecule on global warming is 20 times greater than one molecule of carbon dioxide.<sup>41</sup> Methane gas is especially dangerous because at certain concentrations it is highly explosive. If not properly vented, methane can diffuse through the soil and enter underground structures such as basements, creating explosion hazards.<sup>42</sup>

Early landfills were merely open dumps, which quickly led to a number of sanitation and health issues. Some landfills, especially older landfills, do not have leachate collection and treatment systems. Newer landfills include a leachate collection system, and all landfills are periodically covered with several inches of soil to create “cells” of waste.<sup>43</sup> However, the EPA acknowledges that “the best liner and leachate collection system will ultimately fail due to natural deterioration,” and that improving technologies simply prolong the onset of this failure.<sup>44</sup>

### Incinerators

Fourteen percent of MSW generated in the U.S. is incinerated, a process that can reduce MSW volume by 90%.<sup>45</sup> The heat generated from combustion can be used to generate electricity. The end products of combustion are carbon dioxide, water, and ash. The ash is either disposed of at a landfill or reused for construction purposes. Incinerator ash and emissions contain pollutants from the waste that were not destroyed by combustion, as well as new pollutants created by the combustion process. There are four main categories of incinerator pollutants: gases, metals, organic substances, and particulate matter.<sup>46</sup>

- Gases include highly acidic gases such as NO<sub>x</sub> and numerous other greenhouse gases, the impacts of which are detailed in the Transport section.
- Metals emitted in the combustion process include mercury, cadmium, chromium, lead, manganese, cobalt, vanadium, copper, nickel, thallium, and arsenic.<sup>47</sup> These metals can bind to particulate matter in the fly ash which in turn can be inhaled by humans or deposit on soils and water. The primary health effects of heavy metals are presented in the Landfill section.
- Dioxins and furans are the most well known group of organic pollutants associated with incineration. Dioxins are known human carcinogens that are linked to reproductive and developmental problems even at low exposure levels. Improved incineration technology combined with regulations, and voluntary industry action has significantly reduced the emissions of modern incinerators to the point that they are no longer the major source of new dioxin emissions in the U.S.<sup>48</sup> The major source of dioxins is currently the “uncontrolled burning of residential waste”, the EPA term for the burning barrels of rural America.<sup>49</sup>
- Particulate matter is also a serious concern in incinerator emissions. For more information about particulate matter, please see the Transport section.

In addition to the regulations on the process of waste disposal, the significant environmental impacts of solid waste management have motivated attempts at regulating the free market in waste transport. The next section summarizes the legal, political, and economic issues associated with regulating the interstate transport of MSW.

## ***Legal, Political, and Economic Issue Analysis***

In March 1987, the issues of waste management gained waste management issues when a garbage barge called the Mobro 4000 departed from Long Island and proceeded on a journey down the East Coast, into the Gulf of Mexico and eventually to Belize, without any community agreeing to accept the waste.<sup>50</sup> The Mobro 4000 eventually returned to New York and the waste was incinerated in Brooklyn. Extensive media coverage of the event created a sense of public urgency over the garbage “crisis.”<sup>51</sup> The true cause of the Mobro 4000 incident had nothing to do with a shortage of disposal capacity; it was really the incompetence of the organized crime members running the barge for not securing a binding contract for disposal of the waste before departing.<sup>52</sup> Nevertheless, the Mobro 4000 incident symbolized the start of an era of concern over the interstate transport of MSW. Since the Mobro 4000 incident, over 40 bills have been introduced in Congress to limit the transport of MSW.<sup>53</sup>

### Legal History

The history of problems with interstate waste disposal started long before the Mobro 4000. In 1978, the U.S. Supreme Court heard the case *City of Philadelphia v. New Jersey*, in which the constitutionality of a New Jersey ban on out-of-state waste was challenged under the U.S. Constitution. Article 1, Section 8, Paragraph 3 of the Constitution, referred to as the commerce clause, states that “The Congress shall have the power to regulate Commerce among foreign Nations, and among the several states, and with the Indian Tribes”.<sup>54</sup> The Supreme Court established a rule for deciding commerce clause cases in the 1970 case *Pike v. Bruce Church Inc.* The rule says the local benefits of limits on interstate transport must be balanced against the benefits of free trade. In *City of Philadelphia v. New Jersey* and numerous cases since, the Court has found that the local benefit of environmental protection is not great enough to allow any restrictions on the interstate movement of MSW.<sup>55</sup> The only circumstance when courts have allowed limits on the movement of MSW is when the state or local government imposing restrictions actually owns and operates the disposal facility in question. This exception is called the market participation doctrine and only applies when the state is acting more as part of the market and not as a regulator.<sup>56</sup>

The Supreme Court’s decisions supporting an unrestricted market in MSW has led to the introduction of bills proposing power for the states to regulate MSW imports and exports in every Congress since 1990.<sup>57</sup> None have been enacted because the political opponents of the bill have proven more powerful than the interests supporting the legislation.

### Political Supporters of Waste Transport Regulation

The primary political supporters of H.R. 274 and similar legislation are representatives of states that are large net importers of MSW, such as Pennsylvania, Virginia, Michigan, Illinois and Indiana. Legislators from these states are acting on behalf of constituents, some of whom are very concerned about the impact of MSW transport and disposal on environmental and human health, property values, and aesthetics. Local environmental groups such as Campaign Virginia specialize in lobbying in support of legislation like H.R. 274.<sup>58</sup>

Proponents of H.R. 274 maintain that the present system rewards states that have failed to plan for waste management. In 2003, the states of Pennsylvania, Virginia and Michigan accepted 49% of all MSW that crossed state lines.<sup>59</sup> Residents of these states resent being viewed as a garbage receptacle for net exporting states, frequently citing the “Proximity Principle,” or the idea that waste should be disposed of in close proximity to where it is generated.<sup>60</sup> Supporters of limits on interstate transportation of MSW believe that the compensation that communities receive from landfills is not enough to cover the long term environmental costs related to waste disposal. If the payments to host communities do not cover the true cost of disposal, then allowing out-of-state waste is an injustice against the state where it is disposed.

### Political Opponents of Waste Transport Regulation

The primary opponent of H.R. 274 is the waste management industry, as represented by the National Solid Wastes Management Association (NSWMA). The solid waste industry has significant political power and access to Congress because it generates revenue of \$43 billion annually and employs 350,000 people.<sup>61</sup> Other vocal opponents of the legislation are governments and representatives of net exporting states – such as New York, New Jersey, Missouri, Maryland and Massachusetts. These exporting states could experience dramatic increases in disposal costs if they were forced to rapidly develop local disposal capacity. Individual communities within net importing states also oppose the bill. These communities are compensated for accepting out-of-state MSW in a number of ways, including host community fees, licensing fees and taxes that can significantly enhance the local economy.

The political opponents of H.R. 274 and similar legislation have been successful in quietly allowing the bills end in committee. A large part of the disagreement over H.R. 274 revolves around conflicting interpretations of the economic consequences of limiting MSW transport.

### Economics and Uncertainty

Opponents of H.R. 274 argue that because of the regulatory framework in the U.S., the externality cost of waste disposal is negligible. Federal waste disposal regulations for environmental protection apply to all states and if they are being enforced then there is no externality and therefore no reason for the government to interfere with the efficient operation of the free market.<sup>62</sup> Any externality should be automatically accounted for by landfill owners charging higher tipping fees. Considerable disagreement exists over the size of the externality cost from waste disposal, but modeling of interstate MSW transport restrictions have predicted that a net loss of societal welfare on the order of \$1 billion would occur. Only a small fraction of the total loss would burden consumers, the majority of the loss would be borne by the solid waste industry.<sup>63</sup>

Supporters of H.R. 274 argue that the environmental impact of waste disposal will result in long term costs that host communities and states will pay and that these environmental costs will be higher than the loss of efficiency that trade restrictions would create. The scientific support for this position is that leachate and landfill gas generation are “inevitable” and impossible to fully control.<sup>64</sup> Proponents of interstate transport limits believe that full cost accounting for the environmental impact of waste disposal through higher tipping fees is impractical. The only fair solution is for states to be permanently responsible for the waste generated within their state.<sup>65</sup> Limits on imports would allow states to control their long term site remediation costs.

The supporters of H.R. 274 have some strong arguments that the bill could reduce some of the distributional impacts of solid waste disposal in major importing states. However, modeling of interstate waste transportation has predicted that transport would greatly increase in anticipation of a bill like H.R. 274 becoming law. Once such a bill was passed, percentage limits on imports could result in an increase in transportation as exporters send smaller amounts to more locations.<sup>66</sup> The optional nature of percentage limits further increases the uncertainty in predicting the impact of the bill.

The uncertainty in H.R. 274 increases the importance of agency discretion in implementation and regulation development at the Federal level. The implementing agency will have the opportunity to influence the reactions of states to their new powers under the legislation.

## ***Program Design***

The Program Design component of this report begins with the assumption that the Solid Waste Interstate Transportation Act has become a law. The following section reviews the program design, organizational staffing plan, budget plan, and performance management system that we designed to implement the new law.

### Rationale for the Program Design

The first step in designing the program was to determine which agency would be most likely to be responsible for implementing the Act. The Solid Waste Interstate Transportation Act is an amendment to the 1965 Solid Waste Disposal Act upon which all Federal regulations of waste have been based. The implementation of the Solid Waste Disposal Act is specifically tasked to the EPA Office of Solid Waste, so an amendment addressing interstate transport would likely be addressed by this office as well. Our plan is specifically focused on the EPA Headquarters, but it is important to note that regional EPA offices will also have a role in implementation not planned or budgeted for in our report. Under our program, EPA Headquarters will support the EPA regions in implementing the Act.

We propose the creation of a Municipal Waste Interstate Transport Branch within the Municipal and Industrial Solid Waste Division of the Office of Solid Waste (see *Appendix I: Office of Solid Waste Organization Chart*). The organizational structure of the Municipal Waste Interstate Transport Branch reflects the Branch's objectives with regard to the new capacity of states to regulate interstate transport of MSW, and the specific program activities needed to accomplish those objectives.

Because of the history of legal conflict surrounding limits on the transport of MSW, it is almost certain that legal state limitations of interstate MSW transport will result in conflicts involving states, the waste management industry, and environmental groups. It was, therefore important that our program design anticipate and work to resolve these conflicts. The Conflict Mediation Section of the Municipal Waste Interstate Transport Branch will address these issues through facilitating negotiation.

H.R. 274 represents a significant change in the operating conditions of MSW management for state and local governments. Some states will seek options that enable them to restrict imports legally, while other states seek options in the event that they are prohibited from

exporting their waste. An Education Section of the Municipal Waste Interstate Transport Branch, thus, will work to prevent uncertainty and confusion among states by developing guidance documents to explain the implications and rights of states under the Solid Waste Interstate Transportation Act. An online database will be established to better track waste transportation and inform states of their options.

Finally, an Outreach Section will directly field inquiries from states, the waste management industry, environmental groups, and the general public. Staff of the Outreach Section will travel to the regional EPA offices to ensure proper implementation of the program and provide general inquiry assistance.

### Staffing and Budget Plan

#### Who Will Implement the Program Design?

In order to staff the new branch for the first year of its operation, we will hire a Branch Chief who will supervise the work of three key personnel: the Outreach Section Chief, Education Section Chief and the Conflict Mediation Section Chief. The Branch Chief and possibly the Section Chiefs will be hired from existing EPA personnel, preferably with MSW policy experience. We propose that each Section have a team of three program specialists dedicated to the advancement of the section’s objectives (see *Appendix II: Municipal Waste Interstate Transport Branch Organization Chart*).

The position descriptions for the 14 new staff members of the Branch are presented in *Appendix III: New Positions and Contracts*. GS-Levels and anticipated first year salaries are included in the position descriptions, taking into account that not all staff will be starting at the beginning of year one. This is because it will take time for the Section Chiefs to recruit and hire staff as the Branch ramps up to full operation over the first year.

Contractor services will be extensively utilized to quickly create an initial set of guidance documents and mediate conflicts. Initial contracts will be for 6 months, after which time the contracting needs of the Branch can be reassessed. Contractor services give the Municipal Waste Interstate Transport Branch the flexibility to meet the changing needs of the organization without committing to additional full time employees.

#### How Much Will It Cost To Begin the Program?

The first year budget for the Municipal Waste Interstate Transport Branch is \$2.3 million, approximately 3% of the Office of Solid Waste total budget. Figure 4 below presents the total budget summary for each program. *Appendix III: Budget and Cost Notes* contains the complete budget and cost notes.

**Figure 4: Program Costs**

<b>Program</b>	<b>Budgeted Amount (US\$)</b>
Outreach	\$314,827
Education	\$906,815
Conflict Mediation	\$1,104,262
<b>Total Budget</b>	<b>\$2,325,904</b>

## Performance Management System and Master Calendar

### How Will We Know if the Program is Being Implemented?

A cornerstone assumption of management is that in order to manage a program, its work processes, outputs, and outcomes must be measured.<sup>67</sup> Without these measures one cannot tell if the actions undertaken by management are making the program better or worse. Measurement, reporting, and feedback will be crucial to the managers of the Municipal Waste Interstate Transport Branch in determining if the work is being completed and how the process can be improved. Nevertheless, the best performance measurement system cannot replace the importance of human relationships and communication to discern the true issues facing the organization.<sup>68</sup>

This section will introduce the program objectives for the first year, annual objectives that will be measured every year, and the long-term objectives of the Branch. The complete measurement, collection, reporting, and feedback requirements for each objective are presented in *Appendix V: Performance Management System*.

#### *Short-term objectives (for Year 1)*

- Organization setup
- Handbook setup

#### *Annual objectives (objectives to be monitored every year)*

- Educate states about their rights and responsibilities as a result of the bill and program
- Minimize conflict between states and private organizations
- Conduct effective outreach activities
- Manage costs to be within the budget
- Manage schedule to meet the schedule plan

#### *Long-term objectives (after Year 1)*

- Reduce MSW interstate transportation
- Encourage local treatment of MSW

### What do We Hope to Accomplish in the Program's First Year?

The master calendar (see *Appendix VI*) establishes the order of events required for the timely implementation of the program. It also establishes who is responsible for doing the work and when the work should be completed. The master calendar is a tool for organizing and planning, not an absolute and inflexible requirement. It will need to be adjusted as the Municipal Waste Interstate Transport Branch learns more about the requirements and challenges of their work.

The master calendar is organized into two primary phases. Phase one deals with the administrative goals of the Branch, which include the hiring of all permanent staff members, preparing task orders to hire contractors, and acquiring and furnishing an office space. Phase two covers the program specific activities, including developing the educational handbook and database, identifying and minimizing conflicts, and implementing the performance management system.

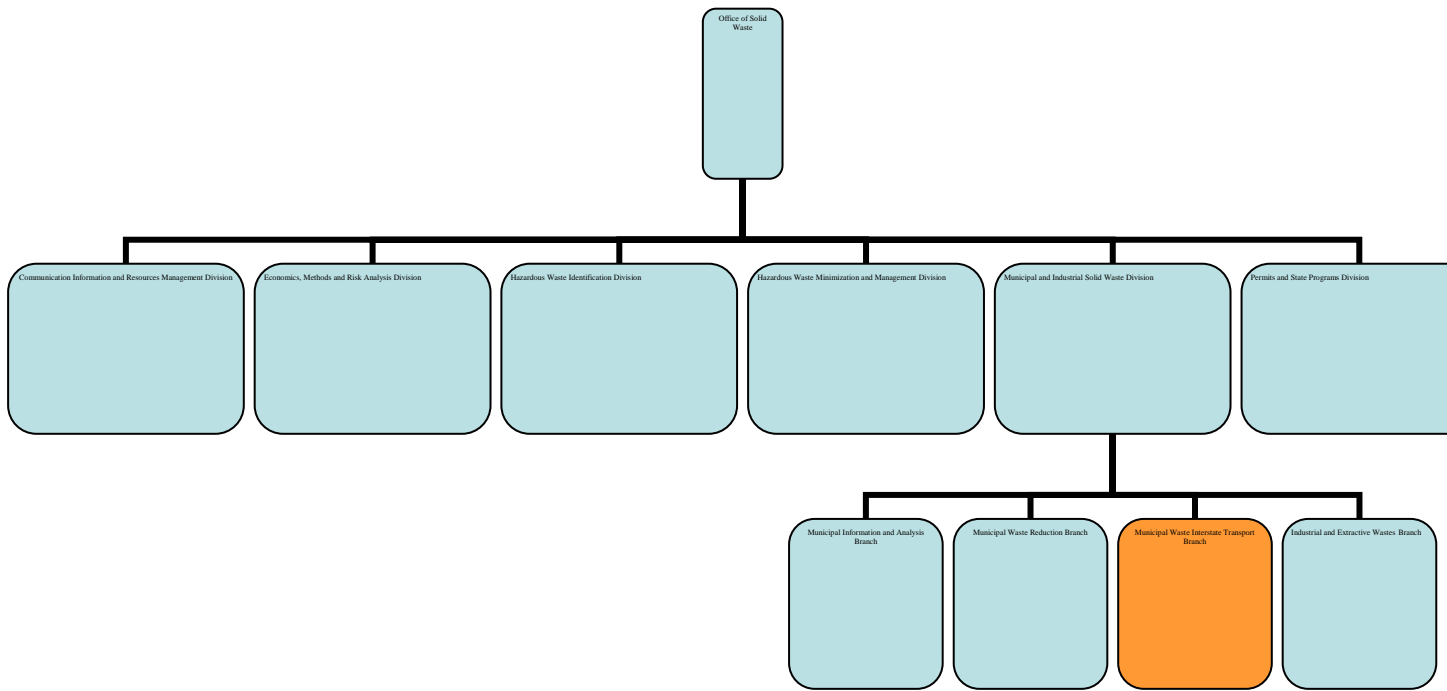
## ***Conclusion***

Over the past several decades, MSW management has become a problem of growing importance. The increased generation of MSW, the closing of local landfills in favor of regional landfills, and the consolidation of the waste management industry have all led to an increase in the amount of MSW crossing state lines for disposal. The transportation and disposal of waste to other states pose a number of environmental and health concerns for importing states that have led to the introduction of the Solid Waste Interstate Transportation Act of 2005 in the House of Representatives. This Act would allow states to limit the amount of imported MSW. It is difficult to project the impact of these limitations. The incentive to deal with waste locally may lead to innovation in disposal technologies, the use of existing alternative technologies, waste volume reduction, or a combination of these methods. However, exporting states may simply choose to ship their waste to more distant states that are willing to accept it. In any case, it is likely that conflicts will occur between states if exporting states are forced to change their disposal patterns. The degree of discretion that H.R. 274 leaves to states increases the importance of regulation development and implementation at the federal level.

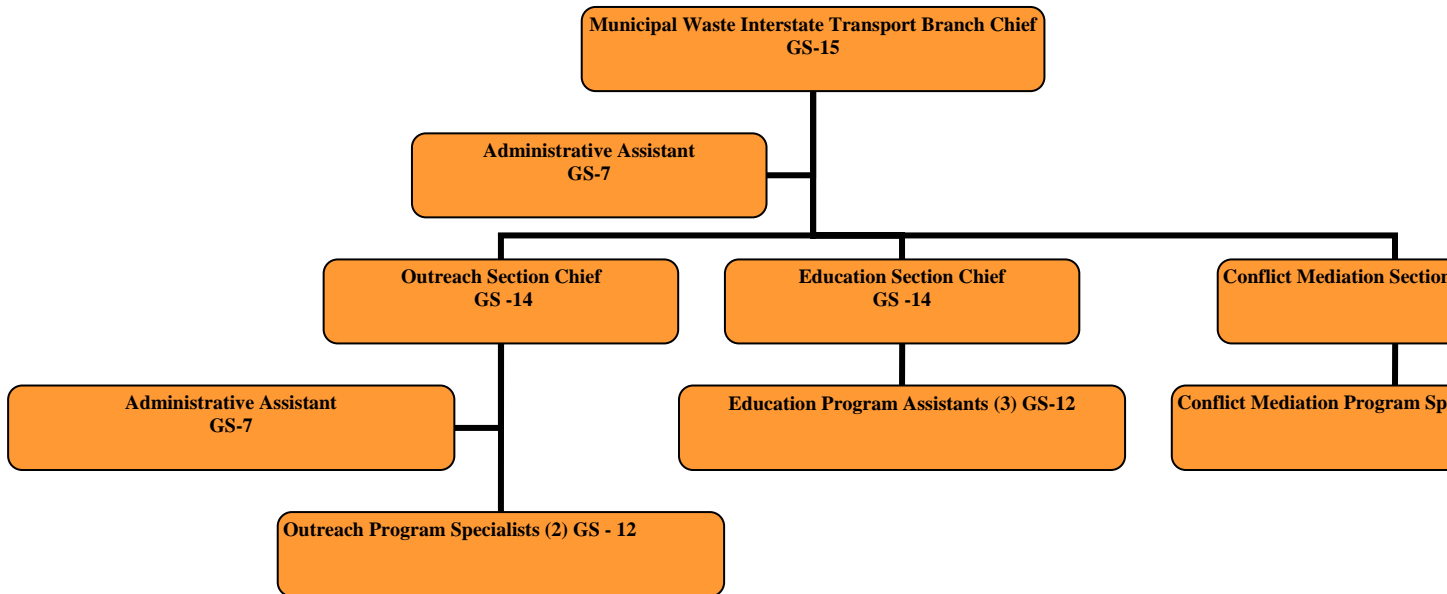
Our proposed Program Design for the Solid Waste Interstate Transportation Act anticipates and plans to minimize these conflicts through the creation of a Municipal Waste Interstate Transport Branch. The new branch will strive to implement the Act with a three-pronged approach by educating states on their rights, minimizing conflict, and enabling regional EPA offices to disseminate information for implementation at the regional level. The Program Design is focused on the short-term implementation issues that would arise if H.R. 274 was to become law, while also recognizing the long-term goals of increasing local disposal and reducing the amount of interstate transportation.



# Appendix I: EPA Office of Solid Waste Organization Chart



## Appendix II: Municipal Waste Interstate Transport Branch Organization Chart



## Appendix III: New Positions and Contracts

## **Municipal Waste Interstate Transport Branch Chief**

*GS-Level 15*

*Person Days: 260*

*Total Salary: \$103,947*

The Branch Chief will be responsible for reporting branch results to the head of Municipal and Industrial Solid Waste Division, and when necessary to the head of Office of Solid Waste. The Branch Chief will directly supervise the work of the Outreach, Education, and Conflict Mediation Section Chiefs.

The Branch Chief will oversee the new program for interstate transportation and serve as a liaison to other EPA programs within relevant branches and divisions. The Branch Chief will be involved in the hiring process of the branch's staff, establish branch-wide goals through the implementation of a first year work plan, budget and performance management system. He/she will also liaise with other branch chiefs to leverage agency best practices and build upon complementary programs that can enhance the success of the Municipal Waste Interstate Transport Branch, such as existing EPA programs for waste reduction and recycling.

### **a. Administrative Assistant**

*GS-Level 7*

*Person Days: 260*

*Total Salary: \$35,452*

This Administrative Assistant will carry out the clerical work in support of the Branch Chief, coordinating Branch meetings and maintaining budget records as necessary.

## **Outreach Section Chief**

*GS-Level 14*

*Person Days: 216*

*Total Salary: \$73,414*

The Outreach Section Chief will report to the Branch Chief, and is responsible for managing the Administrative Assistant and two Outreach Program Assistants.

The Outreach Section Chief will train regional representatives to address the concerns of local solid waste disposal operators, community leaders, and environmental regulators. He/she will field any general inquiry assistance questions from the public and coordinate activities with the Education Section Chief. The Outreach Section Chief will be required to travel extensively to visit the regional EPA offices in order to ensure agency-wide understanding of the new Act.

### **a. Administrative Assistant**

*GS-Level 7*

*Person Days: 194*

*Total Salary: \$26,453*

In anticipation of the high volume of travel that will be required of the Outreach Section Chief, an Administrative Assistant will be needed to book travel, set up

meetings with stakeholders and communicate branch developments to the Outreach Section Chief while he/she is in the field.

**b. Two (2) Outreach Program Assistants**

*GS-Level 12*

*Person Days: 194 and 172*

*Total Salary: \$46,923 and \$41,602*

The Outreach Program Assistants will assist the Outreach Section Chief with the technical aspects of his/her job. They will coordinate information with the other Section Chiefs, travel as necessary to assist with regional trainings, field general inquiries, and prepare reports.

**Education Section Chief**

*GS-Level 14*

*Person Days: 216*

*Total Salary: \$73,414*

The Education Section Chief will report to the Branch Chief and is responsible for managing the three Education Program Assistants.

The Education Section Chief will develop all of the branch's educational materials in conjunction with the EPA's existing communications support units in order to ensure agency-wide consistency of content and image. Specific tasks will include the development of a handbook that will cover the environmental and health risks associated with solid waste transportation, regulatory requirements, and provide sample contracts for communities to implement host community agreements with local disposal operators. Another task will be the establishment of an online database where the public, State, and Federal officials can access information on waste transportation distances, mass, and routes that will be required by the Act. This will also be coordinated with the EPA Office of Communications to incorporate the database into the general EPA website. Finally, the Education Section Chief may plan conferences or training events to educate stakeholders about the changes and their options.

**a. Three (3) Education Program Assistants**

*GS-Level 12*

*Person Days: 194, 172, 150*

*Total Salary: \$46,923, \$41,602, \$36,280*

The Education Program Assistants will help the Education Section Chief in the development of all educational materials, including the handbook and database. The specialists will plan events and trainings, participate in the events as necessary, prepare mailings of educational material, collect data, update the online database and prepare reports.

**b. Education Contract**

*Total Value: \$594,410*

A consulting firm will assist in the start-up tasks associated with the new Education Section, supervised by the Education Section Chief. The consultancy should include a

graphic designer, communications specialist and information technology specialist. The initial consultancy will be full-time during the first six months, equivalent to 130 days or 6,240 person hours, with the possibility for a contract modification and extension after the initial period concludes as needed. Two (2) consultants will be Education and Communication Specialists assigned a burdened daily rate of \$1,106, and four (4) consultants will be Education and Communication Assistants, assigned a burdened daily rate of \$590. This burdened rate includes salary (\$600/day for Specialist and \$320/day for Assistants), overhead (79%), and fee (3%).

### **Conflict Mediation Section Chief**

*GS-Level 14*

*Person Days: 216*

*Total Salary: \$73,414*

The Conflict Mediation Section Chief will report to the Branch Chief and is responsible for managing three Program Specialists.

The Conflict Mediation Section Chief is intended to mediate conflicts that may arise between states, operators, waste management companies, and affected communities as needed. This person is intended to be a resource for states that may be facing litigation or contentious situations as they adjust to the new regulations associated with the Act. The Conflict Mediation Section Chief may provide advice about how to work through cost restructuring within affected communities whose budgets will be affected by dealing with waste locally or lost revenues from reductions in waste imports. The Conflict Mediation Section Chief will be familiar with existing EPA programs that address waste issues and advise stakeholders about creative solutions to their problems.

#### **a. Three (3) Conflict Mediation Program Assistants**

*GS-Level 13*

*Person Days: 194, 172, 150*

*Total Salary: \$55,799, \$49,471, \$43,143*

In anticipation of problems that will arise as the Act is implemented by interested states, the Conflict Mediation Section Chief will have three Program Assistants who can support him or her in dealing with conflict negotiations and traveling to the regional EPA offices as necessary.

#### **b. Conflict Mediation Contract**

*Total Value: \$766,978*

A team of conflict resolution specialists will train in-house staff in conflict resolution methods, visit regional offices as needed and develop training materials for regional offices. The initial contract will be full-time for six months, equivalent to 130 days or 6,240 person hours, with the possibility for a modification and extension upon its conclusion. The consulting team will consist of two Conflict Mediation Specialists with a burdened daily rate of \$1,475, and four Conflict Mediation Assistants with a burdened daily rate of \$737. This burdened rate includes salary (\$800/day for Specialists and \$400/day for Assistants), overhead (79%), and fee (3%).

## ***Appendix IV: Budget and Cost Notes***

### Assumptions

The proposed budget includes all expected expenditures for the *first operating year* of the Municipal Waste Interstate Transport Branch. However, the list below details costs that were excluded from Municipal Waste Interstate Transport Branch budget calculations because they are assumed operating costs that are included in the general EPA budget for fiscal year 2006.

**Office Space**

The Municipal Waste Interstate Transport Branch will be housed within the existing EPA headquarters Ariel Rios Building, located at 1200 Pennsylvania Avenue, N.W. in Washington, D.C.

**Building Services**

Building services include, but are not limited to: utilities, security such as guards and ID badges, building maintenance, janitorial services, and underground employee parking.

**Communications**

Communications include access to the EPA's central telephone system and associated functions, such as voicemail and conference calling, but do not include the actual phones or local and long distance telecommunications via landlines or facsimiles. These latter expenses, along with postage and courier will be billed to the Municipal Waste Interstate Transport Branch.

**Information Technology (IT) Services**

IT services include, but are not limited to: server capability, email service, standard computer operating systems and software, file transfer protocol (FTP) site, website hosting, creation, and maintenance, and IT help services and consulting.

**Expendable Office Supplies**

Expendable Offices Supplies include everyday office supplies such as copier and printer paper, writing utensils, paperclips. The Municipal Waste Interstate Transport Branch budget has accounted for 25% of the total MISWD expendable office supply costs and is assuming the remaining three divisions will share the remaining 75% costs equally.

**Staffing for Municipal Waste Interstate Transport Branch**

<b>I. Full-time Positions</b>		<b>Person Days</b>	<b>GS-Level</b>	<b>Annual GS Rate</b>	<b>Daily GS Rate</b>	<b>Total Salary</b>
1	Branch Chief	260	15	\$103,947	\$400	\$103,947
2	Outreach Section Chief	216	14	\$88,369	\$340	\$73,414
3	Education Section Chief	216	14	\$88,369	\$340	\$73,414
4	Conflict Mediation Section Chief	216	14	\$88,369	\$340	\$73,414
5	Outreach Program Assistant	194	12	\$62,886	\$242	\$46,923
6	Outreach Program Assistant	172	12	\$62,886	\$242	\$41,602
7	Education Program Assistant	194	12	\$62,886	\$242	\$46,923
8	Education Program Assistant	172	12	\$62,886	\$242	\$41,602
9	Education Program Assistant	150	12	\$62,886	\$242	\$36,280
10	Conflict Mediation Program Assistant	194	13	\$74,782	\$288	\$55,799
11	Conflict Mediation Program Assistant	172	13	\$74,782	\$288	\$49,471
12	Conflict Mediation Program Assistant	150	13	\$74,782	\$288	\$43,143
13	Administrative Assistant	260	7	\$35,452	\$136	\$35,452
14	Administrative Assistant	194	7	\$35,452	\$136	\$26,453
<b>Total Salaries</b>						<b>\$747,837</b>

All salaries are based on the 2005 Grade and Step Levels as provided by the Office of Personnel Management for the Washington, D.C. area and all begin at Step 1 to provide opportunities for salary increases over time. Position descriptions and duties are in the Program Design Section of the report.



<b>Other Than Personal Services (OTPS)</b>				
<b>I.</b>	<b>Travel and Transportation</b>	<b>Unit</b>	<b>Unit Cost</b>	<b>Total Cost</b>
1	Airfare	20	\$250	\$5,000
2	Regional Transportation	15	\$50	\$750
3	Taxis	100	\$15	\$1,500
4	Personal Vehicle Mileage	1500	\$0.485	\$728
<b>Subtotal Travel and Transportation</b>				<b>\$7,978</b>
<b>II.</b>	<b>Allowances</b>			
1	Life Insurance	1	\$56	\$56
2	Health Insurance	12	\$6,869	\$82,425
3	Per Diem	105	\$53	\$5,583
4	Hotel	105	\$124	\$13,020
5	Hotel Taxes	105	\$10	\$1,042
<b>Subtotal Allowances</b>				<b>\$101,084</b>
<b>III.</b>	<b>Other</b>			
1	Expendable Supplies	12	\$1,050	\$7,050
2	Reproduction of Educational Materials	3000	\$10	\$30,000
3	Communications (tel, fax, mail)	12	\$2,100	\$19,650
4	Trainings (1 during first year)	1	\$10,000	\$10,000
<b>Subtotal Other</b>				<b>\$66,700</b>
<b>IV.</b>	<b>Equipment (See Detail Page)</b>			
<b>Subtotal Office Equipment and Furniture</b>				<b>\$43,970</b>
<b>V.</b>	<b>Contractors (See Detail Page)</b>			
<b>Subtotal Contractors</b>				<b>\$1,361,388</b>
<b>Total Other Direct Costs</b>				<b>\$1,581,120</b>

## Other Than Personal Services (OTPS)

### 1. Travel and Transportation

- a. **Airfare:** an estimated 20 trips per year will be taken by program staffers to visit regional offices. The majority of these trips will be taken by the Outreach Section Chief. The average cost of roundtrip airfare from Washington, D.C., to the regional offices is \$250.

- b. **Regional Transportation:** includes 15 train and bus fares that the Outreach Section Chief and other staffers might take to visit regional offices near Washington, D.C. The average cost of a roundtrip ticket is \$50.
- c. **Taxis:** 100 taxi fares estimated at \$15 per ride are included to cover trips around Washington, D.C., or around the cities of the regional offices when staffers leave Headquarters for work.
- d. **Personal Vehicle Mileage:** Staffers may use their personal vehicles when necessary to travel for work. In this case, they are eligible for reimbursement according to the mileage accrued. The federal government permits reimbursement of \$0.48.5/mile. The budgeted 1500 miles represents an estimated 6 trips of 250 miles roundtrip.

## 2. Allowances

- a. **Life Insurance:** Life insurance is a standard benefit for all full-time employees. It is calculated at a rate of \$0.075 per \$1000 of employee salary. Total life insurance benefits are linked to salary for each employee during Year 1.
- b. **Health Insurance:** Health Insurance is a standard benefit for all full-time employees. The Blue Cross Blue Shield government rate for a family in the standard plan includes a government co-pay of \$646.17 per employee per month. Total health care benefits are prorated for months of projected work during Year 1 for each employee.
- c. **Per Diem:** Per diem is given to employees who travel for more than 12 hours outside of their home base of operations while on an official work assignment. Per diem covers the cost of meals and incidental (tips, laundry, etc.) expenses. Employees are eligible for 75% of the per diem rate during the first and last days of travel and 100% of the per diem rate during the interim days. Official per diem rates are established by the federal government and exist for all destinations. For budgeting purposes, six destinations in the US where the EPA has regional offices were chosen as representative of the most common destinations for traveling staffers. Per diem rates were summed and averaged to get one estimated per diem rate of \$53/day. The 105 days were calculated based on three-day trips multiplied by the 35 planned trips for airfare and regional travel.
- d. **Hotel:** In addition to per diem, traveling employees are eligible for hotel expenses to be covered up to the established rates of the destination city. Again, six cities were selected in order to average the hotel maximum for all six. The average hotel maximum per night is \$124 multiplied by an estimated 105 overnight stays.
- e. **Hotel Taxes:** The federal government allows for the state tax on hotels to be billed separately. The budget includes an estimated 8% hotel tax to cover the number of nights projected for hotel usage.

## 3. Other

- a. **Expendable Supplies:** Expendable supplies include all of the office supplies that are used in the day-to-day operations of an office. These may include copy paper, pens, staplers, toner, and other desk supplies. The budget includes an estimated \$75 per person per month (\$75 \* 14 people per month) and takes into account the slow ramp up of staff over the course of Year 1.
- b. **Reproduction of Educational Materials:** The Education Section will begin production of a handbook during Year 1 that will be distributed on a wide scale to the regional offices that will in turn distribute them to the stakeholders in participating states. The budget includes the cost of 3000 handbooks, which translates into 300 handbooks for each region. The estimated cost for the production of each handbook is \$10.
- c. **Communications:** Communications covers a wide range of office service-related items, including the monthly bills for long distance calls, cell phone and blackberry service, faxes, courier and postal service, plus a prorated share of web hosting costs for the greater division. Telephone, fax and e-mail connection fee for full time employees are also accounted for. The

budget includes an estimated \$75 per person per month (\$75 \* 14 people per month) and takes into account the slow ramp up of staff over the course of Year 1.

- d. **Training:** While the bulk of training will most likely take place in Year 2, the budget includes funds for one training to take place in Year 1, which will be a pilot training for future training events. The budgeted amount will cover conference center rental, food and miscellaneous expenses for 50 participants at an estimated \$200 per person.

**4. Equipment and Furniture**

- a. **Laptop Computers:** Laptops will be provided to the Branch Chief and the three Section Chiefs to accommodate their travel schedules and provide more flexibility to work out of the office when necessary. Two additional laptops will be available for traveling staffers or contractors, who may need the computers for presentations.
- b. **Docking Stations:** Docking stations will be necessary for the four laptops.
- c. **Desktop Computers:** The remaining staff will use desktop computers.
- d. **Telephones:** Each employee will need a landline for work in the office.
- e. **Photocopier:** Given the addition of 14 employees to Headquarters, the budget includes funds to buy another photocopier.
- f. **Fax, Scanner, Laser Printer:** All three items will be used to support day-to-day operations in the office.
- g. **LCD Computer Projector:** Used for training purposes during travel.
- h. **Office Chairs:** Each employee will require a new executive office chair.
- i. **Executive Desks:** Four executive desks will be purchased for the Branch and Section Chiefs.
- j. **Simple Desks:** Ten Simple desks will be needed for the remaining employees.
- k. **White Board Cost:** The Branch and Section chiefs will each need a White Board in his/her respective offices.

Contractor Services					
I. Full-time Positions		Person Days	Person Hours	Daily Burdened Rate	Total Salary
1	Education and Communication Specialist	130	1040	\$1,106	\$143,809
2	Education and Communication Specialist	130	1040	\$1,106	\$143,809
3	Education and Communication Assistant	130	1040	\$590	\$76,698
4	Education and Communication Assistant	130	1040	\$590	\$76,698
5	Education and Communication Assistant	130	1040	\$590	\$76,698
6	Education and Communication Assistant	130	1040	\$590	\$76,698
7	Conflict Mediation Specialist	130	1040	\$1,475	\$191,745
8	Conflict Mediation Specialist	130	1040	\$1,475	\$191,745
9	Conflict Mediation Assistant	130	1040	\$737	\$95,872
10	Conflict Mediation Assistant	130	1040	\$737	\$95,872
11	Conflict Mediation Assistant	130	1040	\$737	\$95,872
12	Conflict Mediation Assistant	130	1040	\$737	\$95,872
<b>Totals</b>		<b>1560</b>	<b>12480</b>		<b>\$1,361,388</b>

<b>Equipment and Furniture</b>				
<b>I. Computing and Office Equipment</b>				
	<b>Quantity</b>	<b>Description</b>	<b>Unit Cost</b>	<b>Total Cost</b>
	6	Laptop Computers	\$1,500	\$9,000
	4	Docking Stations	\$80	\$320
	10	Desktop Computers	\$1,200	\$12,000
	14	Telephones	\$150	\$2,100
	4	Blackberry PDAs	\$500	\$2,000
	10	Cell Phones	\$80	\$800
	1	Photocopier	\$5,000	\$5,000
	1	Fax	\$150	\$150
	1	Scanner	\$150	\$150
	1	Laser Printer	\$2,000	\$2,000
	1	LCD Computer Projector	\$2,000	\$2,000
<b>Subtotal Computing and Hardware Equipment</b>				<b>\$35,520</b>
<b>II. Furniture</b>				
	14	Office Chairs	\$175	\$2,450
	4	Executive Desks	\$500	\$2,000
	10	Simple Desks	\$350	\$3,500
	4	White Boards	\$125	\$500
<b>Subtotal Office Furniture</b>				<b>\$8,450</b>
<b>Total Office Equipment and Furniture</b>				<b>\$43,970</b>

<b>Program Budget for Municipal Waste Interstate Transport Branch</b>		
<b>I.</b>	<b>Outreach</b>	<b>Total \$</b>
	Full-time staff	\$234,811
	OTPS	\$81,048
	<b>Subtotal Outreach</b>	<b>\$315,859</b>
<b>II.</b>	<b>Education</b>	
	Full-time staff	\$244,685
	OTPS	\$68,723
	Private Contractor	\$594,409
	<b>Subtotal Education</b>	<b>\$907,817</b>
<b>III.</b>	<b>Conflict Mediation</b>	
	Full-time staff	\$268,294
	OTPS	\$69,999
	Private Contractor	\$766,979
	<b>Subtotal Conflict Mediation</b>	<b>\$1,105,272</b>
	<b>Total 3 Programs</b>	<b>\$2,328,948</b>

## Appendix V: Performance Management System

<b>First Year Objective: Organization Setup</b>	
<b>Information Measured</b>	<ul style="list-style-type: none"> <li>• Number of FTE employees hired, contracting agencies employed, contract person-hours</li> <li>• Development of handbook, online database</li> </ul>
<b>Indicators of Success</b>	<ul style="list-style-type: none"> <li>• Appropriate position filled; contractors managed by respective Section Chief</li> <li>• Completion of handbook and database by First Year</li> </ul>
<b>Data Collection and Frequency</b>	<ul style="list-style-type: none"> <li>• Municipal Waste Interstate Transport (MWIT) Branch Chief will collect relevant data from human resource records</li> <li>• Education Section Chief will follow progress of handbook and database</li> <li>• Reported biannually</li> </ul>
<b>Reporting and Feedback</b>	<ul style="list-style-type: none"> <li>• MWIT Branch Chief will compile human resource records; assess and focus hiring as necessary; deliberate contractual agreements and report results to Municipal Interstate Solid Waste Division (MISWD) Director</li> <li>• Education Section Chief will report status of handbook and database to MWIT Branch Chief who will assign additional contractors duties as necessary</li> </ul>

<b>Annual Objective: Educate States</b>		
<b>Information Measured</b>	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>• Number of training sessions held, citizens involved, general inquiry received, responses and speed of responses to inquiries, handbooks distributed, hits on online database</li> </ul>	<p><i>Qualitative data</i></p> <ul style="list-style-type: none"> <li>• Conduct survey of states' awareness and satisfaction</li> <li>• Compare draft handbook and beta version of database to best practice in Federal Government</li> </ul>
<b>Indicators of Success</b>	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>• Quantitative data must meet the targeted goal</li> </ul>	<p><i>Qualitative data</i></p> <ul style="list-style-type: none"> <li>• Survey would demonstrate general understanding of bill, and usefulness of handbook and database</li> <li>• Outreach activities should be close to best practices</li> </ul>
<b>Data Collection and Frequency</b>	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>• Education Section Chief will compile number of attendees at regional training sessions and demographics of attendees (state, private, interest group, etc); will quantify the handbooks distributed</li> </ul>	<p><i>Qualitative data</i></p> <ul style="list-style-type: none"> <li>• Outreach Section Chief will distribute surveys to regional offices to give to states</li> <li>• Education Section Chief will obtain feedback from database website; benchmark with other educational programs; determine</li> </ul>

	<ul style="list-style-type: none"> <li>and database hits</li> <li>Outreach Section Chief will quantify the number of responses and speed of response to general inquiries fielded by his office</li> <li>Reported biannually</li> </ul>	<ul style="list-style-type: none"> <li>innovative strategies as necessary</li> <li>Reported every fiscal year</li> </ul>
Reporting and Feedback	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>Written report of quantitative numbers will be submitted by Outreach and Education Section Chief to MWIT Branch Chief who will assess additional staffing needs and redistribute functional tasks as necessary</li> </ul>	<p><i>Qualitative data</i></p> <ul style="list-style-type: none"> <li>Outreach Section chief will submit survey results to MWIT Branch Chief and to states; MWIT Branch Chief will consult with contractors as necessary and report results to MISWD Director</li> <li>Results of benchmark study will be submitted to MWIT Branch Chief and contractors who will collaborate together for proposed improvements</li> </ul>

<b>Annual Objective: Conflict Minimization</b>	
Information Measured	<ul style="list-style-type: none"> <li>Number of conflict mediation sessions, settlements between state, lawsuits between states over MSW interstate transport</li> </ul>
Indicators of Success	<ul style="list-style-type: none"> <li>High number of conflict mediation sessions and settlements between states; low number of lawsuits between states over MSW</li> </ul>
Data Collection and Frequency	<ul style="list-style-type: none"> <li>Conflict Mediator Section Chief will compile monthly status reports, including the number of mediation sessions completed or in progress and the number of formal settlements between states</li> <li>Conflict Mediator Section Chief will compile an annual summary of mediation activities, including a summary of lawsuits between states over MSW interstate transport, obtained from monitoring of Federal Court system, using a database such as PACER (Public Access to Court Electronic Records)</li> <li>Status reports submitted monthly; Annual summary submitted annually</li> </ul>
Reporting and Feedback	<ul style="list-style-type: none"> <li>Monthly and Annual summary reports will be submitted to the MWIT Branch Chief from the Conflict Mediator Section Chief who analyzes the reports; assessing effectiveness of conflict mediation; submitting proposed improvements to MWIT Branch Chief</li> </ul>

<b>Annual Objective: Effective Outreach</b>	
Information Measured	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>• Number of visits to regional office and handbooks distributed to regional office</li> </ul>
Indicators of Success	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>• Number of visits and number of handbooks distributed must meet the objectives</li> </ul>
Data Collection and Frequency	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>• Outreach Section Chief will collect data from management database</li> <li>• Data collected biannually</li> </ul>
Reporting and Feedback	<p><i>Quantitative data</i></p> <ul style="list-style-type: none"> <li>• Quantitative data will be reported to MWIT Branch Chief who will assess results to see if achieve target goal</li> </ul>

<b>Annual Objective: Cost Management</b>	
Information Measured	<ul style="list-style-type: none"> <li>• Comparison between the budget and the actual data</li> <li>• Number of FTE employee hours, contract person-hours</li> <li>• Analysis of First Year work plan timetable— contractual agreement and allocation to sections</li> </ul>
Indicators of Success	<ul style="list-style-type: none"> <li>• The actual costs should be within the proposed budget</li> </ul>
Data Collection and Frequency	<ul style="list-style-type: none"> <li>• Section Chiefs will obtain data from accounting records</li> <li>• Reported monthly</li> </ul>
Reporting and Feedback	<ul style="list-style-type: none"> <li>• Compiled data will be reported to MWIT Branch Chief monthly and MISWD Director quarterly; suggested improvements from Section Chiefs will be approved by MWIT Branch Chief who will adjust budget accordingly</li> </ul>



<b>Annual Objective: Time Management</b>	
Information Measured	<ul style="list-style-type: none"> <li>• Comparison between the planned and the actual schedule</li> </ul>
Indicators of Success	<ul style="list-style-type: none"> <li>• The actual schedule should be within the proposed timetable</li> </ul>
Data Collection and Frequency	<ul style="list-style-type: none"> <li>• Section Chiefs will obtain data from time management system</li> <li>• Data collected monthly</li> </ul>
Reporting and Feedback	<ul style="list-style-type: none"> <li>• Data will be reported to the MWIT Branch Chief and MISWD Director; Education and Conflict Mediation Section Chiefs will suggest modification of contracts to be approved by MWIT Branch Chief</li> </ul>

<b>Long-term Objective: Reduction of Interstate Transport of MSW</b>	
Information Measured	<ul style="list-style-type: none"> <li>• Distance traveled of MSW crossing state lines</li> <li>• For the First Year of the program, to help states to collect data with existing data systems, distance traveled data will be a simple straight line between generation area and final disposal area. However, MWIT Branch Chief will adopt more sophisticated distance data for future; e.g. requiring detailed trucking records (such as GPS tracking) to measure distance data</li> </ul>
Indicators of Success	<ul style="list-style-type: none"> <li>• Actual distance data meets the targets, or distance should be shorter than the baseline data or the previous year's data</li> </ul>
Data Collection and Frequency	<ul style="list-style-type: none"> <li>• Require states to input MSW miles traveled and amount data to the online database on a quarterly basis</li> <li>• To ensure accuracy of the data, require states to conduct periodical audit of waste treatment companies</li> </ul>
Reporting and Feedback	<ul style="list-style-type: none"> <li>• MWIT Branch Chief will report results to the MISWD Director, OSW Chief, states and will make available to the general public; MWIT Branch Chief will analyze data, identifying issues causing interstate transfer of MSW; redistributing functional tasks as necessary and assessing need for additional staff</li> </ul>

<b>Long-term Objective: Increased Local Treatment of MSW</b>	
Information Measured	<ul style="list-style-type: none"> <li>• Volume of MSW crossing state lines</li> </ul>
Indicators of Success	<ul style="list-style-type: none"> <li>• Actual volume meets the targets, or it should be less than the baseline data or the previous year's data</li> </ul>
Data Collection and Frequency	<ul style="list-style-type: none"> <li>• Require States to input volume of MSW transported to the online database on a quarterly basis</li> <li>• To ensure accuracy of the data, require states to conduct periodical audit waste treatment companies</li> </ul>
Reporting	<ul style="list-style-type: none"> <li>• MWIT Branch Chief will report results to the MISWD Director, OSW Chief, states and will make available to the general public; MWIT Branch Chief will analyze data, identifying issues causing interstate transfer of MSW; redistributing functional tasks as necessary and assessing need for additional staff</li> </ul>

## **Appendix VI: Master Calendar**

The Master Calendar outlines the schedule of events that need to occur during the first year of the program design chosen for implementation under the Solid Waste Interstate Transportation Act of 2005 by the Municipal Waste Interstate Transport Branch.

The Master Calendar specifically serves to outline the sequence of events from the inception of this new branch of the EPA through the end of the first year, under predominantly two headings:

- (a) Administrative Events
- (b) Program-specific Events.

While the layout of the Master Calendar itself addresses the time frame into which each action fits, the tables breakdown the broader categories stated in the Master Calendar into subtasks and who performs them.

### **List of Subtasks**

#### **I. Administrative Events**

<b>TASK</b>	<b>SUBTASK(S)</b>	<b>RESPONSIBLE FOR TASK COMPLETION</b>
<b>1.0 STAFFING</b>	1.1 Hire Branch Chief 1.11 Approve announcement with Personnel Office 1.12 Position announcement period 1.13 Applicant reviews 1.14 First round interviews 1.15 Second round interviews 1.16 Make final candidate decision and offer position 1.2 Hire Section Chiefs 1.21 Follow procedures 1.11-1.16. 1.3 Hire Program Assistants 1.31 Follow procedures 1.11-1.16. 1.4 Hire Administrative Assistants 1.41 Follow procedures 1.11-1.16.	Office of Solid Waste Director              Branch Chief              Section Chiefs              Branch Chief/Outreach Section Chief
<b>2.0 CONTRACTING</b>	2.1 Develop RFP 2.11 Establish criteria for contractors 2.12 Incorporate E.P.A. contract mandates 2.13 Establish incentives for heightened performance 2.2 Announce RFP for Open Bid to	Branch Chief and Administrative Assistant              Conflict Mediation &

	<p>EPA-Approved Contractors  2.21 Follow federal requirements for RFPs</p> <p>2.3 Hire Contractor(s)  2.31 Review Applicants  2.32 Request additional information as needed  2.33 Make final candidate selections</p> <p>2.4 Manage Contract(s)  2.41 Ensure contractor meets deadlines, reporting and contract requirements</p>	<p>Education Section Chief</p> <p>Conflict Mediation &amp; Education Section Chiefs</p> <p>Conflict Mediation &amp; Education Program Assistant</p>
<b>3.0 OFFICE SET-UP</b>	<p>3.1 Establish Office Space  3.2 Furnish &amp; Order Supplies</p>	<p>Branch Chief-Administrative Assistant</p>
<b>4.0 STAFF DEVELOPMENT</b>	<p>4.1 Staff Meetings  4.11 Prepare agendas, reserve rooms and schedule officer reports when necessary</p> <p>4.2 Section Chief Meetings  4.21 Prepare agendas and reserve rooms</p> <p>4.3 Staff Retreat  4.31 Reserve a date and offsite location for staff development  4.32 Establish an agenda of activities</p> <p>4.4 Budget Planning  4.41 Evaluate past year's budget and make recommendations for future funding needs</p>	<p>Branch Chief-Administrative Assistant</p> <p>Branch Chief-Administrative Assistant</p> <p>Branch Chief-Administrative Assistant</p> <p>Branch Chief</p>
<b>5.0 PROGRAM EVALUATION</b>	<p>5.1 Set-Up Evaluation  5.11 Report the progress of tasks 1.0, 2.0 and 3.0.</p> <p>5.2 Branch Report  5.21 Assimilate section reports and branch achievements  5.22 Prepare a formal presentation and final report for public and agency review</p> <p>5.3 Education Section Reports  5.31 Identify accomplishments and report on performance indicators</p> <p>5.4 Conflict Mediation Section</p>	<p>Branch Chief-Administrative Assistant</p> <p>Branch Chief</p> <p>Education Section Chief</p> <p>Conflict Mediation Section</p>

	Reports 5.41 Identify accomplishments and report on performance indicators 5.5 Outreach Section Reports 5.51 Identify accomplishments and report on performance indicators 5.6 Budget Reports 5.61 Identify and report on monthly and yearly targets	Chief  Outreach Section Chief  Branch Chief
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## **II. Program-specific Events**

<b>TASK</b>	<b>SUBTASK(S)</b>	<b>RESPONSIBLE FOR TASK COMPLETION</b>
<b>6.0 EDUCATION</b>	6.1 Develop Handbook 6.11 Collect information 6.12 Compile information 6.13 Design handbook 6.2 Edit handbook  6.3 Publish Handbook 6.4 Distribute Handbook	Contractor  Education Program Assistants Contractor Education Program Assistants
<b>7.0 OUTREACH</b>	7.1 Organize Regional Visits 7.11 Create Master Calendar 7.12 Make appointments with Regional Offices 7.13 Plan itineraries 7.2 Prepare outreach materials 7.3 Make visits 7.4 Review Regional Office Action 7.41 Communicate (email/phone) for updates	Outreach Administrative Officer  Outreach Program Assistant Outreach Program Assistant Outreach Program Assistant
<b>8.0 CONFLICT MEDIATION</b>	8.1 Coordinate Conflict Mediation 8.11 Identify Conflict 8.12 Facilitate communication between contractor & states 8.2 Mediate Conflict	Conflict Mediation Program Specialists  Contractor

**Master Calendar for Administrative Events\***

Month	1	2	3	4	5	6	7	8	9	10	11	12
<b>1.0 Staffing</b>	Branch Chief & Assistant	Section Chiefs										
			Outreach Assistant 1 & Administrative Assistant	Outreach Assistant 2								
			Education Assistant 1	Education Assistant 2	Education Assistant 3							
			Conflict Assistant 1	Conflict Assistant 2	Conflict Assistant 3							
<b>2.0 Contracting</b>	RFP Development	RFP Open to Bid			Contractor Chosen	Contract Period						
<b>3.0 Office Set-Up</b>		Office Space Established/ Supplies & Furniture Arrive										
<b>4.0 Staff Development</b>	Weekly Staff Meetings and Bi-Weekly Section Chief Meetings											
											Annual Staff Retreat	
										Budget Planning 2007		
<b>5.0 Program Evaluation</b>						Set-Up Evaluation 1					Set-Up Evaluation 2	
											Branch Report	
											Education Annual Report	
					Monthly Conflict Mediation Updates						Conflict Mediation Annual Report	
						Outreach Report 1					Outreach Annual Survey and Report	
	Monthly Budget Reports											

**Master Calendar for Program-specific Events\***

<b>Month</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
<b>6.0 Education Handbook</b>						Develop Handbook		Edit	Publish	Distribute		
<b>Website</b>			Website Setup		Website Maintenance							
<b>Inquiry</b>			Establish Automated Inquiry System									
<b>7.0 Outreach</b>			Organize Regional Visits		Prepare Outreach Materials		Make Regional Visits			Review Regional Office Action		
<b>8.0 Conflict Mediation</b>						Coordinate Conflict Mediation Efforts & Mediate Conflict						

\*Months are numbered starting 1 February 2006 to 31 January 2007 as per the calendar year

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