

June 12, 2002

MEMORANDUM

SUBJECT: National Air Toxics Monitoring Program

FROM: J. David Mobley, Acting Director  
Emissions, Monitoring, and Analysis Division (C304-02)

TO: Addressees

Attached is a copy of the FY2003 Technical Grant Guidance, "National Air Toxics Monitoring Program." This guidance is an addendum to the May 10, 2002 document entitled, "FY2003 Grant Guidance and Preliminary Allocation," previously forwarded to you. It covers the redirection of \$6.5 million from implementation of the National Ambient Air Quality Standards to support expanded air toxics monitoring activities at the *State and local level*. Guidance addressing the continued development of *National Air Monitoring* will be issued at a later date.

The main points of the guidance are as follows:

1. Community Scale Air Toxics Monitoring - Identify both ambient and deposition (resources permitting) air toxics and locations of greatest potential concern for the local community.
2. Characterizing Diesel Particulate Levels.
3. Application of Alternative Continuous Methods.
4. Meteorological Monitoring - All State/local areas developing a monitoring station are encouraged to collect meteorological data at, or in close proximity to, their ambient monitoring network.
5. Ambient Monitoring Methodology - All grantees are required to follow the U.S. EPA Compendium of Methods.

6. Data Archiving - All grantees are required to upload their data into the EPA Air Quality System.

As previously stated, additional FY2003 grant guidance will be forthcoming in late winter/early spring of 2003. This additional guidance will reflect allocation of \$3 million in Section 103 funds and is expected to be primarily targeted at further development of the National Air Toxics Monitoring Network.

Thank you for your continued support and involvement in the national air toxics monitoring program. Any questions about these materials should be directed to Sharon Nizich at 919/541-2825.

#### Attachment

#### Addressees:

Deputy Director, Office of Ecosystem Protection, Region I  
Director, Environmental Planning and Protection Division, Region II  
Director, Air Protection Division, Region III  
Director, Air, Pesticides, and Toxics Management Division, Region IV  
Acting Director, Air and Radiation Division, Region V  
Director, Multimedia Planning and Permitting Division, Region VI  
Director, Air, RCRA and Toxics Division, Region VII  
Director, Air and Radiation Program, Region VIII  
Director, Air Division, Region IX  
Director, Office of Air, Region X  
Acting Director, Office of Environmental Measurement and Evaluation, Region I  
Director, Environmental Services and Assessment Division, Region II  
Director, Environmental Services Division, Regions III and VII  
Director, Science & Ecosystems Support Division, Region IV  
Director, Resource Management Division, Region V  
Assistant Regional Administrator, Management Division, Region VI  
Assistant Regional Administrator, Office of Technical and Management Services, Region VIII  
Assistant Regional Administrator, Office of Policy and Management, Region IX  
Director, Office of Environmental Assessment, Region X

cc: Regional Office NAMS Coordinators  
Regional Office AQS Contacts  
Bill Becker, STAPPA/ALAPCO  
Annabelle Allison, Tribal Air Monitoring Support Center

Greg Budd, Tribal Air Monitoring Support Center  
Lee Byrd, OAQPS/EMAD  
Jeff Clark, OAQPS/OD  
Tom Curran, OAQPS/OD  
Fred Dimmick, OAQPS/EMAD  
Mike Gilroy, ALAPCO Monitoring Committee Co-Chair  
Darrel Harmon, OAR/Tribal Program  
Bill Harnett, OAQPS/ITPID  
Jed Harrison, ORIA  
Tom Helms, OAQPS/AQSSD  
Ed Lillis, OAQPS/ITPID  
David Lutz, OAQPS/EMAD  
Laura McKelvey, OAQPS Tribal Coordinator  
Sharon Nizich, OAQPS/EMAD  
Joe Paisie, OAQPS/AQSSD  
Rich Scheffe, OAQPS/EMAD  
Sally Shaver OAQPS/ESD  
Ieva Spons, OAQPS/OD  
Geri O'Sullivan, STAPPA/ALAPCO  
Henry Thomas, OAQPS/OD  
Dick Valentinetti, STAPPA Monitoring Committee Co-Chair  
Lydia Wegman, OAQPS/AQSSD  
Nancy Wentworth, OEI

**FINAL**  
**FY2003 Technical Grant Guidance**  
**National Air Toxics Monitoring Program**  
**May 31, 2002**

This document contains the U.S. Environmental Protection Agency's (EPA's) FY2003 grant guidance for the toxics ambient air monitoring program. The Agency is providing this information for use by U.S. EPA Regional Offices as well as State and local agencies as a planning and guidance tool. This guidance reflects a series of recommendations derived from meetings of the Air Toxics Monitoring Steering Committee, which consists of a group of U.S. EPA and State, interstate, and local agency organizations. Related guidance and information supporting and clarifying this grant guidance includes the FY 2003 Grant Guidance for Selected Air and Radiation Programs (issued on May 10, 2002), the Air Toxics Monitoring Concept paper<sup>1</sup>, and the Draft Pilot Data Analysis Report<sup>2</sup>. In addition, there are several documents available that provide background information on the overall air toxics monitoring program<sup>3</sup>.

## **I. Grant Funding**

For FY2003, the President's budget includes a redirection of \$6.5 million from implementation of the National Ambient Air Quality Standards (NAAQS) to support expanded air toxics monitoring activities. This redirection recognizes the growing health risks associated with air toxics and the complexities of monitoring for hazardous air pollutants as our national strategy moves from technology standards to reduction of residual risk. A sound risk-based program necessitates the continued improvement of a strong characterization program in order to better assess the risk problem, develop strategies for reducing human exposure, and help evaluate the overall effectiveness of those strategies. The primary use of these funds is to aid state and local agencies with their existing air toxics monitoring and data analysis activities, or to begin new air toxic monitoring programs.

In FY 2003, State and local agencies must begin the task of increasing resources to address expanded air toxics characterization efforts. As the toxic monitoring pilot projects result in the establishment of more permanent monitoring sites and the generation of additional data, resources must be made available to operate and maintain these sites, analyze the data and ensure the data are entered into Aerometric Information Retrieval System (AIRS). Resources should be made available to allow the evaluation and possible upgrading of existing toxic monitoring sites as well as the continued analysis of the ambient data collected.

Through the FY2003 grant negotiation process, EPA Regional Offices will work with State and local agencies to determine the most practical and effective way to target air toxics funds to meet community-scale monitoring and assessment needs and to ensure these resources support and

complement the resources that have already been targeted to support the air toxics monitoring pilot efforts. In addition, another \$3 million in Clean Air Act (CAA) section 103 funding will be available for air toxics monitoring related activities. Grant guidance for those funds will be finalized in the early spring of calendar year 2003. Guidance is also being provided for a separate initiative addressing proposals on community and local-scale air toxics risk identification and program implementation. (Please note these separate initiatives are being developed through non-grant mechanisms and projects developed with that funding must not be co-mingled with the grant appropriations discussed in this guidance.)

## **II. Activities**

Based on results from the National Air Toxics Assessment (NATA)<sup>4</sup>, recent local and community scale assessments (conducted by EPA, States and local agencies) and preliminary data analysis results from the pilot air toxics monitoring project, technical recommendations for use of these funds are as follows:

**1. Community Scale Air Toxics Monitoring** - Identify both ambient and deposition (resource permitting) air toxics and locations of greatest potential concern for the local community, using available assessment data, such as the NATA, or locally derived, community scale assessments.

The NATA results will give a general snapshot of ambient concentrations within a community and can be used to place monitors relative to the modeled predictions. When siting new ambient monitors based on NATA modeling results, the spatial scale required for the new monitors can be predicted by examining the gradient of the air toxic concentration across census tracts. If NATA predicted a relatively large gradient across nearby tracts, then a monitor situated to capture a “hot-spot” may be required. These “hot-spot” or neighborhood scale monitors are generally representative of an area on the order of a few kilometers. If NATA predicts a relatively small gradient across nearby tracts, then a more regional scale monitor may be appropriate. Regional scale monitors are generally representative of an area of up to 50 km and are used to measure impacts from pollutants affected by transport or monitored away from local sources (in rural areas).

The NATA results can also be used to provide information on the source category air toxic impacts (major, area & other, on-road, and non-road sources) of primary concern. Major (or point) sources are sometimes characterized by a definitive plume signature which can be captured with a series of monitors placed at up-wind and down-wind locations. Population centroids can be used as guidance to help capture the expected exposure from these plumes on the community.

In some communities, deposition of certain air toxics (e.g., mercury) may also be of particular concern. In these communities, deposition monitoring may provide useful information regarding the levels of air toxics being deposited in local water bodies or on local vegetation.

**2. Characterizing Diesel Particulate Levels** - The scientific and health community believes there is the potential for significant health related concerns from emissions of diesel particulates. As part of the National Air Toxics Trends System Monitoring Network being created (hereinafter referred to as NATTS), widespread use of aethalometers within the national network for capturing diesel indicator data is anticipated. However, the NATTS will be small (approximately 20 sites) for the near future. Therefore, communities with concerns related to elevated diesel particulate emissions are encouraged to pursue more insightful approaches beyond the routine, filter-based carbon samples available in the PM speciation program. Examples include continuous monitoring (e.g., aethalometers or similar approaches to provide elemental carbon/light absorption data) and specific organic aerosol compound analysis of diesel marker species.

**3. Application of Alternative Continuous Methods** - Surrogate species, such as carbon monoxide or total nonmethane hydrocarbons, in many instances correlate strongly with specific toxics compounds, particularly exhaust emission species, such as benzene and other aromatics. On an area-specific basis, a combination of continuously operating surrogate samplers combined with periodic canister sampling for specific compound analysis could provide an adequate basis for characterizing diurnal patterns that will assist in evaluating emissions inventories and air modeling applications. Such approaches also would include use of aethalometers (see above) for measuring light absorption continuously and which provide a surrogate for diesel impacts. Other advanced technologies, such as Differential Optical Absorption Spectrometer (DOAS) or Fourier Transform Infrared (FTIR), might be applicable in certain areas. However, States are cautioned to conduct monitoring for non-research oriented activities. Studies that are largely focused on method development or testing should be supported by larger, national EPA research programs.

**4. Meteorological Monitoring** - All State/local areas developing a monitoring station are encouraged to collect meteorological data at, or in close proximity to, their ambient monitoring network. Wind speed, wind direction, temperature, and sigma-theta measurements will aid in providing optimum models to predict future ambient concentrations of the local areas' pollutants, and coupled with the ambient measurements being collected, will provide a rich data source to conduct meaningful, model to monitor comparisons.

**5. Ambient Monitoring Methodology** - All grantees are required to follow the U.S. EPA Compendium of Methods<sup>5</sup>. The primary methods in use for the current National Program are IO-3, TO-11A, and TO-14A/15. For information on deposition monitoring methods, reference the Mercury Deposition Network (MDN) and/or the National Dioxin Ambient Monitoring Network<sup>6</sup>.

**6. Data Archiving** - As applicable, all grantees are required to upload their data into the AIRS. The current VOC-Dat software tool is being enhanced for this purpose, which can be used with the

state/local areas' data (in spreadsheet form) and transferred to the AIRS. VOC-Dat is a tool originally developed for PAMS data uploads, but will now include all air toxics data fields and will be available in June, 2002<sup>7</sup>.

**7. Ambient Monitoring Guidance** - The NATTS will be based on consistent field and laboratory techniques to assure consistency for trends measurement and risk assessment. A U.S. EPA Technical Assistance Document (TAD) outlining all field methods and sample analysis for the NATTS is being developed and will be available January 2003. All local monitoring project grantees are encouraged to use this document as a guide when developing their local programs.<sup>8</sup>

**8. Quality Assurance Program** - The U.S. EPA has developed a "model" quality assurance project plan (QAPP) to aid the original pilot cities' in developing their pilot monitoring networks. This model QAPP is currently being updated to apply to the NATTS network. Grantees are encouraged to use the QAPP (available fall of 2002) as a template for their quality assurance program, which will save time in QA development and assure consistent quality assurance procedures are maintained. Data quality objectives will be included in the model QAPP as a guide for all agencies conducting air toxics monitoring.<sup>9</sup>

### **III. Projected Grant Distribution**

The FY2003 air grant allocation redirects \$6.5 million in the State and Tribal Assistance Grants (STAG) request from NAAQS implementation to air toxics monitoring on a pro-rata basis within each Region. Funds are not redistributed between Regions. As long as the Regions meet the overall dollar target for the redirection, individual State and local agencies would not necessarily have to re-direct funds on the same pro-rata basis. Grant distributions to State and local agencies are subject to negotiations with their respective Regions. Some State and local agencies may have already planned to fund new air toxics monitoring programs beyond the pro-rata amount during FY2003. This would allow other agencies within a Region to do less than the pro-rata amount. We believe that this flexibility will allow Regional Offices to work with States to tailor resources to meet their specific needs and to maintain stable funding with minimal disruption of their ongoing programs.

While the bulk of the redirected resources can be expected to be awarded under section 105 authority, the increased air toxics monitoring efforts may be funded using the authority of either section 103 or 105 of the Clean Air Act, depending on the purpose of the monitoring. Section 105 is appropriate when the new monitoring will be part of an existing, continuing monitoring network. Section 103 is appropriate when the monitoring is being done on a pilot basis or for a specific project, such as community-based air toxics assessment.

In terms of recipient cost sharing, section 105 requires that each recipient expend at least as

much of its own funds as it had in the previous year and that this amount be no less than 2/5 (40 percent) of the total approved section 105 work program costs. A recipient is only required to increase their non-Federal share of section 105 funds if the addition of the Federal funds decreases the relative non-Federal percentage contribution below 40 percent. A recipient may always choose to increase their contribution, of course. When the section 103 authority is appropriate, no State or local matching funds are required.

#### **IV. References**

1. The Air Toxics Monitoring Concept Paper (Draft), February 29, 2000. (To be finalized when all Air Toxics Pilot Project results are completed.) Download at: <http://www.epa.gov/ttn/amtic/airtxfil.html> .
2. Battelle Air Toxics Data Analysis (Draft Report). Download at: <http://www.ladco.org/toxics/toxics.htm> .
3. Background documents spanning the last 2 years of program development can be found at the following two links: <http://www.epa.gov/ttn/amtic/airtxfil.html> and <http://www.ladco.org/toxics/toxics.html>.
4. National Air Toxics Assessment Activities. Information can be found at: <http://hill.nccr.epa.gov/oar/nata/>.
5. U.S. EPA Compendium of Methods applicable for these efforts can be found at <http://www.epa.gov/ttn/amtic/airtox.html>.
6. Deposition monitoring network information:  
Mercury Deposition Network (MDN). Information can be found at the MDN website: <http://nadp.sws.uiuc.edu/mdn/>.  
  
National Dioxin Ambient Monitoring Network (NDAMN): contact David Cleverly, the NDAMN National Program Manager, at (202) 564-3238.
7. VOC-Dat can be downloaded no later than July 1, 2002 at the following link: <http://www.epa.gov/ttn/amtic/airtxfil.html>.
8. The Technical Assistance Document (TAD) will be final in FY2003 and will be located at the



following link: <http://www.epa.gov/ttn/amtic/airtxfil.html>.

9. The U.S. EPA NATTS Model QAPP will be available FY2003 and will be located at the following link: <http://www.epa.gov/ttn/amtic/airtxfil.html>.