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**Quality Assurance Project Plan for the Maine Air Toxics Initiative,
December 23, 2003**

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1. COVER AND SIGNATURE PAGE

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Agency: **Air Toxics & Emissions Inventory Section
Bureau of Air Quality
Maine Department of Environmental Protection**

Reviser: **David Wright**

Effective Date: 1/27/04 (Upon Signature of Susan Lancey, USEPA Region I)

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2. QAPP REVISIONS AND DOCUMENT CONTROL

Any changes to the QAPP will be initiated by either the Program Coordinator for Region I or Maine DEP. Each change will be executed by MEDEP. Each change will be given a revision number and date in the document control block in the upper corner of the affected pages. It will be the responsibility of the MEDEP Project Coordinator to distribute copies of the changed pages to all the persons on the Distribution List, below:

David Wright, Maine DEP
Lisa Higgins, Maine DEP
Malcolm Burson, Maine DEP
Susan Lancey, USEPA Region I
Nora Conlon, USEPA Region I

3. PROJECT OBJECTIVES, ORGANIZATION , AND RESPONSIBILITIES

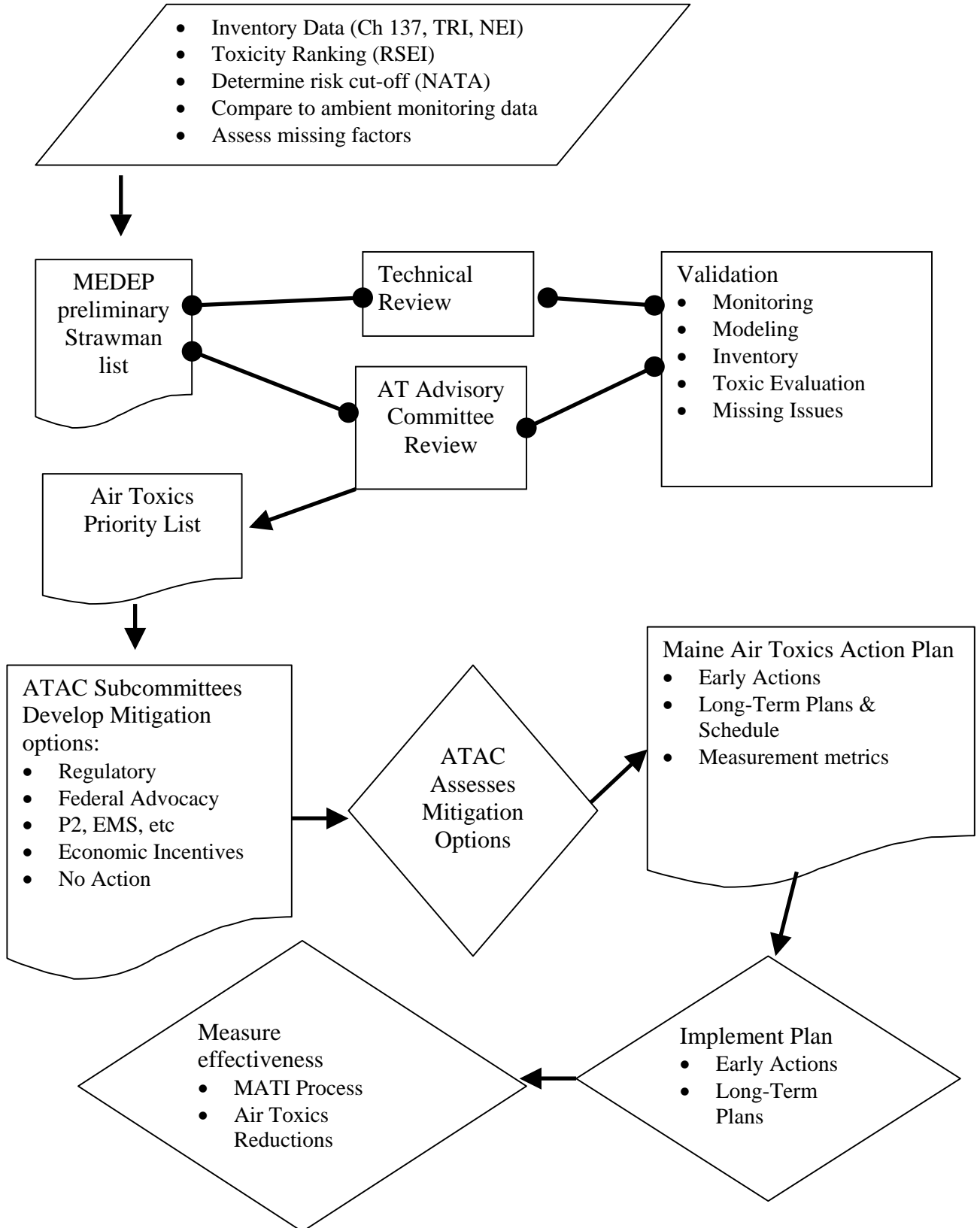
3.1 PURPOSE OF THIS DOCUMENT

The Maine Department of Environmental Protection (MEDEP) has developed this Quality Assurance Project Plan (QAPP), for review and approval by the United States Environmental Protection Agency, Region I (EPA – Region I). The QAPP pertains to use of secondary data, or data that was not necessarily developed to be used in the specific way that MEDEP is using the data. MEDEP is using secondary data to develop Air Toxic Priority Lists for Maine. This QAPP describes the process that will be used to ensure that the secondary data used are of sufficient quality to support the intended use of the priority lists. The intended uses of the priority lists are described below.

3.2 PURPOSE OF THE STUDY -OVERVIEW OF THE MAINE AIR TOXICS INITIATIVE

Through implementation of the federal National Emission Standard for Hazardous Air Pollutants (NESHAPs), the Maine Department of Environmental Protection (MEDEP) has significantly reduced the exposure of Maine Citizens to Air Toxics (ATs). However, the United States Environmental Protection Agency (USEPA) has conducted a National Air Toxics Assessment (NATA) suggesting that Maine Citizens still face unacceptable exposure to ATs. The NATA assessed the risk from 33 Air Toxics. NATA is based on estimates of emissions of air pollutants, fate and transport modeling, and estimations of health risks.

Figure 1: Schematic of the Maine Air Toxics Initiative Process



In response, MEDEP is undertaking the Maine Air Toxics Initiative (MATI). MATI is a facilitated stakeholder process aimed at verifying whether or not the NATA results seem reasonable, and if so, identification of which Air Toxics are the most responsible for creating health risks, the source of those pollutants, and creation of cost effective solutions to reduce the risk. The MATI Process will be undertaken in several steps, as shown in Figure 1. MATI's holistic assessment of Air Toxics risks will enable Maine to target available resources for maximum risk reduction. The ultimate goal of the project is to reduce exposure of all Maine Citizens to acceptable¹ levels of Air Toxics. EPA has awarded MEDEP with a Healthy Communities Grant to help fund the Maine Air Toxics Initiative.

In verifying NATA, MEDEP will look at state inventory data, ambient air results, and modeling refinements. The stakeholder group, known as the Air Toxics Advisory Committee (ATAC) is composed of community organizations, government organizations (local, state and federal), industrial organizations and environmental organizations having an interest in Air Toxics. The project is facilitated by an independent, outside facilitator knowledgeable in the mutual gains approach to facilitation. After reaching consensus on the list of prioritized air toxics, the ATAC will identify appropriate early actions that will provide significant reductions in Air Toxics. The ATAC will also identify a long-term targeted strategy, with clear implementation goals and timeframes, for MEDEP to pursue. These strategies could include economic incentives, targeted pollution prevention programs, new legislation at the state level, or partnering with regional agencies to resolve interstate issues.

Further details on the steps in the Maine Air Toxics Initiative can be found in the projects Scope of Work, which is included as Appendix A.

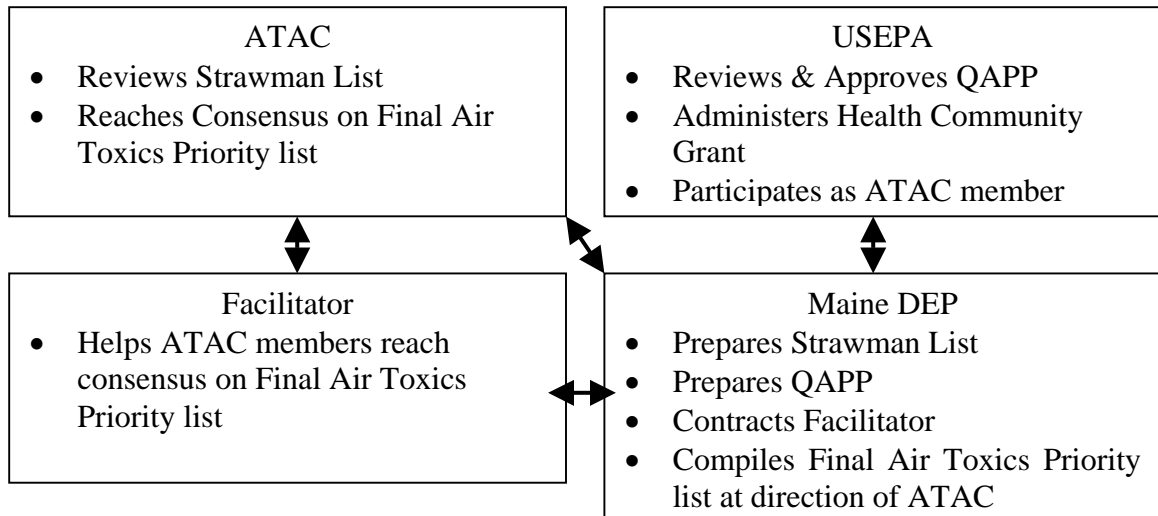
3.3 PROJECT PERSONNEL AND RESPONSIBILITIES

3.3.1 Responsibilities of Participating Organizations

MEDEP is primarily responsible for developing the Strawman List of Air Toxic Priorities. MEDEP is also responsible for compiling the final Air Toxics Priority List, at the direction of the Air Toxics Advisory Committee (ATAC). EPA-Region I is the Healthy Community Grant Administrator, and a member of the ATAC. The MEDEP has contracted a facilitator to help the ATAC reach consensus. The relationship between these organizations, and their roles, are depicted in Figure 2.

¹ Generally, the Department's Air Quality Bureau defines acceptable risks as risks below a Health index of 1 (for non-carcinogens), and an Incremental Lifetime Cancer Risk of one in a million (for carcinogens).

Figure 2: Relationship of MATI organizations



3.3.2 Qualifications of MEDEP staff

All MEDEP staff working on the subject documents are air quality professionals that have sufficient education and experience to perform emission estimation calculations, data review and data analysis. While there are no specifically mandated training requirements for work performed on this project, all staff has received specific emission inventory training through conferences, workshops, self-study programs and/or mentored work experience.

3.3.3 Project Contacts

The primary contact people for each organization are as follows:

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3.4 PROJECT DOCUMENTS SUBJECT TO THIS QAPP

The MATI project will be conducted over several months and in several steps as summarized in Figure 1, and detailed in the Maine Air Toxics Initiative Scope of Work, which is attached as Appendix A. This QAPP pertains to the following documents that are being developed as part of the MATI process:

3.4.1 MEDEP's Initial Strawman List of Air Toxic Priorities.

One of the first steps in the project was for MEDEP to develop a "strawman list" of Air Toxic Priorities, a list of 30 compounds ranked by the risk they pose to Maine Citizens. The purpose of this list is to foster stakeholder discussions aimed at a consensus decision on a final list. In developing the Strawman list, MEDEP assessed The National Emissions Inventory (NEI); emissions from point sources (the Toxics Release Inventory (TRI) and the state's Chapter 137 inventory); the NATA data; ambient air monitoring data; and literature on missing issues such as Persistent Bioaccumulative Toxics. A chemical's risk was ranked using toxicity factors from the Risk Screening Environmental Indicators (RSEI) Model. Knowledgeable parties outside of MEDEP are technically reviewing the Strawman List.

3.4.2 Stakeholder Air Toxics Priority List.

MEDEP presented the Initial Strawman List for review and discussion to the Air Toxics Advisory Committee (ATAC), which is a Stakeholder group as described above. The ATAC is in the initial stages of review, and will be determining the modifications and validation work that must be done on the initial Strawman list in order to reach a final list. This validation work may include additional inventory work, toxicity evaluation, modeling, literature research, and/or monitoring. Researchers contracted by MEDEP may undertake some of this work. Since the exact nature of the work depends on decisions made by the Air Toxics Advisory Committee, this QAPP addresses the Air Toxics Priority List in a general

way. More detailed revisions to the QAPP will be submitted by MEDEP for this step, if the EPA-Region I project officer for the subject Healthy Community Grant, Susan Lancey, determines that it is necessary, based on EPA QA/QC requirements.

3.5 PROJECT OBJECTIVES

The object of developing both Lists is to rank Maine's Ambient Air Toxics from greatest to least risk, and determine if the risk is acceptable. The initial strawman list will be used as a starting point for discussion and development of a final list of Air Toxics Priorities. The final list will be used to prioritize the development and implementation of air toxic reduction strategies. The prioritization need not be exact, but should provide relative risk. That is, it is understood that the compound ranked number 3 may not be that different in risk from the compound numbered 10, but should be relatively different from the compound list as number 30.

Additionally, the data must be robust enough to make informed decisions on solutions that may be costly. However, data quality expectations must also be balanced by the quality of data that is currently available. Ultimately, the ATAC will need to determine if the data quality is sufficient to support a mitigation action, or if the action item is to obtain better data. This will be an iterative process, with the cost of the solution playing into the data quality needs. For instance, the ATAC may decide that if a solution is relatively easy and inexpensive, that the data does not need to be as robust as would be the case for data that suggests a costly and difficult solution is in order. To allow the ATAC to make these decisions, the MEDEP must be clear on the data quality upon which the strawman list, and final priority list, is based.

In addition, the data documentation must be of sufficient detail to allow the ATAC to determine the source of the pollutants that are on the priority list. For instance, Appendix A of the strawman list indicates that of the Acrolein released in 1999, 6% was from "Point Source Emissions", and 89% were from "Area Source" Emissions. The MEDEP used emissions inventories that contain enough detail to allow the MEDEP and EPA to determine which facilities in Maine comprised the point sources, and which subcategories comprised the area sources. The ATAC needs to know this level of detail, in order to develop control strategies based on the pollutant sources.

3.6 SECONDARY DATA IDENTIFICATION AND REQUIREMENTS

3.6.1 Overview of Strawman List Development

The first step that Maine DEP took in deriving the strawman list, was to look at information from air emissions inventories, and rank pollutants based on the tons emitted to the air in a year. The MEDEP then assessed how toxic each chemical was, and ranked emissions based on a combination of the volume released, and its toxicity. This prioritized the ATs relative to each other, but did not determine which pollutants may currently be posing an actual risk problem. To address this issue, the Department compared Maine's toxicity ranked emissions list to the compounds assessed in the National Air Toxics Assessment. In this way the MEDEP was able to calibrate Maine's AT priority list as to those pollutants that cause an actual risk. Finally, the MEDEP took a real world assessment of the list, to determine which factors had not been adequately considered. The list was then adjusted to account for these missing factors.

3.6.2 Emissions Inventories - Introduction

The Maine DEP used air emission inventories to develop the strawman list. Emission inventories are compilations of releases to the air from various different sources of air pollution. MEDEP and EPA have standard protocols to estimate the amount of pollutants that are released to the air. Estimations are usually made by multiplying "activity data", such as gallons of fuel burned, times an "emission factor", such as pounds of pollutant released per gallon of fuel burned.

By convention, air emission inventories are often broken down into four major categories: point sources, area sources, mobile sources, and background sources. "Point Sources" is a category comprised of facilities that emit pollutants above a certain threshold, from a stack, vent or similar discrete point of release. The threshold as to who is considered a point source varies between inventories. "Area sources" are sources of air pollutants that are diffused over a wide geographical area. Area sources include emissions from discrete points (such as smokestacks) at facilities that are so small that in and of themselves are insignificant, but the aggregate all similar facilities may comprise significant emissions. An example would be emissions from small dry cleaners or home heating boilers. Area sources also comprise emissions that do not come from a specific point source, such as ATs volatilizing from house painting, chainsaws or lawnmowers. Estimations of pollutant losses for many

subcategories are made using standard techniques, often based on losses per capita or per employee. “Mobil sources” are sources of air pollution from internal combustion engines used to propel cars, trucks, trains, buses, airplanes, ATV’s, snowmobiles, etc. These inventories are generally based on running EPA models. “Background sources” means the concentrations of Air Toxics that are from natural sources (also called “Biogenic Sources”) and man-made pollutants that are either still in the air from previous years emissions, or have been emitted outside the inventory area and then transported into the region. MEDEP depends on EPA to run models that determine releases from the natural sources. Likewise, an assessment of a chemical’s properties and air models are used to determine contributions from out-side the state, or from previous emission years.

3.6.3 General Emissions Inventory Requirements

The emission inventories used to develop the strawman list and final priority list must meet the following requirements:

1. The emissions inventories must be estimates of pollutant releases to air, and not to other media.
2. Since the intent of the list is to develop priorities for implementing policies to reduce current risk exposures, the data must be as current as possible.
3. Since the list applies to statewide priorities, the data must represent releases to all areas of Maine.
4. The data must cover all of the significant sources of releases from the point, area, mobile, and background sectors. In some cases it is necessary to use multiple inventories for a given compound to fulfill this requirement. In cases where the data is not available, the documentation must indicate this fact.
5. Since the list will be used to determine chronic risks, the inventory needs to include the volume released in a year.
6. Release inventories must be based on generally acceptable estimation techniques, as published by EPA’s Emissions Inventory Improvement Program (EIIP) Technical Support Documents, which are available from <http://www.epa.gov/ttn/chief/eiip/techreport/index.html>.

3.7 APPROACH TO DATA EVALUATION

3.7.1 Step 1: Volumetric Ranking

The first step was to rank the Air Toxics in the inventory by volume. The compound that had the highest emissions across all combined categories (point, area, mobile and biogenic) was assigned a volumetric ranking of 1, and so forth.

3.7.2 Step 2: Toxicity Weighted Ranking

Once the inventory data was selected and Air Toxics were ranked by volume of pollutant released, the next step was to change the volumetric ranking to a toxicity ranking. This was done by multiplying the volume released by a toxicity factor, as shown in Equation 1. The toxicity factor used by MEDEP comes primarily from EPA's Risk Screening Environmental Indicators (RSEI) model. This model is used to assess the Toxicity of pollutants reported under the Toxicity Release Inventory, including air pollutants. Therefore, use of the RSEI toxicity factor is relevant and applicable to assessing the toxicity of Air Toxics in Maine. In cases where a RSEI value was not available, an alternative toxicity-weighting factor was developed in consultation with the State Toxicologist in the Department of Human Services. The MEDEP documented the derivation and use of alternative toxicity weighing factors in the strawman list basis statement.

Equation 1: Conversion of Volumetric Rank to Risk Weighted Emission

$$R_p = V_p * T_p$$

Where: p = one of n Air Toxic Pollutants

R_p = Risk Weighted Emission of Air Toxic "P" (risk pounds-pollutant "P" / year)

V_p = Volumetric Release of Air Toxic P (pounds-pollutant "P"/ year)

T_p = Toxicity Factor of Air Toxic "P" from RSEI (unitless)

Example Calculation:

Let:

p = Total Acrolein

V_p = 751,726.47 (pounds-pollutant "P"/ year)

T_p = 90,000 (unitless)

Therefore:

$$R_p = V_p * T_p = 751,726.47 * 90,000 = 67,655,382,602 \text{ (risk pounds-Acrolein / year)}$$

3.7.3 Step 3: Risk Weighted Ranking

Once all air toxics were risk weighted, all of the air toxics were ranked in descending order, based on their R_p . That is, compounds with a higher R_p pose a higher risk, and therefore were assigned a lower rank number. In the above sample, Acrolein had the highest R_p value, so it was assigned a priority risk ranking of 1.

4. SOURCES OF SECONDARY DATA

4.1 REQUIRED SOURCES

The Maine DEP considered several factors when determining which inventories were suitable for developing the strawman list:

- how current the inventory was;
- how many chemicals, source categories (point, area, mobile and background), and sources (e.g number of factories) the inventory included; and
- the quality of the data included in the inventory.

Each of the inventories that the MEDEP considered had strengths and weaknesses; no one inventory excelled in all categories. The characteristics of each inventory are shown in Table 1. As the ATAC develops the final list of Air Toxic Priorities for Maine, the MEDEP and ATAC will consider these same factors when assessing the usability of inventories.

Table 1: Characteristics of the Emissions Inventories considered by MEDEP when Developing the Strawman List of Air Toxic Priorities

Database Name	NO. Pollutants Covered	No. Pollutants Reported	Most recent year available	Data Quality	Release expressed as		Source Categories included in inventory		
					Loading (lbs/yr)	Risk (HQ or ILCR)	Point sources (No. Reported)	Area Source	Mobile Source
Chapter 137 Toxics Release Inventory	226	81	2000	Med.	✓		145		
National Emissions Inventory	188	188	1999	Med.	✓		✓	✓	✓
National Air Toxics Assessment	33	33	1996	Med.		✓	✓	✓	✓

4.2 INVENTORY SELECTION RATIONALE

The MEDEP has access to more information on releases of air pollutants from point sources, as compared to area sources and mobile sources. Each inventory will vary as to the number of facilities reporting in the point source category, the number of Air Toxics covered, the number of source categories covered, and the most recent data compiled. The MEDEP assessed each of the following inventories when deriving the preliminary basis statement.

4.2.1 Chapter 137 Inventory

Under MEDEP regulations Chapter 137, “Emission Statements”, individual facilities that emit any of 217 pollutants above certain thresholds must report these releases to MEDEP every two years². This information is entered into the MEDEP’s Chapter 137 Air Toxics database. The database contains information for every other year, dating back to 1993. More information on the Chapter 137 Inventory is available from <http://www.state.me.us/dep/air/emissions/atidefault.htm>. The Chapter 137 data for the year 2000 that was considered by the MEDEP in developing the strawman list is included in Appendix A of the Strawman List Basis Statement, which is available from <http://www.maine.gov/dep/air/emissions/MATI.html>. The MEDEP

² The Department is in the process of revising Maine Regulations to require reporting of Air Toxics on a 3 year cycle, to coincide with EPA’s inventory cycle for Air Toxics.

believes that the strength of the Chapter 137 database is that we are able to perform our own quality control checks to ensure the accuracy of the information. Additionally, reporting thresholds under Chapter 137 are lower than those required under federal Toxics Release Inventory rules, so the Chapter 137 database contains information from more facilities than the federal database. Finally, the data is the most current of all the databases reviewed. The MEDEP believes that the weakness of the database is that it does not include emission information on area or mobile source categories.

4.2.2 Toxics Release Inventory

The Pollution Prevention Act of 1990 requires companies that discharge one of 650 pollutants to the air, water, or land above certain thresholds, must report this information annually to the state and federal governments³. The EPA inputs this data into the Toxics Release Inventory (TRI) database, which has data dating back to 1988. More information on TRI is available from <http://www.epa.gov/enviro/html/tris/>. The TRI data for the year 2001 that was considered by the MEDEP while developing the strawman list is attached as Appendix B of the “Preliminary Strawman List of Prioritized Air Toxics for the Maine Air Toxics Initiative”, which is available from <http://www.maine.gov/dep/air/emissions/MATI.html>.

The MEDEP believes that the strength of the TRI database is that the information is compiled annually, is the most up-to-date of any of the databases, covers the most compounds of any other database, and is readily accessible on the Internet. The MEDEP believes that the weakness of this database is that it only covers discharges from point sources, and not area or mobile sources. Additionally, the reporting thresholds are higher under TRI than Chapter 137, so even though TRI covers more compounds, the TRI inventory does not contain as much information on Maine emissions as does Chapter 137. Additionally, the database does not undergo as rigorous a state quality assurance check as the 137 database.

4.2.3 National Emissions Inventory.

The National Emissions Inventory is a national database of air emissions information that is compiled by EPA, with input from MEDEP, tribes, and industry. This database contains information on releases of the 188 federally listed Air Toxics from point, area, and mobile sources for 1996

³ This information must be submitted pursuant to the requirements of the federal Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA), as expanded by the Pollution Prevention Act of 1990.

and 1999. EPA developed the database “for air dispersion modeling, regional strategy development, regulation setting, air toxics risk assessment, and tracking trends in emissions over time”.⁴ Before 1999, EPA maintained HAP emission estimates in the National Toxics Inventory (NTI) database. The 1996 NEI was used as the emissions input data for the National Air Toxics Assessment, which is described below. More information on the NEI can be obtained from EPA’s website at <http://www.epa.gov/ttnchie1/eidocs/nei.html>. Appendix C of the “Preliminary Strawman List of Prioritized Air Toxics for the Maine Air Toxics Initiative”, which is available from <http://www.maine.gov/dep/air/emissions/MATI.html>, includes the emission estimates from the 1999 NEI for Maine.

The MEDEP believes that the strength of the NEI database is that it includes emission estimates from not only point sources, but also the area and mobile source categories. Other strengths are that the database includes all of the 188 federally listed ATs, and is relatively up to date. The MEDEP believes that the weakness of this database is that the emission estimates for area source subcategories are sometimes less precise than those used by MEDEP. This is necessary since the inputs for more precise estimation methods are not always available for every state in the country. Finally, the MEDEP sometimes has difficulty determining the specific methods that were used to estimate releases in the NEI.

4.2.4 National Air Toxics Assessment (NATA) data

EPA recently completed The National-Scale Air Toxics Assessment (NATA). The goal of the assessment was to determine which ambient air pollutants potentially posed the greatest risk to public health. The assessment is based on 1996 emissions data. EPA estimated ambient air pollutant concentrations across the country, and assessed the possible effect on human health from these pollutants. The assessment looked at 32 common air toxics identified by the EPA’s Integrated Urban Air Toxics Strategy, plus diesel particulate matter. These air toxics were chosen because they pose the greatest potential risks to public health in urban areas. The NATA consisted of the following 4 steps:

1. Determining what pollutants are released to the air. EPA used the 1996 National Emissions Inventory of air toxics emissions from

⁴ EPA Web Page, “What is the National Emissions Inventory (NEI)?”, 9-10-03, (<http://www.epa.gov/ttnchie1/eidocs/nei.html>)

- outdoor sources, on a county by county basis, across the contiguous United States;
2. Estimating the concentrations of air toxics in the ambient air, in each county in the country. To do this EPA used the model called Assessment System for Population Exposure Nationwide (ASPEN);
 3. Estimating the population exposure in each county to this air. To do this, EPA used the model called the Hazardous Air Pollutant Exposure Model, Version 4 (HAPEM4); and
 4. Determine the potential public health risk due to inhalation of air toxics on a county by county basis. EPA used standard risk assessment protocols when assessing the risk, such as the protocols that have been developed for the Superfund program.

More information on NATA and each of the above steps is available from <http://www.epa.gov/ttn/atw/nata/>. The compounds that EPA examined in the NATA, and a general description of the source of those contaminants, can also be found at this web site.

The advantage of the NATA data is that it assess not only the volume of ATs released, but also quantifies the potential risk to human health posed by the emission, and graphically displays that information for easy review. Additionally, NATA assesses the area and mobile source categories, in addition to the point sources. Finally, the information is readily available on the Internet. The biggest disadvantage of the NATA data is that it only covers 33 compounds. However, these compounds were selected based on their potential to adversely impact health, consistent with Maine's proposed approach. Another drawback is that the assessment is based on 1996 emissions data, although a version based on 1999 data is scheduled for release in early 2004.

4.2.5 Selection of Emissions Data

After reviewing the strengths and weaknesses of each of the emissions database, as summarized in Table 1, the MEDEP selected the NEI as the primary database for the preliminary strawman list. The MEDEP believed that NEI database was the most appropriate because the NEI has the following features:

1. The NEI database covers not only the point, but also the area and mobile source categories;
2. All 188 of the federally listed ATs are included in the NEI;

3. The database is readily accessible and searchable, enabling the MEDEP to identify the source of ATs;
4. The 1999 data is relatively current; and
5. The database's weaknesses could be adequately addressed, as discussed in the "Preliminary Strawman List of Prioritized Air Toxics for the Maine Air Toxics Initiative".

4.3 CONSIDERATION OF OTHER FACTORS

The preliminary strawman list developed in Table 1 of the "Preliminary Strawman List of Prioritized Air Toxics for the Maine Air Toxics Initiative" was based primarily on emission estimates and screening risk values, as discussed above. In addition, the list was modified based on the following factors.

4.3.1 Brominated Flame Retardants

Brominated Flame Retardants is the generic term for a group of compounds that includes polybrominated biphenyls (PBBs), polybrominated diphenyl ethers (PBDEs), Tetrabromobisphenol-A (TBBPA) and Hexabromocyclododecane (HBCD). These compounds are added to the foam plastics that are used in furniture, TVs, computers, and other products to reduce their ability to catch fire. These compounds are persistent; they do not readily break down. They tend to bioaccumulate in body tissue. Many of them have been ban from use in Europe and other states due to concerns about their toxicity. These compounds have been found to be widespread in the environment.⁵ Recent analysis shows that PDBEs levels in the breast milk of American women is up to 10 times higher than the concentrations in the breast milk of European women.⁶ While these may turn out to be an indoor air rather than ambient air issue, the MEDEP added these compounds to the Strawman list because the MEDEP believes that Brominated Flame Retardants warrant further investigation by the ATAC.

⁵ Hale, Robert C., Virginia Institute of Marine Science, "Occurrence of PBDE Flame Retardants in Fish" in The Proceedings from the National Forum on Contaminants in Fish, October 20-22, 2002, Burlington Vermont (US EPA and American Fisheries Society, 5410 Grosvenor Lane, Suite 110, Bethesda, Maryland 20814-2199) (http://www.epa.gov/waterscience/fish/forum/2002forum_complete.pdf)

⁶ Schechter, Arnold, et. al. Polybrominated Diphenyl Ethers (PBDEs) in U.S. Mothers' Milk., (Environmental Health Perspectives Volume 111, Number 14) November 2003.

4.3.2 Diesel Particulate Matter

EPA measures the exposure of people to diesel fumes by measuring their exposure to Diesel Particulate Matter (PM), or the mixture of particles typically found diesel exhaust. In the NATA assessment EPA did not have sufficient information to quantify the carcinogenic and non-carcinogenic effects of Diesel PM. However, EPA retained Diesel PM as a contaminant of concern because epidemiology studies have shown adverse cancer and non-cancer effects at the levels typically found in the ambient air in many areas of the United States. A qualitative assessment of the impacts of Diesel PM can be found on EPA's Air Toxics Web site at <http://www.epa.gov/ttn/atw/nata/perspect.html>. Likewise, based on the same reasoning used by EPA, the MEDEP included this compound on the strawman list.

4.3.3 Dioxin

While Dioxin is typically not found in high concentrations in the ambient air, deposition of these compounds can have significant impacts on public health, since these compounds are very persistent and bioaccumulate. 2, 3, 7,8 TCDD is also one of the most toxic compounds found in the environment. Therefore, even though very little dioxin is released each year, it still was second on the strawman priority list, even before considering these compounds persistence and bioaccumulative nature.

4.3.4 Mercury

Mercury is a serious public health, economic, and environmental problem for Maine. Blood-mercury levels in 8% of Maine Women are high enough to cause fetal damage. This mercury impairs the child's fine motor, language, visual-spatial (e.g. drawing) and verbal memory skills, and may also adversely affect the cardiovascular, immune and reproductive systems of the child.⁷ High levels of mercury in fish have also prompted fish consumption advisories from DHS. These advisories are at odds with our efforts to promote tourism, aquaculture, and healthier eating habits to reduce the number 1 health problem in Maine; heart disease. Some of the highest mercury levels in fish, loons and eagles in the US are found in Maine.

⁷Woodruff, Tracey J., Daniel A Axelrad, Amy D. Kyle, Onyemaechi Nweke, Gregory G. Miller; America's Children and the Environment: Measures of Contaminants, Body Burdens and Illness, 2nd Ed., US Environmental Protection Agency and National Center for Environmental Economics (EPA240-R-03-001,) February 2003, Pg 59.

In the past 5 years Maine has moved aggressively to reduce mercury emissions, cutting releases to air by 65%, and working regionally to have the Northeastern States and Eastern Provinces cut emissions by 55%. Maine is also a national leader in removing mercury from commercial products and the waste stream.

The Current Mercury Problem stems from out-of-state air emissions: Measurements of mercury in rain falling on Maine indicate that the State/Regional reduction efforts need to be supplemented by national efforts to curb emissions drifting in from out-of-state⁸. In the mid-1990's, EPA ranked the largest sources of mercury emissions in the US as follows. Since then, EPA has enacted federal standards to reduce emissions by 90% from all these sources except the number one source, Coal Fired Utilities, as shown in Table 2.

Table 2: Largest Sources of Coal Emissions in the United States⁹

Rank USA	Category emitting Mercury in USA	% of total USA Mercury Emissions in 1995	% Subsequent EPA standards reduced emissions
1	Coal Fired Utilities	32.6%	N/A
2	Municipal Waste Combustors	18.7%	90+%
3	Medical Waste Incinerators	10.1%	90+%
4	Chlorine production at Chlor-alkali facilities	4.5%	90+%
5	Hazardous Waste Incinerators	4.4%	90+%
6	Portland cement	3.1%	90+%

While the issues surrounding mercury control can be difficult, the MEDEP believes that it is important to continue these efforts. Due to the persistent and bioaccumulative effects of mercury and compounds, and the high degree of existing contamination, the MEDEP moved mercury up on the strawman priority list.

⁸ Ryan, Patrick A., Hilary R. Hafner, Steven G. Brown; Deposition of Air Pollutants to Casco Bay By Sonoma Technology, Inc. for the Casco Bay Estuary Project, University of Southern Maine (USM, PO Box 9300, Portland, ME 04104-9300) July 3, 2003; and Saball, Douglas, et. al. Mercury Deposition in Maine: Status Report 2003 (Maine DEP, 17 SHS, Augusta, ME 04333) July 15, 2003.

⁹ EPA, 1997 *Mercury Study Report to Congress* (<http://www.epa.gov/oar/mercury.html> and <http://www.epa.gov/ttn/oarpg/t3/reports/volume2.pdf>)

4.4 IDENTIFICATION OF SOURCES OF DATA IN PROJECT DELIVERABLES

All deliverables for this project will clearly indicate the source of the emissions inventory data in the deliverable. This will be done in a manner that will allow the reader to go to the primary source of information to verify its accuracy.

5. QUALITY OF SECONDARY DATA

5.1 INVENTORY DATA QUALITY REQUIREMENTS

As discussed in more detail in section 3.6.2, emission inventories consist of estimates of pollutant releases for subcategories. Each estimate made by multiplying “activity data”, such as gallons of fuel burned, by an “emission factor”, such as pounds of pollutant released per gallon of fuel burned. The inventories used must use standard procedures approved of by EPA for making these estimates. These standard procedures are published in the Emissions Inventory Improvement Program (EIIP) Technical Volumes. These documents can be found at <http://www.epa.gov/ttn/chief/eiip/techreport/index.html>. Each inventory should have a basis statement that explains which calculation protocols were used to derive the emissions estimates.

To derive the strawman list, data from more than one inventory was used. This is because no one inventory will cover all of the pollutants of potential concern. When choosing the primary inventory, the MEDEP balanced the factors discussed in section 4.2. Ultimately, the MEDEP based the strawman list on data that as far as possible represents the most contaminants of concern, includes all areas of the state, includes all major source categories, and includes all relevant subcategories of release points. Any existing data gaps were documented in the basis statement for the strawman list in the report entitled, “Preliminary Strawman List of Prioritized Air Toxics for the Maine Air Toxics Initiative”.

When using data from different inventories in the strawman list, it was important to be sure that the units are the same. The units are usually expressed as pounds of pollutant release per calendar year. Also, it is important to understand that the inventories have different reporting thresholds for point sources, and this fact was included in the basis statement for the strawman list. Additionally, emissions may vary from year to year, so it is important to use emissions data from the same year, or justify why different years were used.

5.2 DETERMINATION OF DATA QUALITY

The strawman list is based primarily on the National Emissions Inventory. As stated in this guidance, the MEDEP inventory group reviewed the NEI data for accuracy as part of the QC protocols for the NEI database.

When estimates for source categories were not contained in the NEI, the MEDEP used estimates from the Chapter 137 Inventory. When using these estimates, MEDEP had to be sure that the inventory dates and units of measurement were the same. The basis for the Chapter 137 Inventory is contained in the “State of Maine 1999 Periodic Air Emissions Inventory, Volume 1 – Inventory Documentation” which is attached as Appendix B.

5.3 DISCLAIMERS FOR UNKNOWN DATA QUALITY

In the case where the quality of the secondary data is not specified in the basis statement, the quality of the data will be qualitatively estimated by Richard Greves and David Wright of the MEDEP, who are both experienced in compilation of emissions inventories. This qualitative assessment will consider the accuracy and precision of activity data and emission factors. This qualitative assessment is subject to challenge by Susan Lancey, in consultation with inventory personnel at USEPA, including Robert McConnell, who is also experience in compilation of emission inventories. In the event that Data Quality can not be assessed, this fact will be noted in the basis statement.

6. DATA REPORTING, DATA REDUCTION, AND DATA VALIDATION

6.1 DATA REDUCTION PROCEDURES

MEDEP will conduct an independent review of the spreadsheets used to run the calculations for the strawman list. Richard Greves was the primary generator of the spreadsheets. David Wright will review the calculations.

6.2 DATA VALIDATION PROCEDURES

The spreadsheets will also be made available to the Department of Human Services, Environmental Toxicology Program for review, along with the entire ATAC.

6.3 PROJECT DELIVERABLES

A description of the project deliverables may be found in appendix A.



7. APPENDIX A: MAINE AIR TOXICS ASSESSMENT SCOPE OF WORK

Maine Air Toxics Initiative Proposed Scope of Work & Schedule Maine Department of Environmental Protection

Revision Date: November 5, 2003

I. Introduction

This Scope of Work details the work that Maine Department of Environmental Protection (MEDEP) committed to as part of a Healthy Communities Grant from the United States Environmental Protection Agency (EPA). In securing the grant, the MEDEP provided a mechanism to obtain EPA approval to change this scope of work. This allows flexibility as the project evolves, and provides the Air Toxics Advisory Committee (ATAC), which was formed after the grant was secured, with a process to alter this scope of work if needed. This Scope of Work will be discussed at the first ATAC meeting on November 7, 2003. This Scope of Work is very similar to an August 21, 2003 "Update on the Maine Air Toxics Initiative" that was provided to interested parties by David Wright of the MEDEP. This scope of work includes the accomplishments in the Maine Air Toxics Initiative to date, the steps that will be taken in the short-term, and the upcoming milestones for the project.

II. Background - Summary of the Maine Air Toxics Initiative

Through implementation of the federal National Emission Standard for Hazardous Air Pollutants (NESHAPs), the Maine Department of Environmental Protection (MEDEP) has significantly reduced the exposure of Maine Citizens to Hazardous Air Pollutants (HAPs). However, the United States Environmental Protection Agency (EPA) has conducted a National Air Toxics Assessment (NATA) suggesting that Maine Citizens still face unacceptable exposure to HAPs. The NATA is based on estimates of emissions of air pollutants, fate and transport modeling, and estimations of health risks.

In response, MEDEP is undertaking the Maine Air Toxics Initiative (MATI). MATI is a facilitated stakeholder process aimed at verifying whether or not the NATA results seem reasonable, and if so, identification of which Air Toxics are the most responsible for creating health risks, the source of those pollutants, and creation of cost effective solutions to reduce the risk. This holistic assessment of Air Toxics risks will enable Maine to target available resources for maximum risk reduction. By using similar stakeholder processes, MEDEP has gained a fuller understanding of other environmental

problems and solutions, while fostering cooperation with Maine citizens in resolving the issue. The ultimate goal of the project is to reduce exposure of all Maine Citizens to acceptable¹⁰ levels of Air Toxics. EPA has awarded MEDEP with a Healthy Communities Grant to help fund the Maine Air Toxics Initiative.

In verifying NATA, MEDEP will look at state and federal air emission estimates, and ambient air monitoring results. The stakeholder group is composed of community organizations, government organizations (local, state and federal), industrial organizations and environmental organizations having an interest in Air Toxics. An independent, outside facilitator knowledgeable in the mutual-gains approach to facilitation will facilitate the project. After reaching consensus on the list of prioritized air toxics, the group will identify appropriate early actions that will provide significant reductions in Air Toxics. The group will also identify a long-term targeted strategy, with clear implementation goals and timeframes, for MEDEP to pursue. These strategies could include economic incentives, targeted pollution prevention programs, new legislation at the state level, or partnering with regional agencies to resolve interstate issues.

III. Accomplishments to Date:

- A. **Securing Funding:** On June 6, 2003 the MEDEP filed an application with EPA for a grant to fund a facilitator and research contractors to assist with the MATI. The application included 14 commitment letters from organizations willing to participate in the stakeholder process. Effective October 1, 2003, EPA Region I EPA awarded MEDEP with a \$50,000 grant for the MATI. Susan Lancy with EPA Region I's Air Toxics Program is serving as EPA Project Officer on the grant. David Wright of the MEDEP is the grant administrator for the state.
- B. **Stakeholder Group Formation:** MEDEP invited stakeholders from a broad range of perspectives to form an Air Toxics Advisory Committee (ATAC). ATAC will rank the Air Toxic Priorities in the State, and develop cost-effective and expedient strategies to reduce the risk. The group will strive for consensus decision making. MEDEP has received strong interest in participating in this stakeholder process, with 27 organizations agreeing to participate to date. The groups represent potentially impacted urban & rural areas, Environmental Organizations, Government Programs, Industry and Trade Groups, and Public Health Organizations. The list and current status of the stakeholders is included in attachment 1.
- C. **Development of Initial Strawman List of Air Toxics:** The MEDEP developed a preliminary strawman list of Air Toxics and a Basis Statement for this list, dated October 17, 2003. The list includes 30 compounds ranked by the risk they may pose to Maine Citizens. MEDEP intends to use the list to foster stakeholder discussions aimed at a consensus decision on a final list. In developing the

¹⁰ Generally, the MEDEP's Air Program defines acceptable risks as risks below a Health index of 1 (for non-carcinogens), and an Incremental Lifetime Cancer Risk of one in a million (for carcinogens).

Strawman list, MEDEP assessed EPA's National Emissions Inventory for 1999; emissions from point sources (the Toxics Release Inventory and the state's Chapter 137 inventory); the NATA data; ambient air monitoring data; and literature on missing issues such as Persistent Bioaccumulative Toxics. A chemical's risk was ranked using the toxicity factor from the Risk Screening Environmental Indicators (RSEI) Model or derived risk factors. To begin the discussion on risk reduction strategies, the list also includes general information on the primary emission sources of the contaminants. To enable knowledgeable parties outside of MEDEP to technically review the Strawman List, the MEDEP concurrently developed a basis statement for the Strawman List. The Strawman List and Basis Statement is available on the MEDEP's Air Toxics Website at <http://www.maine.gov/dep/air/emissions/MATI.html>, or upon request from:

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- D. Contract Facilitator.** MEDEP contracted Jonathan Reitman to facilitate the ATAC meetings. Mr. Reitman is a well-respected international facilitator that will ensure that all members of the ATAC are heard and participate in good faith. He also has the skill set to enable the ATAC to reach a consensus decision on an Air Toxics Action Plan.

IV. Next Near-term Steps

- A. Hold first Committee Meeting:** The first Committee meeting will be held on November 7, 2003 at the Maple Hill Farm Conference Center in Hallowell, Maine, from 9 to 3:30. At the meeting the ATAC will receive their charge from MEDEP's Commissioner Gallagher, describe their organization's interest in the MATI, discuss the proposed MATI process, this scope of work, and begin discussions on the MEDEP's proposed Strawman List of Air Toxics.
- B. Develop a Quality Assurance Project Plan.** EPA and MEDEP have agreed that MEDEP must develop a Quality Assurance Project Plan (QAPP) for this is a secondary data research project. According to EPA guidance¹¹, "[a] secondary data research project involves the gathering and/or use of existing environmental

¹¹ QAPP Requirements For Secondary Data Research Projects, EPA NE QAU, Revision 1.0, September 2002, Pages 33 & 34 of 46.

data for purposes other than those for which they were originally collected". Susan Lancy provided David Wright with a two-page guidance on August 12, 2003. David Wright participated in a conference call with Susan Lancy and Nora Conlon, QAPP approval person at Region I EPA, on August 20, 2003, to scope out the document. Currently David Wright anticipates forwarding a draft QAPP to EPA for review by the end of November. MEDEP has not been delegated the authority to approve this type of QAPP.

- C. **Contact technical reviewers for the Initial Strawman List.** David Wright will contact technical experts to see if they are willing to review the strawman list. David Wright will consult with Ron Severance and the Air Toxics section when determining potential reviewers. At the first stakeholder meeting, the Stakeholders will also be offered the opportunity to review, or have their agents review, the technical basis of the strawman list.

V. Long-term steps

In support of the grant application to EPA, MEDEP outlined the following steps for completing the MATI. These steps may change based on stakeholder input, and as the project develops. MEDEP will inform all interested parties of any changes.

- A. **Stakeholder meeting to critique Strawman List.** MEDEP provided each of the stakeholders with the proposed Strawman List of Air Toxics Priorities, and a basis statement describing the methods used to derive the list. The first facilitated meeting of the ATAC will focus on the stakeholder process, and a discussion of how to improve the Air Toxics Priority List, including an identification of what additional validation work is necessary to complete the list.
- B. **Validation Work.** MEDEP will then undertake the modifications and validation work agreed upon by the ATAC. This validation work may include additional modeling, inventory work, toxicity evaluation, and further research into missing issues, and/or monitoring. The EPA grant will help fund contracted researchers.
- C. **Redraft Air Toxics Priority List.** Following validation, MEDEP will develop a draft of the Final Air Toxics Priority List. This work will include details on the source of the compounds included on the priority list.
- D. **Form Subcommittees.** Based on the compounds driving the air toxics risk, and the source of those pollutants, several sectors that should be targeted for risk reduction actions will emerge. For example, it may develop that benzene and 1,3 butadiene create a significant risk, and that the majority of these pollutants come from mobile sources. ATAC will then create a Mobile Source Subcommittee to develop recommendations for cost-effective risk reduction strategies. MEDEP will make recommendations on which four to six subcommittees should be

formed, and who should serve on the subcommittees, to ensure affected stakeholders are represented.

- E. Air Toxics Advisory Committee meeting.** After forwarding the draft Final Air Toxics Priority List and subcommittee recommendations to ATAC members, MEDEP will host another facilitated meeting to receive feedback on MEDEP's proposal. At this meeting, MEDEP will seek consensus on the final Air Toxics Priority List, and the composition and charge of subcommittees that will explore any necessary risk reduction strategies.
- F. Subcommittee meetings.** MEDEP will then host several subcommittee meetings to develop appropriate early actions and identify a long-term targeted strategy, with clear implementation goals and timeframes, that will reduce Air Toxics to acceptable levels. These strategies could include economic incentives, targeted pollution prevention programs, voluntary programs, enhancement of existing regulatory programs, new legislation at the state level, partnering with regional agencies to resolve interstate issues, or no action. The goal will be for a consensus recommendation from each subcommittee, or failing that, options for the ATAC to consider. MEDEP will be responsible for writing up the recommendations of the subcommittee, for presentation to the ATAC by the subcommittee.
- G. Stakeholder consolidation of strategies.** MEDEP will then set-up a facilitated ATAC meeting to review the subcommittees' recommended early actions and long-term strategies. The goal of the meeting will be to reach consensus on recommendations to MEDEP. In the case where subcommittees have provided more than one option, the ATAC will try to, in order of preference, reach consensus on one option, rank the choices, or provide a list of pros and cons for each option.
- H. Department plan for early actions and long-term strategies.** By October 15, 2004, MEDEP will develop a final Air Toxics Risk Reduction Strategy. The plan will consist of:
- a prioritized list of air toxics, ranked by risk;
 - a prioritized list of early-actions to reduce risk posed by air toxics;
 - for each early-action, a description and implementation plan, including the expected risk reduction resulting from the action;
 - a prioritized list of long-term strategies to reduce risk posed by air toxics; and
 - for each long-term strategy, a description and implementation plan, including the expected risk reductions resulting from the action, and an implementation schedule.

The deadline for this strategy has been established to allow time for MEDEP to initiate any necessary legislative changes. This strategy will be based on any

consensus decisions produced by the ATC. In the event that the ATC does not reach consensus, the strategy will be based on the information obtained by MEDEP during the stakeholder process. MEDEP believes that a consensus decision will be reached by the ATC on an Air Toxics Reduction Strategy because the process proposed by MEDEP includes the following elements:

- A facilitator from outside the agency;
- a mutual gains type approach;
- stakeholders representing all affected sectors;
- small subcommittees to explore and recommend solutions; and
- a reasonable yet firm deadline, upon which MEDEP will take action.

Further, by using the stakeholder process, stakeholders will become educated and empowered to take their own actions to reduce air toxics.

- I. Early Action: Risk Reduction Notebook & Website for Schools.** One early action that MEDEP has already identified, and that will be undertaken using part of the EPA grant awarded, is aimed at enhancing air quality in Maine's schools. Maine schools are the subject of several regulations and initiatives, such as integrated pest management; management of hazardous chemicals in school labs, art rooms, and shops; asbestos control plans; mercury reduction plans; energy audits; bus idling programs, etc. Schools are inconsistent in implementing these plans because information is provided from a myriad of sources at differing times. MEDEP will compile and provide all of this information to school administrators in a single reference notebook and on a web page. They will explain in simple language the requirements and best management practices for environmental subjects that pertain to schools. They will also provide references for the latest information from other state and federal programs. MEDEP envisions that the project will complement EPA's "Tools for Schools" program and could form the basis for a school Environmental Management System (EMS).

To identify all the information that should be in the notebooks and on the website, MEDEP will research available information in literature, on the Internet, within MEDEP, the Departments of Education and Agriculture, the Maine Indoor Air Quality Council, and the American Lung Association, among others. MEDEP will then compile the information in a logical order in a 3 ring binder. The binder will include a table of contents, a checklist, and a calendar that contains all reporting requirements and recommended time to implement the risk reduction actions and detailed information, including references, web links, and contact information for the various organizations. A copy of this notebook will be mailed to each accredited K-12 school system in Maine. The information will also be posted on a page on the Department's website. Money from the EPA grant will be used to pay for printing and distribution of the notebooks. MEDEP will supply the personnel to compile the information, compose the notebook, and build the web page.

VI. Ongoing Activities.

- A. Presentations.** Throughout the project, the Department will provide “lessons learned” presentations to other parties interested in the project. Additionally, the Department will publish all relevant documents on the MEDEP’s Air Toxics Website. Currently this Website is located on the MEDEP’s Air Toxics Website at <http://www.maine.gov/dep/air/emissions/MATI.html>
- B. Midcourse adjustments.** At the end of each major meeting, the MEDEP will ask participants if they believe that the project is still on track, or if modifications to the project schedule or tasks are needed. EPA will be notified of any adjustments to the schedule or tasks that are made to ensure a successful outcome.
- VII. Measures of Success.** The final phase of this grant will be for MEDEP to prepare and to provide to EPA a Grant Close-out Report, including these measures of success:
- A. Goal 1 – Feasible Strategies:** The first goal of this project is to develop feasible strategies to reduce, and maintain, ambient levels of air toxics in Maine to acceptable levels of risk¹². To measure the success of this project, MEDEP will measure:
1. Successful compellation of an Air Toxics Priority List for Maine;
 2. The number of early actions under way that will reduce the risk from air toxics;
 3. An estimate of the risk reduction that will be achieved with the early actions, expressed in reduced Incremental Lifetime Cancer Risk and reduced Health Index risks. The MEDEP will use standard MEDEP and EPA Guidance to measure risk for this project¹³;
 4. Whether or not a long-term implementation strategy has been developed, with clearly defined steps and a schedule;
 5. Whether the long-term implementation strategy is feasible, as measured by the financial cost of the strategy and an estimate of the willingness of the State to expend these funds;
 6. The number of Public Presentations to Maine Citizens and other States regarding Maine’s Program.

¹²Generally, the Department defines acceptable risks as risks below a Health index of 1 (for non-carcinogens), and an Incremental Lifetime Cancer Risk of one in a million (for carcinogens).

¹³E.g. State of Maine Department of Environmental Protection and Department of Human Services “Guidance Manual for Human Health Risk Assessments at Hazardous Substance Sites, (MEDEP, BRWM, State House Station 17, Augusta, ME 04333) June 1994; EPA’s 3-volume Air Toxics Risk Assessment Library under development by Roy Smith’s group in Research Triangle Park; and other EPA guidance on the web.

- B. Goal 2 – Public Support:** The second goal of this project is to garner widespread support for the ultimate plan that is adopted by the State. MEDEP proposes that success will be measured by whether or not a diverse stakeholder group representing all interested parties is able to reach consensus on an “Early Action Plan and Long-Term Implementation Strategy to Reduce Air Toxics in Maine”. To determine this, MEDEP will survey all of the stakeholder participants to determine the extent to which each believes:
1. All relevant interests were represented during the stakeholder process;
 2. All opinions were heard and considered by MEDEP;
 3. The process was worth the effort expended by the participant
 4. MEDEP’s Early Action Plan and Long-Term Implementation Strategy to Reduce Air Toxics in Maine is a document that the stakeholder can live with;
 5. The participant agrees with all, most, some, a few, or none of the actions in MEDEP’s Early Action Plan and Long-Term Implementation Strategy;
 6. The participant will actively support all, most, some, a few, or none of the actions in MEDEP’s Early Action Plan and Long-Term Implementation Strategy;
 7. The participant will actively resist all, most, some, a few, or none of the actions in MEDEP’s Early Action Plan and Long-Term Implementation Strategy;
 8. The degree to which the participant agrees that they have gained insight into Maine’s air toxics situation and will take additional actions on their own to reduce risks posed by air toxics.
- C. Goal 3 – Increased School Compliance:** The Notebooks for Schools project will be successful if schools become more aware of environmental regulations and initiatives aimed at the schools, and if more schools come into compliance with regulations. To evaluate success of this project, MEDEP will send a survey with the notebooks, asking about the school’s level of awareness for the various programs covered by the notebook. MEDEP will then do a follow-up survey 6 months later on at least 5% of the schools to see if their level of awareness has increased. MEDEP will also evaluate the correlation between schools’ compliance rates with the Asbestos Hazard Emergency Response Act (AHERA) program before and after the notebooks are delivered. When presenting this correlation, MEDEP will discuss the other factors besides the notebooks program that may have influenced compliance rates. Finally, MEDEP will record the number of visits to the new web page.

VIII. Project Schedule & Deliverables

The MEDEP filed a schedule of proposed activities with its application to EPA for a grant in June of 2003. The MEDEP is proposing to revise this Schedule as follows. The tasks are described in greater detail in the above sections.

Task Ref	Task (see descriptions above for details)	Original Time (Month, year)	Revised Time (Month, year)	Project Deliverable to EPA
III.A	Secure EPA Grant	June 2003	Completed 10-1-03	N/A
III.C	Develop Strawman List of Air Toxic Priorities	June 2003	1 st draft completed 10-17-03	Strawman List of Air Toxics Priorities
III.D	Contract Facilitator	June 2003	Completed 10-1-03	Letter of Award
IV.A	Mailing to Convene Air Toxics Advisory Committee (ATAC)	June 2003	Completed 10-8-03	Sample letter
IV.A & V.A	Stakeholder meeting to critique Strawman List	August 2003	11-7-03	Meeting Summary Notes
IV.B	Develop a Quality Assurance Project Plan	September 2003	November 2003	Quality Assurance Project Plan
V.B & V.C	Validation Work on Air Toxics Priority List	August – October 2003	November 2003 – January 2003	Revised (draft) Maine Air Toxics Priority List and Narrative on Work Performed by MEDEP
V.D	Develop recommendations on subcommittee subject areas for exploring action	October 2003	January 2003	Draft recommendations on subcommittee subject areas, subcommittee members, & subcommittee tasks
V.E	Mailing to ATAC	October 2003	January 2004	Sample Cover letter and Information Package w/ the two above items
V.I	Early Action initiative: Risk Reduction Notebook & Website for Schools	October 2003- June 2004	October 2003- June 2004	Sample of notebook and link to web site.
V.E	ATAC meeting(s) to discuss validation work, final Air Toxics list, & recommended subcommittees for Air Toxic Action Groups	November 2003- December 2003	February 2004	Meeting Summary Notes

Task Ref	Task (see descriptions above for details)	Original Time (Month, year)	Revised Time (Month, year)	Project Deliverable to EPA
V.E	Revision of AT priority list & subcommittee recommendations to Incorporate ATAC comments	November 2003	February 2004	Draft mark-up or summary of changes made
V.F	Subcommittee meetings to develop recommended early actions & long-term strategies	January –June, 2004	February – June 2004	Meeting Summary Notes
V.G	Consolidation of options for early actions & long-term strategies	July 2004	July 2004	Draft of early action plan and long term implementation strategy
V.G	ATAC meeting(s) to discuss early actions and long-term strategies	August – September 2004	August – September 2004	Summary Meeting Notes
V.G	Incorporation of ATAC Recommended revisions to early action plan and long term implementation strategy	September 2004	September 2004	Revised ATAC early action plan and long term implementation strategy
V.G	Final ATAC meeting to review Revised ATAC early action plan and long term implementation strategy	October 2004	October 2004	Summary of Meeting Notes
V.H	Develop Department plan for early actions and long-term strategies	October 2004	October 2004	Department early action plan and long term implementation strategy for Air Toxics
V.H	Begin Implementation of early actions* and long-term strategies	Nov 2004	Nov 2004	Grant Closeout Report from MEDEP to EPA detailing the measurements of success of this program
VI.A	“Lessons Learned” presentations	As requested	As requested	Letter to EPA summarizing presentation & audience
VI.B	Midcourse adjustments	As necessary	As necessary	Letter to EPA informing them of the change

Attachment 1: Status of the Air Toxics Advisory Committee as of November 5, 2003

Status Codes:

“Accepted” means that the participant has agreed to serve on the ATAC and is the organization’s primary participant.

“Alternate” means that the participant will serve as an alternate to the organization’s primary participant.

“CC” means that the individual wishes to be copied on correspondence related to the MATI

“Declined” means that the organization declined to participate as an ATAC member.

“Invited” means that the organization did not respond to the invitation to participate as an ATAC member.

“Observer” means that an individual from a participating organization will observe ATAC meetings and will be copied on correspondence related to the MATI

Status	Name - First	Name - Last	Title	Affiliation
Accepted	Norm	Anderson	Environmental Health Scientist	American Lung Association of Maine
Accepted	Lee Jay	Feldman	Director Planning & Permitting	City of Auburn
Accepted	Brian	Phinney	Environmental Compliance Officer	City of Biddeford
Accepted	Nate	Nickerson	Director of Public Health	City of Portland
Accepted	Pamela	Person	Project Director	Coalition for Sensible Energy
Accepted	Andrew	Smith	Director of Environmental Health Unit	Dept. of Human Services - Bureau of Health
Accepted	Steven	Gurney	Science & Policy Director	Environmental Health Strategy Center
Accepted	Brian	Fitzgerald	Manager EHS, Burlington & Saco Operations	General Dynamics - Armament and Technical Products, Inc.
Accepted	Jonathan	Reitman	Facilitator	Gosline & Reitman
Accepted	Joan	Blauvelt	member	League of Women Voters of Maine
Accepted	Tom	Brown	Executive Director	Maine Automobile Dealers Assoc. Inc.
Accepted	Christopher	Hall	Executive Vice President	Maine Chamber of Commerce
Accepted	Rich	Greves	Environmental Specialist	Maine DEP, Air Toxics Program, BAQ
Accepted	David	Wright	Air Toxics Coordinator	Maine DEP, Air Toxics Program, BAQ

Status	Name - First	Name - Last	Title	Affiliation
Accepted	James	Brooks	Bureau Director	Maine DEP, Bureau of Air Quality
Accepted	Ron	Severance	Division Director	Maine DEP, Div Program Planning, BAQ
Accepted	Julie	Churchill	Assistant Program Director,	Maine DEP, Office of Innovation and Assistance, OC
Accepted	Heather	Carlson-Lynch	Air Toxicologist	Maine DHS - Bureau of Health
Accepted	Duane	Scott	Program Manager	Maine DOT - Environ Coord & Analysis prog
Accepted	Jim	Secunde	Environmental Manager	Maine Energy Recovery Corporation
Accepted	Jamie	Py	President	Maine Oil Dealers Association
Accepted	Patricia	Aho	Executive Director	Maine Petroleum Association
Accepted	Michael	Barden	Director of Environmental Affairs	Maine Pulp & Paper Association
Accepted	John	Martin	Senate Chair- Natural Resources Committee	Maine Senate
Accepted	Scott	Reed	Environmental Manager	MeadWestvaco
Accepted	Jon	Hinck	Toxics Project Director	Natural Resources Council of Maine
Accepted	David	Adams	MD Cardiology, Rtr	Physicians for Social Responsibility, Maine Chapter
Accepted	Dixon	Pike		Pierce-Atwood
Accepted	Bill	Hine	Board of Directors	River Valley Healthy Communities Coalition
Accepted	Shiloh	Ring	CEO	Town of Jay
Accepted	Michael	Kenyon	Air Program Branch Chief	USEPA - Region I
Accepted	Susan	Lancey	Air Toxics Coordinator	USEPA - Region I
Accepted	Samuel	Zaitlin	Environmental Consultant	
Alternate	Donna J.	Dion	Mayor	City of Biddeford
Alternate	Michael	Belliveau	Executive Director	Environmental Health Strategy Center
Alternate	Scott	Belanger	Senior Principle Environmental, Health & Safety Specialist	General Dynamics - Armament Systems
Alternate	Ann	Luther	President	League of Women Voters of Maine

Status	Name - First	Name - Last	Title	Affiliation
Alternate	Ron	Dyer	Program Director	Maine DEP, Office of Innovation and Assistance, OC
Alternate	Jeff	Crawford	Air Quality Planning Division	Maine DEP-Air Rules & outreach
Alternate	Ruth	Marden	Town Manager	Town of Jay
Observer	Marc	Cone	Air Licensing Section Chief	MEDEP-Air Licensing
Observer	Michael	Joseph	Environmental Intern	USEPA - Region I
Observer	Steve	Rapp	Manager Air Permits, Toxics,& Indoor Air	USEPA - Region I
Invited	Al	Wiley		Florida Power & Light
Invited	Theodore	Koffman	House Chair - Natural Resources Committee	Maine House of Representatives
Invited (late)	Jeff	Emery	Supervisor	MEDEP – Air Monitoring Prog
Invited (late)	Andy	Johnson	Supervisor	MEDEP – Air Monitoring Prog
CC	Dawn	Gallagher	Commissioner	Maine DEP - Office of Commissioner
CC	Ann	Pistell	Environmental Specialist	Maine DEP, Bureau of Remediation & Waste Management
CC	Gary	Williams	Legislative Liaison	Maine DOT - Legal Services
CC	John	Martin	Senate Chair- Natural Resources Committee	Maine Senate
CC	Jeffery	Meyers	Esq.	Nelson, Kinder, Mosseau & Saturley, PC
CC	Melissa	Treadwell	Air toxics Program Coordinator	North East States for Coordinated Air Use Management
CC	Patty	Duguay	Executive Director	River Valley Healthy Communities Coalition
CC	Dave	Hediger	Code Enforcement Officer	City of Lewiston
Declined	Christy	Bourget	Health Officer	City of Auburn
Declined	Patricia	Finnigan	City Manager	City of Auburn
Declined	Bogdan "Bob"	Vitas		City of Lewiston
Declined	Paul	Blouin		Paul Blouin Honda
Declined	Julie	Hashem		State Planning Office

8. **APPENDIX B: DRAFT MAINE 1999 PERIODIC AIR EMISSIONS INVENTORY
DOCUMENTATION**

**STATE OF MAINE
1999 PERIODIC
AIR EMISSIONS INVENTORY**

**VOLUME 1
INVENTORY DOCUMENTATION**

Prepared by:

**Maine Department of Environmental Protection
Bureau of Air Quality, Program Planning Division**

9. **APPENDIX C: REVISIONS OF QAPP FROM REVISION 01 TO REVISION 02.**

-----Original Message [From USEPA Region 1]-----

From: lancey.susan@epamail.epa.gov
[mailto:lancey.susan@epamail.epa.gov]
Sent: Thursday, December 18, 2003 8:55 AM
To: David.W.Wright@maine.gov
Cc: rapp.steve@epamail.epa.gov; conlon.nora@epamail.epa.gov
Subject: QAPP Review

Hi Dave,

Thanks for letting us review the draft Quality Assurance Project Plan(QAPP) for the Maine Air Toxics Initiative. Nora Conlon and I both reviewed the document. We think you did an excellent job and covered everything you need to. We have just a few comments, as follows:

- 1) Comment: The QAPP did not address emerging chemicals or chemicals that persist or bioaccumulate in the environment (e.g., brominated flame retardants and mercury). You are considering these chemicals and should include a reference to this. I think you can use your write-up from the Strawman report under Section 3.9, other factors.

MEDEP Response: The MEDEP added section 4.3 to the current QAPP, based on this comment.

- 2) You should include a signature line for Nora Conlon, Quality Assurance Chemist and Susan Lancey, Project Officer.

MEDEP Response: The MEDEP added signature lines for the two EPA officials and for Malcolm Burson of the Maine DEP, on Page 1. MEDEP also added these people to the QAPPdistribution list in section 2.

- 3) On page 9 of 37, section 3.4.1, I think this sentence would be more accurate if you added the following phrase: A chemical's risk was ranked using "toxicity factors from" the Risk Screening Environmental Indicators (RSEI) model.

MEDEP Response: The MEDEP added this text to the document at the suggested location.

Thanks again for letting us review the draft. Let me know if you have any questions and we will look for the final.

Susan Lancey
(617) 918-1656

Additional MEDEP Changes:

- **The MEDEP made minor formatting changes to page numbers, the table of contents, and table layouts to accommodate the changes referenced above.**
- **The MEDEP corrected the number of compounds assessed by NATA in table 1 on page 15.**
- **The MEDEP corrected typos and updated the scheduled release of the 1999 NATA on page 18.**