

ORGANIZATION

This grant appendix is divided into six sections: an executive summary that highlights significant developments, a summary key administrative and programmatic requirements and discussions of specific air program areas. Preliminary allocations of grants for state and local air pollution control agencies and for state indoor radon grants have been reserved in this draft.

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Section I. EXECUTIVE SUMMARY

The technical portion of the national program guidance describes the FY 2010 implementation priorities, activities and milestones that are necessary to make progress towards the Clean Air goal and achieve the annual performance goals in the Agency's Annual Performance Plan and Congressional Budget Justification. State, local and Tribal governments (and key multi-state organizations) as co-implementors, are essential to this effort.

The roles and responsibilities of co-implementors are described in the State/ Local Air Quality Management, the Tribal Air Quality Management, and the Radon sections of the technical program guidance. Related measures of performance are contained in the appendices covering the annual program commitments (appendix B) and the related subset of state grant performance measures (appendix C).

This grant appendix complements the technical guidance by providing additional information on selected program areas supported by grant assistance to co-implementor entities. Major programmatic and administrative considerations impacting program grants in FY 2010 are highlighted. The draft guidance typically includes a preliminary distribution¹ of state/local air

Highlights

- Announcement of FY 2010 budget details were still pending at press time.
- Guidance assumes prior enacted year funding level with a modest increase for planning purposes.
- Implementation of the DERA program including the ARRA stimulus provisions continues in FY 2010.
- Continued monitoring resources for Pb and Air Toxics hotspots proposed.
- Continued importance of measuring and expressing grant performance and results.

¹ A preliminary allocation has not been included in the draft guidance pending further definition on FY 2009 and FY 2010 funding. Once this definition is received OAR will release a preliminary allocation and consult with stakeholders before issuing

grants. However, at the time of release of this guidance, a final detailed FY 2010 budget submission for the Agency had not yet been released. EPA will issue supplemental documentation that will include a more detailed, proposed FY 2010 grant allocation as soon as the President’s detailed budget has been submitted to Congress. Placeholder information is shown in table A-1. This table will be updated when more definitive information on funding becomes available.

Table A-1. Comparison of STAG Assistance: FY 2008 through the FY 2010 Request (in \$ Millions)

Program	FY 2008 Enacted Level	FY 2009 Estimated Level	FY 2010 President’s Budget
Continuing Air Program *	\$165.7	\$174.7	Reserved
PM 2.5 Air Monitoring (§103)	\$41.8	\$41.9	
Air Toxics Monitoring (including schools)	\$6.8	\$7.5	
Regional Haze Planning (§103)	\$2.5		
Diesel Emission Reduction Program **	\$49.1	\$60.0	
Tribal Air Program	\$10.8	\$13.3	
State Indoor Radon	\$7.9	\$8.1	
Total	\$284.6	\$305.4	
<p>* Includes continuing §105 program and NE OTC under §106. ** Funds for California Emission Reduction projects are not included in FY 2008 and FY 2009 levels. Funds for State and Local Climate Change Initiatives are not included in the FY 2009 total. Also note that the President signed a FY 2009 economic stimulus bill that provided an additional \$300 million for DERA implementation, approximately \$88 million of which was targeted by formula for state and local air quality agencies.</p>			

Notwithstanding questions on funding, there are several significant developments that will impact state and local operations in FY 2010: continued refinements in air monitoring programs including a continued focus of air toxics monitoring funds on potential high risk areas near schools, supporting monitoring to identify and assess risks from elevated lead (Pb) levels; and increases in associated program support for monitoring. Associated program support for multi-state trading programs to reduce the impacts of criteria pollutants will continue but EPA will be working with state, local and tribal partners to reassess the cost and focus of this program.. The region-by-region allocation formula and distribution of state indoor air grant resources will also be updated in CY 2009 and any revisions will impact the final distribution of FY 2010 grant resources. Minor refinements in performance and accountability measures have also been included in the FY 2010 guidance. Note that while the Agency will no longer be expressing selected aspects of state grant performance via a state grant template approach, performance measures for state and local air and radon grants will not be changing.

The guidance does not purport to cover provisions applicable to the full range of air and radiation grants such as OAR *project or discretionary* grants that may be available during FY 2010. This appendix focuses on continuing program grants to state and local air agencies. Also, additional, separate guidance pertaining to Tribal and Indoor Radon grants ² is available from

its final allocation. Please note that the allocation may still be subject to change because: (a) revisions may be necessary based upon a final appropriation and enacted operating plan, and (b) funds targeted to certain categories such as associated program support are subject to revision based on updated information from the affected state/local agencies.

2 Additional administrative guidance for the State Indoor Radon program may be found at:

<http://www.epa.gov/radon/sirgprogram.html> . Additional information for Tribal air programs can be found at:

OAR's Tribal Coordinator and additional information and details on implementation of grant programs under the Diesel Emission Reduction Act is available from the Office of Transportation and Air Quality.³ More detailed guidance on competitive and discretionary grants is provided via their respective solicitations or applicable information documents.⁴ Agencies should contact the EPA program contact listed for those programs for more information.

Section II. EFFECTIVE GRANTS MANAGEMENT and RESULTS

Administrative and programmatic provisions that help govern the effective oversight and utilization of continuing program and project-specific grants awarded to state, local, tribal and multi-jurisdictional entities are highlighted in this section. The list of provisions is not exhaustive but key areas covered are: proper use of authorities for award of assistance, adherence to specific grant program requirements, effective post-award oversight, identification of performance measures and results, the funding of co-regulator organizations, and the promotion of competition. Links to Agency internet and intranet sites where additional information, including the full text of available guidance, are provided.

Using Proper Authorities for Award

OAR has issued updated guidance for use by Program and Regional Offices that clarifies who is eligible for grant assistance given the purpose, appropriation and grant authority associated with the funds. The guidance applies to FY 2009 but OAR plans to periodically update the guidance - typically within six weeks of the enactment of a new appropriations bill. EPA staff can access the guidance at: http://intranet.epa.gov/ogd/state/Guid_Office_of_OAR.pdf. The program contact is Courtney Hyde (202-564-1227).

Administrative Guidance for OAR Grant Programs

OAR has developed a consolidated reference document covering the various statutory, regulatory and policy provisions that govern the overall administration of the Section 105 outdoor air grant program. This guidance is intended as a resource for HQ and regional staff. The program contact, William Houck, can be reached at 202-564-1349. The guidance may be accessed at: http://intranet.epa.gov/ogd/state/Consolidated_Guid_Adm_S_105_Air_Blue_Program.pdf. OAR plans to soon make this and other key grant guidance documents, such as the Assistance Authorities document, available via an internet link

For the tribal air program, additional guidance and links to Tribal air program information may be found at: <http://www.epa.gov/oar/tribal/pdfs/menuofoptions.pdf>. The program contact, Darrel Harmon, may be reached at: 202-564-7416. See Section 3 of this guidance for information on Diesel Emissions Reduction Assistance grants. Contact Jennifer Keller at 202-343-9121. Additional information and links to guidance on the State Indoor Radon Grant program may be found in Section 6 of this appendix. Contact Phil Jalbert at 202-343-9431.

<http://www.epa.gov/oar/tribal/pdfs/menuofoptions.pdf>. The program contact, Darrel Harmon, may be reached at: 202-564-7416.

³ Updated information will be provided at: www.epa.gov/cleandiesel (and see also www.recovery.gov) as it becomes available.

⁴ More information on OAR and other Agency discretionary grant opportunities, as it becomes available, can be found at: http://epa.gov/air/grants_funding.html and http://www.epa.gov/ogd/grants/funding_opportunities.htm.

Ensuring Effective Oversight of Assistance Agreements

Updated EPA Order 5700.2A2 streamlines the post-award management of grants and cooperative agreements. It became effective 1/1/08. The Order requires EPA offices to monitor recipient compliance with programmatic terms and conditions, the correlation of the work plan and application with actual grant progress, equipment use, and compliance with all statutory and regulatory requirements. Offices must submit oversight plans and document their execution. The Order may be found at: <http://intranet.epa.gov/ogd/policy/4.0-PostAward-Topics.htm> .

Improving Performance Measures for State/Local Grants

States seeking single media categorical and Performance Partnership grant awards should submit work plans that enable EPA to identify clear linkages to EPA's Strategic Plan. There should be consistent and regular performance reporting that enables meaningful comparison of a state's past and planned activities and performance. OAR issues complementary guidance for Regions on state grant performance measures as part of the NPM guidance process. Information on FY 2010 measures and commitments contained in the annual NPM guidance is contained in appendices B and C). Additional information may be found at: <http://intranet.epa.gov/ogd/state/Final%20FY09%20State%20Grant%20Template%20Guidance%20%20July%202008.pdf> (See also - <http://www.epa.gov/ocfo/npmguidance/index.htm>) .

OAR and the Regional Offices are also working with recipients and the rest of the Agency in a continuing process to assess, reduce, refine or affirm existing reporting requirements. OAR is always open to comment from state, local and tribal agencies on ways to reduce reporting burdens as well as ways to improve performance reporting and performance measures. This includes discussion of improved short-term environmental indicators and performance measures and their incorporation in annual and multi-year assistance agreements.

Achieving Programmatic and Environmental Results

Sound measures of performance should yield insightful and useful results data. EPA Order 5700.7 applies to *all Agency grants* not just grants to States and covers all phases of the grants process from solicitation to application to reporting to evaluation. The Order requires EPA project officers to assure that each grant: (a) can be linked to the Agency's strategic architecture, (b) articulates measurable outputs and outcomes, and (c) reports the programmatic and, where possible, environmental results achieved. For more information see: <http://intranet.epa.gov/ogd/policy/order/5700.7.pdf> , and http://www.epa.gov/ocfo/npmguidance/oar/2007/oar_2007_enviro_n_results.pdf .

Approval Process for STAG Awards to Co-Regulator Organizations

A co-regulator organization is defined by EPA as a national or regional (i.e., multi-jurisdictional) organization that represents the interests of co-regulators/co-implementors (state, tribal or local governments) in the execution of national or regional environmental programs.⁵

⁵ The definition of co-regulator/co-implementor may be found in the Agency's Order (5700.5A1) - Revised Competition Policy. http://intranet.epa.gov/ogd/policy/order/5700_5.pdf . In various regions of the country state and local agencies have formed multi-jurisdictional organizations (MJO) to help coordinate their geographically-specific air quality interests. These agencies have directed their Regional Offices to target portion of their grant allotment to their MJO. For OAR, the only co-regulator grant

EPA issued a policy on December 1, 2006 that clarified that the head of the affected State agency or department (e.g., the State environmental commissioner or head of the State public health or agricultural agency) be involved in the funding process and that EPA request and obtain the prior consent of this official before taking funds off the top of a state grant allotment for direct award to a state/local co-regulator organization. The policy can be accessed at: http://intranet.epa.gov/ogd/competition/piexemptions/approval_process_for_STAG_awards.htm.

Promotion of Competition

Agency policy is to promote competition in the award of grants and cooperative agreements where practical. EPA Order 5700.5A1 presents the Agency's competition policy. The Order exempts grants for continuing environmental programs, such as those funded under §105 as well as §103 grants for fine particulate monitoring, §103 national air toxics monitoring trends network grants, regional haze planning organization grants, federally-recognized tribes and inter-tribal consortia under OAR's tribal grant program; and TSCA §306 grants for state indoor radon programs. Radon grants to tribes and intertribal consortia under TSCA §10 grants must be competed. EPA is not precluded from allocating grant funds for a portion of these programs through competition, if the Agency determines it is in the best interest of the public. Program contact is Courtney Hyde at 202-564-1227.

Also, effective October 1, 2007, the Agency's Competition Policy states that co-regulator status is no longer available as an exception to compete for a grant for a multi-jurisdictional organization. However, other exceptions to competition under the policy - including the 'public interest' exception - remain available to a co-regulator organization. The Order may be found at: http://www.epa.gov/ogd/competition/5700_5A1.pdf.

Efficient Exchange of Environmental Information

States, tribes and territories exchanging both regulatory and non-regulatory environmental data with one another, or with EPA, should make the Exchange Network and EPA's connection to it, the Central Data Exchange (CDX), where available, the standard way to exchange data. Other legacy methods should be phased out. More information can be obtained at: <http://www.exchangenetwork.net/index.htm>.

Section III. ADDITIONAL INFORMATION on SPECIFIC AIR PROGRAM AREAS

Diesel Emission Reduction Program

Program Purpose: The budget request for FY 2010 includes funds to support the Diesel Emission Reduction provisions of the Energy Policy Act of 2005. This includes funding for competitive federal grants to reduce diesel emissions from the existing fleet. Sections 791-797 of the Energy policy Act authorize these grant funds which will support implementation of the National Clean Diesel Campaign.

awarded at the national level with STAG resources has been to the National Association of Clean Air Agencies (formerly STAPPA-ALAPCO).

In FY 2008, the Agency began implementation of Sections 791-797 of the Energy Policy Act of 2005 after appropriation of nearly \$50 million for those provisions. Both the National Grant and Loan program and the State Grant and Loan program were funded. OTAQ expects to fund at least 100 new grants deploying technology in various sectors using diesel engines through these two programs. In addition, OTAQ expects to fund approximately 200 more DERA grants through the ‘America’s Recovery and Reinvestment Act of 2009 (ARRA).’

Through the Diesel Emission Reduction Program (DERA), OAR will continue its focus on reducing particulate matter by up to 95 percent from existing diesel engines, including both on-highway and non-road equipment. Existing diesel engines are not subject to the new, more stringent emission standards that took effect in 2007 and later. These engines often remain in service for 20 or more years, and this program will help provide immediate reductions by retrofitting these engines with emission control technologies sooner than would otherwise occur through normal turnover of the fleet. Implementation of the program also will produce criteria air pollutant and air toxics benefits.

Program Design: In FY 2010, the Office of Transportation and Air Quality (OTAQ) expects to fund at least 125 new grants deploying technology in various sectors using diesel engines. This program will support grants and loans for diesel engine retrofits, rebuilds, replacements, cleaner fuels, idling reduction measures and low-cost revolving loans. Up to 30 percent of the funds for diesel emissions reduction grants *may* again be appropriated to provide formula grants to states to establish and support state clean diesel grant or loan programs.

The Agency’s strategy to implement this program and disseminate its associated clean diesel funding is dependent on the actual appropriation levels and any accompanying language regarding implementation. In addition, the timing of the actual appropriation will dictate when EPA will publish its national announcement of funding availability. DERA, as authorized, contains the following key provisions:

- At least 70% of the funding is dedicated to provide grants and low-cost revolving loans to support the National Clean Diesel Initiative charged with achieving significant reductions in diesel emissions. This will include the Clean School Bus USA program. Note that at least 50% of these funds are directed to benefit public fleets.
- If the state program provision is funded, as it was in 2008 and 2009, no more than 30% of the total funding will be distributed directly to state programs which are designed to achieve significant reductions in diesel emissions. The Agency will provide guidance to states for applying for these funds if this provision is funded. This would include information on the cost-effectiveness of various emission reduction technologies, and permissible uses of the grant funds as directed by the 2005 Energy Policy Act’s Diesel Emissions Reduction provisions.
- In regard to the first 70% of the funding, the Agency will request proposals from eligible entities for projects that will reduce emissions from the existing fleet of diesel engines. EPA will give priority to projects that:
 - o maximize public health benefits,
 - o are in areas with poor air quality and/or with air toxic concerns,
 - o pursue the most cost effective strategies,

- including certified engine configurations, verified technologies, emerging technologies, early use of ULSD,
 - promoting alternative fuels where appropriate,
 - serve highest population centers,
 - serve communities with environmental justice concerns,
 - those that receive disproportionate air pollution from diesel fleets.
- EPA will publish Requests for Proposals (RFPs) and notify Congress, states, and other interested or eligible entities, of both this funding competition and of the direct state allocations through their respective associations (e.g., NACAA, AAPA, EMA, DTF), announcements on EPA’s website, announcements on EPA’s ten regional websites, press advisories, and other means for any FY 09 appropriation that is not ARRA of 2009 funding. For 2009–related ARRA funds, RFPs will be posted for 30 days with funds awarded in 90 days
- The regular DERA RFAs will provide a 60 to 90-day window for eligible entities to apply to EPA for this funding assistance. Once that window expires and within the subsequent 120-day period, EPA will:
- Review every proposal received to ensure each one meets the required funding eligibility and other criteria set forth in the RFA.
 - Disregard proposals that do not meet the criteria.
 - Rank each remaining proposal on its merits according to the criteria set forth in the RFP (see “priorities” above.).
 - Notify Congress of the grantee selections.
 - Award the highest ranked proposals.

For more information, please contact Jennifer Keller in OTAQ at 202-343-9541. Information, including award information, will also be updated at the following website: www.epa.gov/cleandiesel .

National Geographic Priorities: U.S.-Mexico Border Air Program

The proximity of states and localities in EPA’s Regions 6 and 9 to the U.S-Mexico border presents a number of trans-boundary air quality challenges. Many border area residents, especially those in heavily urbanized areas, are exposed to health-threatening levels of air pollutants such as ozone, PM, CO SO₂, and air toxics. Visibility impairment exists in most of the Class I areas along and near the border. Accurate evaluation of air quality in the border will allow both countries to successfully target controls and reduce air pollutants. Capacity-building via such evaluation, training, and pilot projects that can be expanded by Mexico will further reduce air emissions along the border.

The *Border 2012: U.S. - Mexico Environmental Program* agreement, signed by both countries on April 3, 2003, was created to promote regional as well as border-wide strategies to improve air quality through coordinated air quality planning and management activities, such as the development of emissions inventories; the deployment, operation, and maintenance of air monitoring networks; the development of alternative fuels and energy sources; the development of innovative and progressive air quality management approaches; the design of air quality plans for the reduction and control of air pollution; pilot emissions reductions projects; and training

and workshops aimed at building capacity and the development of public awareness and participation.

Milestones for demonstrating progress towards clean air in the border region are outlined by the *Border 2012 Program* and in EPA's long and short term strategies goals and objectives. Grant assistance plays a key role in helping achieve them. Early efforts focused on developing an organizational infrastructure, raising awareness, gathering information and establishing baseline information. Recent assistance has increasingly been focusing on critical analysis and mitigation measures such as retrofitting diesel engines aimed at attaining clean air goals and building capacity for Mexico to take over management of these and similar programs. In FY2008 the *Border 2012 Program* Objectives for the Air Program were refined to include building border greenhouse gas (GHG) information capacity and expanding existing voluntary cost-effective programs for reducing GHGs in the border region.

In addition to supporting the efforts of affected state, local and multi-jurisdictional agencies, the *Border 2012 Program* uses regional workgroups, task forces, and policy forums to develop and implement air pollution emission reduction strategies. Many of these rely heavily on grass-roots input and actions. For example, OAR and its Mexican counterpart lead the Border 2012 Air Policy Forum, established to employ a bottom-up collaborative approach to develop strategies for cooperative emissions reduction efforts along the border. EPA's activities are designed to encourage, develop and implement cooperative projects with various levels of federal, state, and local government, tribes, academics, non-governmental organizations and others, so that sustained, comprehensive pollution abatement can occur in the common air sheds of border sister cities, as well as in remote areas where trans-border air pollution occurs. Air Policy Forum members additionally advise EPA and Mexico's SEMARNAT on potential strategic funding needs and opportunities.

EPA Region 6 and 9 use a combination of direct grants and competitive solicitation to support state, local, and tribal initiatives. In encouraging local and grass-roots strategies, the Agency is committed to full and open competition for many grants and contracts. This empowers a larger number of state, local, tribal entities (also working with academics and NGOs) to become active participants in border air quality improvements. The combination of these grant funds with directed, specific projects facilitated by contracts has yielded very positive results. For example, Mexico has assumed increased ambient monitoring responsibility along portions of the border region. In FY 2009, approximately \$2.7 million was available for Border work in Regions 6 and 9. The funding level for FY 2010 is still pending but funded activity will likely focus on three major areas: public outreach and involvement, the enhancement of scientific knowledge, and the support of projects that deliver tangible emission reductions. The Regions will work with OAR to assure that the activities funded are appropriate to the entities eligible and the appropriate authority for award. For more information on the program please contact: Ruben Casso in Region 6 (214-665-6763); and in Region 9, Christine Vineyard (415-947-4125) or Andrew Steckel (415-947-4115).

Multi-State Programs

Regional Haze Planning Organizations

Dedicated funding for Regional Haze Planning Organizations (RPOs) was provided as part of EPA's FY 2009 budget. Regional Haze State Implementation Plans (SIPs) were due to EPA by December 17, 2007. The RPOs were instrumental in providing the States with the needed materials to complete final preparation of their Regional Haze SIPs. EPA believes that if States choose to fund RPOs to assist with late SIP submittals or with developing their Reasonable Progress Plans, that decision is best made by the individual States and funds can be withheld from the State's STAG allotment in consultation with the EPA regional offices. For additional information contact Jeff Whitlow at 919-541-5523.

Northeast Ozone Transport Commission (OTC)

The OTC was created pursuant to sections 176A and 184 of the CAA. The OTC represents Northeastern and Mid-Atlantic states in the Ozone Transport Region (OTR) in: (a) assessing interstate transport of ozone and its precursors; and (b) determining the need for, and appropriateness of, additional control measures within the OTR, or areas affecting the OTR. The OTC is supported by a small executive staff that functions largely to coordinate OTC activities, facilitate communication among members, and serve as the point of contact for organizations external to the OTC, including EPA. The OTC Executive Director also serves on the CAAAC, a senior-level Federal Advisory Committee established in 1990 to advise EPA on issues related to implementing the Clean Air Act Amendments of 1990. The OTC also serves as the regional haze planning organization for the OTR, in concert with the Northeast States for Coordinated Air Use Management and the Mid-Atlantic Regional Air Management Association.

For FY 2010, the OTC's work continues to focus on six areas: general analytical support to member states; analysis of mobile, stationary, and area source measures, particularly new clean air technologies; member communications; solicitation of non-governmental stakeholder input; coordination with other organizations; and consensus building. The focus areas are supported by OTC committees that develop and recommend specific action items for the Commission and the member states. The OTC implements its policy recommendations through consensus resolutions and draft model rules that provide guidance to member states. For more information contact Pat Childers in OPMO at 202-564-1082.

National Association of Clean Air Agencies

The National Association of Clean Air Agencies or NACAA is the national association of state, territorial, and local air pollution control agencies in the United States. NACAA is supported with a small staff located in Washington, D.C. The objective of NACAA is to coordinate the air quality activities of state and local air pollution control officials at the national level and to engage in activities that enhance the effectiveness of their agencies. NACAA disseminates information through a variety of means (e.g., electronic newsletter, website, email, technical committees), plans and sponsors conferences and technical workshops (e.g., mobile source air quality, air pollution awareness, membership meetings) serves as a state/local liaison to EPA, coordinates member participation on EPA and joint State-EPA technical committees, produces technical assistance for members such as model rules and implementation strategies,

and addresses air pollution control issues in concert with other public and private interests.

Funding for NACAA has been identified as part of the national allocation at the request of the member state and local air pollution control agencies for numerous years. A jurisdiction not participating in NACAA does not provide any of its allotted funds for support of the Secretariat. Traditionally, the NACAA executive board (comprised of state and local air pollution control officials) acts on a staff request for a two-year period and requests that EPA set aside funds from the participating state and local agencies' grant funds on a proportional (i.e., population) basis.

Since NACAA is forward-funded, fiscal year funds go to support operations for the ensuing fiscal year. Following state and local membership approval, EPA did approve a two-year request for NACAA for the period of FY 2008-2009. NACAA is currently receiving just over \$1.58 million in FY 2008 STAG funds respectively for its FY 2009 grant year. These funds were requested by member state and local agencies to be set-aside by EPA from what would have been their grant allotment. Six states alternatively request that NACAA direct bill them for their contributions as their preferred payment approach. Since NACAA has not yet prepared a FY 2010 budget, the amount of federal FY 2009 funds to be requested has not been finalized.

As noted earlier, the Deputy Administrator has determined that before EPA can take funds off the top of a continuing state program allotment funded under 40 CFR 35 Subpart A to fund an eligible co-regulator organization like NACAA, EPA must first receive an assurance of prior concurrence from the head of any State environmental agency or department affected. While EPA is not prescribing an approach for doing this, OAR is advising that this assurance be obtained as part of the annual grant negotiation process for both state and direct-funded local air pollution control agencies.⁶ The concurrence should be documented by EPA in the recipient's grant file. Actual award is still dependent on EPA's review and formal approval of the application package.

EPA will provide a state-by-state breakout of share contributions once the all concurrences are received. For more information, contact William Houck at 202-564-1349 or via email at – houck.william@epa.gov.

⁶ Since NACAA membership is composed of both state and local direct-funded grant recipients, direct funded local agencies are also affected and should assure this prior concurrence. Pass-through local agencies do not have a direct grant relationship with EPA and would need to consult with their state.

Program Support for States/Locals

CAIR Seasonal NO_x Trading Program

NO_x emissions from electric power generation and other major stationary sources contribute significantly to the formation of ground-level ozone, a serious public health and environmental problem. Long-range transport of ozone and precursor pollutants means that problem analysis and mitigation must involve all of the jurisdictions with sources contributing to, and populations affected by, these pollutants. Experience has demonstrated that one of the most effective ways to achieve this is through a multi-jurisdictional, market-based approach using a well-designed, centrally-administered NO_x emissions budget and trading system. States affected by the NO_x SIP Call adopted this approach as part of their NO_x State Implementation Plans.

Highlights

- NO_x Budget program (NBP) phased out.
- All NBP states plus 6 new non-NBP states participating in CAIR seasonal NO_x trading program.
- Initial compliance season for CAIR seasonal NO_x program (May 1 – Sep 30, 2009).

For FY 2008 and FY 2009 respectively, support of the NO_x Budget Program (NBP) for states affected under the NO_x SIP Call and for transition of these states and additional non-NBP states into the CAIR seasonal NO_x program has been provided in part from Sec 105 grant funds of the affected states. (Jurisdictions not affected or not participating in the trading programs have not had to contribute their grant resources to support them.) There were 2,594 affected, non-exempt units under the NBP in 2007. Through a wide range of pollution control strategies and an active NO_x allowance trading market in 2007, emissions from affected sources continued to decrease in 2007. Emissions during the ozone season were 60% percent below 2000 levels and 74% below 1990 levels. The volume of emissions data processed by EPA has increased almost 300% over the program in 2000, as has the number of end-of-season reconciliations of unit emissions against allowances held. In FY 2009, units in six additional states, which were not subject to NBP, participated in the EPA-administered regional allowance trading program and reported emissions data for the CAIR seasonal NO_x program. The initial compliance season for the CAIR seasonal NO_x program is May 1 – September 30, 2009.

In FY 2009, EPA continued development and testing of the Emissions Collection and Monitoring Plan System (ECMPS) which will provide users with a single client tool for checking and submitting data, direct access to EPA's database via this tool, and the ability to quality assure data prior to submission in FY 2010 and beyond. Several software development activities to contain or lower program operating costs are nearing completion and, as a result, the processing costs per source are lower than they would have been otherwise. EPA administers the allowance trading program; quality assures and processes reported emissions data, monitor certifications, and unit operating data; performs end-of-season reconciliation of unit emissions with allowances held; and performs other administrative functions on behalf of the states through a national contract and associated program support. Support for operating the CAIR seasonal NO_x trading program comes from the grant funds of participating states. As shown Table A-2, state shares are based on the

Table A-2. Contribution to CAIR Seasonal NO_x Trading Program by Region and State

Region/ State	Units in CAIR Seasonal Program (as of FY2007)	CAIR Seasonal Program Cost* FY2008 - FY2010
Region 1	173	\$115,045
Connecticut	62	\$41,230
Massachusetts	90	\$59,850
New Hampshire	10	\$6,650
Rhode Island	11	\$7,315
Region 2	541	\$359,765
New Jersey	178	\$118,370
New York	363	\$241,395
Region 3	523	\$347,795
Delaware	40	\$26,600
District of Columbia	5	\$3,325
Maryland	50	\$33,250
Pennsylvania	211	\$140,315
Virginia	137	\$91,105
West Virginia	80	\$53,200
Region 4	1,001	\$665,665
Alabama	126	\$83,790
Florida	299	\$198,835
Kentucky	109	\$72,485
Mississippi	103	\$68,495
North Carolina	159	\$105,735
South Carolina	100	\$66,500
Tennessee	105	\$69,825
Region 5	924	\$609,856
Illinois	280	\$181,596
Indiana	187	\$124,355
Michigan	158	\$105,070
Ohio	193	\$128,345
Wisconsin	106	\$70,490
Region 6	156	\$103,740
Arkansas	49	\$32,585
Louisiana	107	\$71,155
Region 7	189	\$125,685
Iowa	68	\$45,220
Missouri	121	\$80,465
Total Annual \$	3,507	\$2,327,551

* Processing cost per source calculated as \$665 by OAP/CAMD.

number of affected sources per state times a unit cost per source. Jurisdictions not affected or not participating in this EPA-administered centralized allowance trading program are not required to contribute grant resources.

EPA issues a yearly report on program compliance and environmental results (see <http://www.epa.gov/airmarkets/progress/nbp07.html> and US EPA, *2007 NO_x Budget*

Trading Program: Compliance and Environmental Results, EPA-430-R-08-008, December 2008). For more information contact Larry Kertcher at 202-343-9121 or Doris Price at 202-343-9067 in the Clean Air Markets Division of OAP.

Clean Air Act Training

Section 103(b) of the Clean Air Act authorizes EPA to provide training for air pollution control personnel and agencies and to make training grants to air pollution control agencies and other qualified entities related to the causes, effects, extent, prevention and control of air pollution. In addition to the Agency resources that EPA targets, EPA is targeting approximately \$2 million in STAG funds for the support of Clean Air Act training provided by multi-jurisdictional organizations and other state training programs in FY 2010. These funds are subject to consultation and concurrence with participating state and local air pollution control agencies. For more information contact Debbie Stackhouse in the Office of Air Quality Planning and Standards at 919-541-5281.

Section IV. AMBIENT MONITORING

EPA and its partners at state, local, and tribal agencies, manage and operate ambient air monitoring networks across the country with three primary objectives: to ensure the public has access to clean air by comparing data and implementation of the National Ambient Air Quality Standards (NAAQS), to provide the public with reports and forecasts of the Air Quality Index, and to provide information to health and atmospheric scientists to better inform future reviews of the NAAQS.

EPA works with state, local, and tribal air monitoring agencies to continuously improve the ambient air monitoring networks for current and future needs. This work includes milestones that have resulted from planning the ambient air monitoring network through a stakeholder driven process known

Monitoring Highlights

- Ambient Air Monitoring implications for revised NAAQS
 - Lead (Pb) NAAQS strengthened, includes new network requirements – published on November 12, 2008.
 - Ozone (O₃) NAAQS strengthened. Planned proposal for revised ozone monitoring network requirements in 2009 or early 2010.
 - NO₂ NAAQS proposal by June 2009 with a final completed by January 2010;
 - SO₂ and CO NAAQS reviews with final rules completed by May of 2011.
- Continued improvement of the ambient air monitoring program:
 - Annual monitoring network plans for 2010 to include candidate NCore stations (plan due by July 1, 2009).
 - The first 5-year assessment of each States Air Quality Monitoring Network is due to EPA by July 1, 2010.
 - Date of data certification for ambient air monitoring data submitted to EPA moves up to May 1 starting in 2010.
 - Further work on PAMS assessment
 - Daily speciation through a combination of filter-based and continuous methods in a small number of cities to support multiple objectives including accelerating the pace of health studies
 - Emphasis on air toxics “hot-spots” such as schools as part of next community-scale monitoring projects
 - Characterization of Hazardous Air Pollutant (HAP) metals in the coarse particle fraction as part of air toxics method development.
- Budget transition issues
 - Reassessment plans for section 105 funds and monitoring input
 - Transition of PM_{2.5} monitoring funds to section 105
 - Comment sought on (a) utilizing ½ the available community-scale funds for implementation of the lead network; (b) transition of community-scale funds to section 105 authority; and (c) use of PAMS funds for National and Regional scale data analysis and equipment replacement

as the Ambient Air Monitoring Strategy⁷ (monitoring strategy) as well as through NAAQS reviews that include both public and scientific input.

The major purpose of the monitoring strategy is to optimize the networks to be more responsive to current and future needs (e.g., assess air quality trends, better characterize the multi-pollutant nature of air pollution, provide for more timely information through continuous monitoring, better support development of improved air quality simulation models, etc.). EPA finalized revisions to the ambient air monitoring regulations in 2006⁸ to align the ambient air monitoring requirements with the themes and objectives of the monitoring strategy. The new monitoring regulations: remove network minimums for some pollutants, lower minimum requirements for others, eliminate the National Air Monitoring Station (NAMS) designation, and reduce the requirements for photochemical assessment monitoring stations (PAMS). The new regulations also add some new monitoring requirements with implementation dates ranging from January 1, 2007 to January 1, 2011.

As part of its commitment to review each NAAQS within five years, EPA has recently reviewed and revised NAAQS for particulate matter (PM), ozone, and lead (Pb). The final rule for PM was published on October 17, 2006, for ozone on March 27, 2008, and for lead on November 12, 2008. EPA has begun the process of reviewing the NAAQS for NO₂, CO, and SO₂ with final rules expected in 2010 (NO₂, and SO₂) and 2011 (CO). Also, EPA has begun the process of the next reviews for PM and ozone so that they are completed within five years from the previous review. All of these reviews have either resulted in necessary changes to the monitoring networks to better support the NAAQS, or in the case of ozone, a commitment by EPA to propose changes to the monitoring requirements in the coming months. EPA is working closely with its partners through forums such as the Ambient Air Monitoring Committee of the National Association of Clean Air Agencies (NACAA) and the Ambient Air Monitoring Steering Committee (co-chaired by the NACAA State and local Monitoring Co-chairs and the Director of EPA's Air Quality Assessment Division within the Office of Air and Radiation's Office of Air Quality Planning and Standards) to ensure monitoring agencies and EPA are working together to improve the ambient air monitoring networks for current and future needs.

This document provides guidance for the use of PM, other criteria pollutants, PAMS, and air toxics monitoring resources, and reflects the emerging direction provided for in the Ambient Air Monitoring Strategy for State, Local, and Tribal Air Agencies while also considering the need for changes to the network in support of revised NAAQS. The guidance has been prepared consistent with the revisions to the ambient air monitoring regulations for applicable monitoring of PM, PM speciation, ozone, lead (Pb), PAMS, and NCore multi-pollutant stations. Guidance associated with NAAQS pollutants that have not had a recent review (i.e., nitrogen dioxide, carbon monoxide, and sulfur dioxide) is limited since the existing regulations only require retaining these monitors for a small number of areas; however, EPA is now encouraging retaining existing monitoring stations until network assessments are complete - due July 1, 2010 - and the NAAQS reviews are completed over the next three years.

⁷ Available at <http://www.epa.gov/ttn/amtic/monstratdoc.html>

⁸ 40 CFR Part 53 and Part 58, October 17, 2006.

Highlights of Changes in Monitoring Funding for FY 2009 and 2010

At the time of release of this guidance, the President's detailed FY 2010 funding request covering state and tribal grant programs had not yet been made public. In FY 2010, EPA expects to provide support for PM_{2.5} and air toxics monitoring funding through §103 authority. Federal funding for PAMS is expected to be provided at the same level as previous years (\$14M) within §105 to those regions with PAMS areas. All other monitoring operations are funded with §105 funds and state or local funding as part of the minimally required match to §105 funding. Specific details of EPA's plans for monitoring funding in 2009 and 2010 follow.

- In this guidance, for planning purposes, OAR is operating under a budget scenario reflecting the most recently enacted budget year – FY 2009. In negotiating grants using FY 2010 funds, EPA's priority will be that essential monitoring for protection of public health from PM exposure above the NAAQS will not be compromised. It is EPA's intention to negotiate grant work plans and accountability measures that ensure that PM_{2.5} monitoring activities required by regulation, needed for the development of SIPs, or needed for informing the public of days with unhealthy air quality are continued.
- In developing the FY 2010 PM_{2.5} monitoring allocation, OAR will employ the same region-by-region funding approach used in prior years – e.g., determination of per month costs of operating the existing network. This cost per month is based on examining prior year grants in detail and determining a cost per month for each grantee. For FY 2009, all PM_{2.5} monitoring grants are to be scheduled to end on March 31, 2010. Therefore, funding for FY 2010 will be for a 12 month period beginning April 1, 2010. Nominal replacement of existing PM_{2.5} monitoring equipment (e.g., FRMs) is to be funded out of each agencies regular PM_{2.5} monitoring grant.
- For the PM_{2.5} network, EPA considers the overall size of the existing Federal Reference Method (FRM)/Federal Equivalent Method (FEM) network adequate for implementing the revised NAAQS. Regional offices and the states should consider: (a) whether the current network of FRM/FEM and supplemental PM_{2.5} speciation sites is optimal for supporting implementation of the revised PM_{2.5} NAAQS, and (b) how samplers among stations and even funds among states would need to be shifted to provide equitable access to the speciation data needed to understand the causes of 24-hour NAAQS nonattainment for each prospective nonattainment area. Also, changes in population exposure and emissions patterns may mean that a small number of sites each year may need to be re-located. Any possible changes to the PM_{2.5} network are to be identified in the respective agencies annual monitoring network plan due to the applicable EPA Region by July 1 of each year according to §58.10 – Annual Monitoring Network Plan and Periodic Network Assessment.

- There will be changes in the unit cost of PM_{2.5} filters and speciation laboratory services provided as associated program support due to pre-negotiated contract increases in unit prices. As a placeholder until monitoring agencies inform EPA of their planned use of filters and laboratory services in 2010, EPA will initially reserve funds as associated program support based on an assumption that the number of filters and the number of monitoring sites requiring laboratory services will be the same in 2010 as in 2009.
- EPA recently issued a new five-year contract for chemical analysis and reporting of the Speciation Trends Network (STN) and supplemental stations that make up a large portion of the Chemical Speciation Network (CSN). The other major component of the CSN is the IMPROVE protocol stations run by state, local, and tribal agencies; however, laboratory and reporting services for IMPROVE protocol stations are provided as part of an interagency agreement with the National Park Service. The Speciation Trends Network (STN) operates every third day and the supplemental stations nominally operate every sixth day. Under the new contract, all STN and supplemental stations are now supported with Teflon and nylon filter modules for the Met One SASS or Met One SuperSASS samplers.
- EPA is continuing to work with the National Park Service and state, local, and tribal agencies on a new carbon sampling platform for the STN and supplemental chemical speciation network stations. On April 1, 2009, monitoring stations at 63 locations were scheduled to begin sampling using the URG 3000N sampling platform. This sampler is being implemented to align carbon sampling and analysis methods with the IMPROVE program. The April 1, 2009 start date represented the second of three phases of the carbon sampler conversion. The first phase included implementation of 56 stations utilizing a combination of single and collocated samplers (3 stations are collocated); while the third phase is expected to include 77 stations, with implementation expected in late 2009. The costs associated with implementation of the carbon sampler conversion have been paid for with \$103 PM_{2.5} monitoring funds from FY 2008 and earlier. No FY 2009 or FY 2010 funds are expected to be needed to complete the remainder of this project. Details on the carbon sampler conversion can be found at: <http://www.epa.gov/ttn/amtic/specurg3000.html>.
- Funding for the portion of the IMPROVE program that addresses progress in improving visibility in Class I areas will remain the same as in previous years. This includes funding for the 110 IMPROVE stations needed to meet the regional haze rule requirements of states monitoring Class I areas for long-term trends through and beyond the 10-year SIP period (2008 to 2018), as well as being useful in the required periodic assessments of progress towards the national visibility goal.
- The level of funds for the nationally administered, independent Performance Evaluation Program (PEP) provided as associated program support for PM_{2.5} monitoring is expected to be approximately \$1.5 million. Monitoring agencies with an adequate level of independence between quality assurance and monitoring groups may conduct the PEP themselves. In these cases monitoring agencies that conduct the PEP will receive the refundable portion of the EPA program costs that would otherwise have been used to pay for EPA regional lab contract staff.

- EPA is developing a lead (Pb) Performance Evaluation Program (Pb-PEP). This program will operate similar to the PM_{2.5} PEP with a call letter for participation to be sent at the same time as the call for participation in other federally implemented performance evaluation programs. Where federally implemented, EPA Regional ESAT contract staff are expected to leverage audits for multiple programs when visiting an area. The cost of participation in this program is being developed and will depend on the number of participating agencies, the number of stations to audit each year, and the number of audits that can be leveraged with other activities during a visit to an area.
- The level of funds for the nationally administered, independent National Performance Audit Program (NPAP) is expected to be approximately \$454,000. Similar to the PEP, in the NPAP, monitoring agencies with an adequate level of independence between quality assurance and monitoring groups may conduct the NPAP themselves and receive the \$105 funds that otherwise would have supported their participation in the national program.
- The 24-hour PM₁₀ standard protects the public from effects of short-term exposure to inhalable coarse particles, and PM₁₀ monitoring should continue in areas at risk of violating that standard. In other areas, reductions in PM₁₀ monitoring may be appropriate. Agencies are encouraged to migrate to low-volume PM₁₀ sampling as aged PM₁₀ samplers are replaced, especially at stations with existing PM_{2.5} FRMs, to allow for measurement of PM_{10-2.5}.
- As one of the NCore multi-pollutant monitoring requirements, EPA is requiring PM_{10-2.5} mass (using the new federal reference method or a future equivalent method) and PM_{10-2.5} speciation (no method yet specified) at between 62 and 71 locations. Since NCore is not required to be operational until January 1, 2011, the FY 2010 allocation does not specifically target funds for the creation of PM_{10-2.5} mass or speciation measurements. However, PM_{10-2.5} mass measurements can be easily obtained using co-located low-volume PM₁₀ and PM_{2.5} samplers and many agencies are already performing or planning to perform these measurements soon. For PM_{10-2.5} speciation, EPA will be engaging the Clean Air Scientific Advisory Committee's Ambient Air Monitoring and Methods Subcommittee this year. Since PM_{10-2.5} speciation is not fully developed, EPA is only encouraging this measurement as part of special projects and studies designed to address specific issues and not part of any routine monitoring operation. For 2010, EPA encourages the mass measurement of PM_{10-2.5} at NCore and other important sites as determined within monitoring agencies.
- In FY 2011, EPA also anticipates that there may be shifts in PM_{2.5} monitoring funds among regions to reflect further transition to continuous PM_{2.5} instruments, addition of precursor gas monitoring capability at NCore multi-pollutant sites, and discontinuation of additional PM_{2.5} speciation sites.
- For FY 2010, EPA is still seeking comment on utilizing \$150,000 each year, prorated from each PAMS recipient, to perform regional and national scale assessments of the data. This is planned to be follow-up to the existing assessments to enhance the usefulness and utility of the PAMS data. Assessments will be performed to address a number of questions

on the wealth of data collected by agencies operating PAMS. As in the past, EPA will solicit input among PAMS data users, including State and local agencies, on priorities for national and regional assessments.

- For FY 2010, EPA is still seeking comment on a reserve of 5% of the PAMS funds (\$700K) for the expressed purpose of purchasing new capital equipment (e.g., gas chromatographs and upper air meteorology equipment) for participating agencies. The proposal has been made since several PAMS agencies have reported they are unable to purchase new equipment and much of their existing inventory of PAMS monitoring equipment is outdated.
- In FY 2010, EPA anticipates funding air toxics monitoring at the existing 27 National Air Toxics Trends Stations (NATTS).
- For the 2010 community-scale air toxics funds, EPA plans to continue support for monitoring projects involving “hot-spots” such as locations where schools may be impacted from a local source or sources with elevated levels of air toxics emissions. EPA is planning to continue the development of the lead (Pb) monitoring network over the two-year period from 2010 and 2011. The need and requirement for the network was identified as part of the recent NAAQS review. Lead is unique among all air pollutants in that it is both a criteria pollutant and a hazardous air pollutant (HAP).

Fine Particulate (PM_{2.5}) Monitoring Network

On October 17, 2006 EPA revised the PM_{2.5} NAAQS by lowering the 24-hour (or daily) standard from 65 $\mu\text{g}/\text{m}^3$ to 35 $\mu\text{g}/\text{m}^3$. EPA also retained the existing annual fine particle standard at 15 $\mu\text{g}/\text{m}^3$. In the monitoring rules supporting the PM_{2.5} NAAQS, EPA requires monitoring agencies to locate at least one PM_{2.5} monitoring site for each Metropolitan Statistical Area (MSA) in a population-oriented area of expected maximum concentration. Under the 1997 PM_{2.5} NAAQS, the design values for almost all non-attainment areas were driven by the annual NAAQS. With the new lower PM_{2.5} daily NAAQS, a majority of areas will be driven by the daily NAAQS. However, in most cases the area of expected maximum concentration will be the same.

In planning a PM_{2.5} monitoring network for 2010, agencies will need to consider how their networks are addressing the network design requirements as part of their annual network reviews due each summer. Agencies are to review their PM_{2.5} design values for 2006-2008 and determine if they are required to continue or start operating daily sampling according to §58.12 – Operating Schedules. For a small number of cases, a new monitoring site may need to start up; in other cases, sites may need to move. EPA envisions that state/local agencies will continue to maintain a large robust network of PM_{2.5} monitors to support several monitoring objectives including protection of public health through the NAAQS.

The PM_{2.5} monitoring network includes three well-established components: the network of filter-based FRM/FEMs used for comparison to the NAAQS; continuous mass

monitors used in public reporting of the Air Quality Index; and speciation program samplers and monitors including the Speciation Trends Network, supplemental speciation sites, and the IMPROVE program used to characterize the chemical composition that makes up fine particulate matter. Smaller dynamic components of the PM_{2.5} monitoring program include a small network of continuous speciation monitors and the measurement of precursors to PM_{2.5} at NCore multi-pollutant stations. Areas of interest to enhance PM monitoring include reinvesting monitoring resources into high sensitivity monitoring of CO, SO₂, and NO₂/NO_y to better characterize precursor gases that lead to particle formation, expanding the network of PM_{2.5} continuous monitors, and planning for daily speciation sampling in a small number of the most populated cities in the country where this information can support data needs in a state and for use in helping expedite health studies.

Overall Direction

FY 2010 continues a multi-year transition of the ambient air monitoring conducted by state and local air monitoring agencies along the path set by the Monitoring Strategy. For PM_{2.5} this means continued operation of high value federal reference method (FRM) and speciation sites; PM_{2.5} continuous monitoring and associated data management systems for timely reporting of high quality data; and precursor gas analyzers, data analyses and quality assurance activities that will support better understanding of particle formation.

The restructured networks will continue operation of high value sites, with investments and divestments. To provide a clearer understanding of the expected outcomes of the ambient air monitoring objectives, the following goals for the fine particulate monitoring network have been developed:

- Appropriate spatial characterization of PM_{2.5} NAAQS;
- Public Reporting of PM_{2.5} in the AQI;
- Characterization of PM_{2.5} chemical speciation data for long term trends, development and accountability of emission control programs, tracking of regional haze, and for use in health studies;
- Implementation of NCore trace-level CO, SO₂, NO₂/NO_y and NH₃ monitoring to support characterization of PM precursors;
- Assessment of PM_{2.5} data quality;
- Procurement and testing of PM_{2.5} filters.

Divestments

In the revisions to the ambient air monitoring regulations, EPA finalized reductions to the required number of FRM/FEM in larger cities and eliminated FRM/FEM requirements for some rural areas. For some areas, especially large cities well below the revised NAAQS, this may provide an opportunity to divest of one or more redundant monitoring sites. For other areas it may provide an opportunity to move one or more sites, which are not the design value sites, to get a better spatial characterization of PM_{2.5} or seek locations that are a concern with the more protective daily PM_{2.5} NAAQS.

Chemical speciation data from the Speciation Trends Network, IMPROVE, and the remaining supplemental speciation sites will continue to be utilized to track progress over time as the national and local control programs are implemented. There are some areas that are expected to be in residual nonattainment for PM_{2.5} even after the national control strategies are implemented that may have attainment deadlines beyond 2009, or that may be designated nonattainment with the revised 24-hour PM_{2.5} NAAQS. In these cases the regional office and the state, and where appropriate, local agencies, should work out an appropriate network design for the chemical speciation component of their PM_{2.5} monitoring network within the available allocation, as part of their annual network review. States and local agencies may consider divesting of low-value supplemental speciation stations in areas that are not expected to be in violation of the PM_{2.5} NAAQS.

In the revisions to the ambient air monitoring regulations, EPA finalized new requirements for the number of required Performance Evaluation Program (PEP) audits that result in an overall national reduction in the required number of site audit days. For FY 2010 the cost of the PEP will be about \$1.5 million. Costs for the PEP to a monitoring organization are determined by the number of sites within a monitoring organization. States with multiple monitoring agencies not already organized under one Primary Quality Assurance Organization should consider doing so to save minimize the number of required audits.

As in 2009, monitoring organizations will again be asked to determine whether they plan on implementing the PM_{2.5} Performance Evaluation Program (PEP) or allow for continued Federal implementation of this program. Monitoring organizations must meet the minimum requirements of adequate and independent in order to implement the PEP. OAQPS has provided guidance to regional offices on how to assess adequacy and independence of proposed audit programs.⁹ Information on this decision process will be provided in a memorandum from the EPA regional office to the monitoring organizations each year in order to make decisions that will affect the next calendar year audit activities. OAQPS anticipates that a FY 2010 guidance memorandum covering details on participation in the PM_{2.5} PEP will be issued to the EPA regional offices in June 2009.

Investments

The revisions to the Ambient Air Monitoring Regulations published in the Federal Register on October 17, 2006 include new performance based criteria for approval of continuous PM_{2.5} methods as equivalent to the filter-based FRM. On March 12th, 2008, EPA's Office of Research and Development approved the first continuous PM_{2.5} FEM¹⁰. This method is now available and its data can be compared to the NAAQS as well as for public reporting of the Air Quality Index (AQI). However, at the time of this writing no other instruments have been approved. With just one approved continuous PM_{2.5} FEM, but possibly more on the way, it may make sense to modify the start date for any newly required

⁹ January 8, 2007 memorandum from Phil Lorang (Ambient Air Monitoring Group Leader) to Regional Office ambient monitoring managers.

¹⁰ Met-One BAM1020 – PM_{2.5} configuration, Automated Equivalent Method – EQPM – 0308 - 170

continuous monitor stations¹¹ until multiple vendors are offering continuous instruments that have been approved as federal equivalent methods (FEM) or monitoring organizations themselves have applied for and received approval for continuous approved regional methods (ARM). Monitoring agencies that are comfortable with the approved method could benefit by discontinuing operation of some or all (with the exception of required FRMs for QA purposes) of their FRMs, which tend to be costly to operate due to pre- and post- sampling laboratory analysis. These savings could be used to pay for some of the cost of the new monitors; however, capital acquisition funds would need to be provided up-front for the new monitors. Therefore, EPA regions will work closely with state and local agencies within the existing funding allocations on whether new monitors should be purchased. Technical direction on implementing and reporting data from continuous PM_{2.5} FEM and ARM monitors is available on EPA's AMTIC web site¹².

Gas monitoring with high sensitivity measurements of CO, SO₂, and NO/NO_y will continue as part of the PM_{2.5} monitoring network to support characterization of PM precursors in FY 2009 and FY 2010. Planning over the last few years has resulted in funding being available for all required NCore multi-pollutant sites for these pollutants using carryover funds from prior years and planned funds from fiscal years 2005 through 2007.

EPA will also be working with state and local agencies to pilot a small number of PM_{2.5} continuous mass monitors and ammonia samplers where funds are available. For daily speciation EPA expects to work with a small number of monitoring agencies to pilot daily characterization of fine particle chemical speciation using a combination of continuous and filter-based technologies. One solution might include post-sampling laboratory analysis of elements on Teflon filters with semi-continuous operation of sulfate and carbon monitors.

Monitoring agencies may also find it useful to use a portion of their direct awards to implement additional meteorology equipment that supports forecasting of the AQI. Of specific interest may be recently commercialized, high quality, and lower priced instruments that characterize the vertical thermal structure of the boundary layer.

For FY 2009 and FY 2010, PM_{2.5} monitoring grant funds allocated to states can be directed towards improvements in data management systems to support timely reporting of high quality data from PM continuous mass monitors, PM continuous speciation monitors, and precursor gas monitors. Resources dedicated to this area will support processing, validating, and reporting of data that supports the PM monitoring program.

In late 2009, EPA expects to host a comprehensive National Ambient Air Monitoring Conference. This conference was last held in November of 2006 shortly after the Revisions to the Ambient Air monitoring Regulations were published. EPA and state and local agencies will both benefit by strong participation in this conference to manage and enhance

¹¹ The October 17, 2006 Revisions to the Ambient Air Monitoring Rule provide that for every required FRM/FEM in a MSA at least ½ that many stations must operate a PM_{2.5} continuous method. These required PM_{2.5} Continuous methods were to be operational by January 1, 2008.

¹² <http://www.epa.gov/ttn/amtic/datamang.html>

the ambient air monitoring program. EPA regions are encouraged to make participation in the conference a condition of each agencies PM_{2.5} monitoring grant.

Distribution of Funds¹³

The draft FY 2010 guidance does not yet include an allocation of PM_{2.5} monitoring funds among regional offices for use in direct awards.¹⁴ EPA must still consult with stakeholders about how to allocate PM_{2.5} monitoring funding in light remaining implementation issues associated with NCore. A final allocation will include tables that will provide more detailed information on the region-by-region allocation including cost estimates for associated program support. Cost estimates will be based on an assumption that monitoring organizations will not reduce their networks (and the services/ materials needed to support them) in 2010 compared to previous years. The estimates should help inform how the program costs may change this coming year and are subject to change based on monitoring organizations' actual plans for the numbers of sites that will need these services in FY 2010.¹⁵ These numbers may decline if states choose not to maintain their existing PM_{2.5} monitoring networks.

For more information on PM_{2.5} monitoring, contact Tim Hanley at 919-541-4417 or via mail at hanley.tim@epa.gov.

Monitoring Networks for Other NAAQS Pollutants (and PM_{10-2.5})

Support of Established NAAQS Networks

This section covers monitoring networks for the other pollutants covered by a NAAQS -- ozone, lead (Pb), CO, SO₂, NO₂, PM₁₀, -- and PM_{10-2.5}.¹⁶ Of these pollutants ozone has the

¹³ In FY 2006 and earlier years, EPA's national guidance set aside PM_{2.5} monitoring funds for use in funding several categories of associated program support, allocated the remaining funds among the regional offices for use in direct grants, and provided targets or suggestions for how the regions might negotiate funding levels for specific categories of state/local monitoring activities; for example operation of filter-based monitors versus continuous monitors. For FY 2007, EPA restructured the targeted categories of program support and state/local monitoring operations to focus more on activities that are of current special interest, for example new monitoring sites required as a result of the revised 24-hour PM_{2.5} NAAQS. In FY 2007, EPA worked with grant recipients to develop work plans that were intended to utilize available FY 2007 and earlier funding by a common date of March 31, 2008, at which time FY 2008 funding would begin. For some recipients, this meant a grant period different than 12 months. The savings in shorter grant periods for these recipients have been reapplied to meet the listed types of new monitoring needs wherever they exist. In FY 2008 PM_{2.5} monitoring grants were negotiated between EPA regional offices and state and local agencies for the period April 1, 2008 thru March 31, 2009. These grants utilized §103 authority as directed in EPA's appropriation.

¹⁶ Once the president's detailed budget has been announced, a final allocation will be provided.

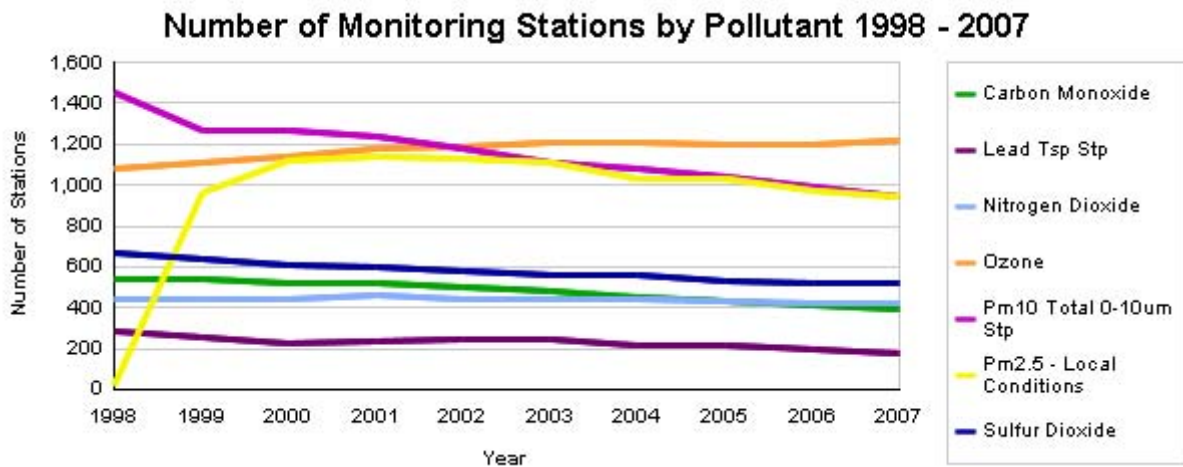
¹⁵ State and local agencies have costs associated with many activities within each monitoring program area. Not all types of operating expenses may be accounted for. Some of these costs are fairly well understood such as capital infrastructure, salaries of staff and management working on the program, and costs of expendable items used in the program. Less obvious, but important to include in planning operation of a network, are costs of participating in conferences and workshops that support training and building further expertise in agencies operating the network.

¹⁶ On October 17, 2006 EPA revoked the annual PM₁₀ NAAQS everywhere. 71 FR 61144. The 24-hour PM₁₀ NAAQS was retained everywhere. No NAAQS was established for PM_{10-2.5}. On the same day, EPA also promulgated a Federal Reference Method for PM_{10-2.5} and certain monitoring requirements for PM_{10-2.5} as part of the new NCore network with an

most robust network with over 1200 stations across the country. Networks for CO, SO₂, NO₂, and PM₁₀ are still maintained in most agencies with minor divestments over the last several years (see figure below); however, for lead there has been a substantially larger divestment due to almost all monitoring stations being substantially below the previous lead (Pb) NAAQS. Additional information on each network is summarized below.

In March of 2008, EPA strengthened the ozone NAAQS by revising the 8-hour standard to a level of 0.075 ppm. Despite having a large and robust ozone monitoring network already operating in most urban areas across the country, EPA stated its intention¹⁷ to propose a separate rule to address changes to the ozone monitoring requirements. Changes to the ozone monitoring requirements are necessary to implement the revised ozone NAAQS. These changes may affect the required ozone season, requirements for minimum monitors in smaller urban areas – where monitoring are not currently required, and requirements for

Table A-2



non-urban areas such as sensitive ecosystems. The proposed rule may occur in 2009 or early 2010 and finalized in time for implementation of some or more requirements in 2010. Funding needs associated with any changes to the ozone monitoring requirements are not established at this point since the proposal has not yet been published.

In October of 2008, EPA significantly strengthened the lead NAAQS from 1.5 µg/m³ to 0.15 µg/m³ as measured by total suspended particulate. For lead, the existing lead monitoring network was considered inadequate to implement the revised lead NAAQS and therefore, changes to the lead monitoring requirements were included along with the revised lead NAAQS. With a substantially stronger NAAQS, regional offices and state and local monitoring agencies should work closely together to ensure that any sources of lead exposure

implementation date of January 1, 2011. 71 FR 61236. A plan for PM_{10-2.5} monitoring at NCore is due by July 1, 2009. FY 2009 grant funds should be used to begin development of this plan. EPA is not requiring that any FY 2009 or FY 2010 grant funds be used to implement PM_{10-2.5} monitoring, although that is an eligible use of grant funds where negotiated between a Regional Office and a recipient.

¹⁷ http://www.epa.gov/air/ozonepollution/pdfs/2008_03_factsheet.pdf

have been identified and appropriate steps are taken (ensuring the adequacy of the emission inventory and modeling impacts) to determine if ambient air monitoring is warranted. EPA is requiring near-source monitoring to begin operation by January 1, 2010 and non-source monitoring by January 1, 2011. Annual monitoring network plans corresponding to the near-source and non-source monitoring are due by July 1, 2009 and July 1, 2010. EPA has proposed the a total of \$2.5 million in FY 2009 funding under §105 authority for this monitoring and this effort will continue under the President's FY 2010 budget request. EPA will work with state and local agencies to begin planning their lead network starting during CY 2009.

Over the next three years, EPA expects to complete reviews of the remaining NAAQS that have not had a recent review (i.e., NO₂, SO₂, and CO). The NO₂ review is scheduled to be completed by January 22, 2010; the SO₂ primary standard review by June 2, 2010; the NO₂ and SO₂ secondary standards are being reviewed together and are to be completed by October 19, 2010; and the CO standard - both primary and secondary – is to be completed by May 13, 2011. Each of these reviews may result in necessary changes to the monitoring requirements to implement each NAAQS.

With possible changes to each of the NAAQS that have not had a recent review and the requirement for each state - and where delegated - applicable local agencies to perform a comprehensive assessment of their ambient air monitoring network every five years¹⁸, EPA is now asking agencies to hold off on substantial changes to their ambient air monitoring network until each of these activities are complete. EPA acknowledges that ambient air monitoring agencies will not have the benefit of all NAAQS having recent reviews prior to submitting their comprehensive assessments by July 1, of 2010; however, to the extent that existing monitoring stations can be maintained, especially when multiple measurements are leveraged and data are being utilized, agencies may find that existing stations are useful for one or more of the revised NAAQS. EPA is developing network assessment tools and will be sharing these tools on upcoming conference calls and workshops that state and local agencies attend. Ultimately, these tools will be available on EPA's web site; likely on the Air Quality Analyses web site¹⁹.

FY 2010 STAG grant funds for the aforementioned ambient monitoring programs should be utilized to provide:

- National and local spatial characterization of ozone (O₃) relative to the NAAQS;
- National and local public reporting of O₃ in the AQI;
- Local public reporting of CO, SO₂, NO₂, and PM₁₀ in the AQI for areas where these pollutants are of concern;
- Local characterization of the CO, SO₂, NO₂, and PM₁₀ NAAQS in the few areas with NAAQS non-attainment and maintenance issues;
- Implementing newly required near-source lead (Pb) monitoring stations by January 1, 2010, where required or there is the potential to exceed the Pb

¹⁸ 40 CFR §58.10

¹⁹ <http://www.epa.gov/ttn/analysis/>

NAAQS;

- Planning non-source Pb monitoring stations in MSAs over 500,000 people that are to begin operation by January 1, 2011;
- In addition to the monitoring provided for above, limited characterization of O₃, CO, SO₂, NO₂, Pb, and PM₁₀ data in all other areas for long term trends, support for long-term health and scientific assessments, and development and accountability of emission control programs as part of a multi-pollutant approach to air quality management;
- Assessment of O₃, CO, SO₂, NO₂, Pb, and PM₁₀ data quality;
- Analysis and interpretation of the O₃, PAMS, CO, SO₂, NO₂, Pb, and PM₁₀ monitoring data and development of data assessment tools;
- Procurement and testing of PM₁₀ filters, including 46.2 mm Teflon filters used in low-volume PM₁₀ samplers;
- Independent and adequate assessment of these pollutants' data quality, which is required in 40 CFR Part 58. This assessment is based on audit data generated under the National Performance Audit Program (NPAP). State and local agencies will choose either to obtain audit services through EPA-managed contracts funded with STAG funds, or may operate equivalent state-managed programs using independent staff, equipment, and standards. In some regions, EPA staff may perform or assist in audits with no charge to STAG funds, depending on staff and travel funds availability.
- Reporting and certification of ambient air monitoring data required²⁰ to be submitted to the Air Quality System (AQS) database. In 2010 the date of certification moves up from July 1 to May 1.

Ambient Air Performance Evaluation Programs

A performance evaluation is a type of audit where quantitative data is collected independently in order to evaluate the proficiency of an analyst, laboratory, or some or all of the component parts of a data collection activity. EPA implements a number of performance evaluation programs on behalf of the monitoring agencies. Two major federally implemented performance evaluation efforts include the National Performance Audit Program (NPAP) for the gaseous pollutants and the Pb-Performance Evaluation Program

National Performance Audit Program (NPAP)

The NPAP is a cooperative effort among OAQPS, the EPA regional offices, the monitoring organizations that operate EPA-funded air pollution monitors, and the other organizations that operate air monitors for example at PSD sites. The implementation goals of the NPAP are to audit approximately 20 percent of the monitoring sites in the Ambient Air Quality Monitoring Network each year.

Although it is a goal to visit every monitoring site generating data that has significance to the air quality program within a 5-year period, among these sites there is an

²⁰ §58.15 – Annual air monitoring data certification, and §58.16 – Data submittal and archiving requirements.

emphasis on auditing higher priority monitors (e.g., sites prioritized for health risk reasons) more frequently. In 2008, the requirement for adequate independent audits applies to sites with monitoring types not designated as “non-regulatory. The NPAP program uses a through-the-probe (TTP) audit system, where appropriate for the monitoring situation given a site’s physical layout. This system has the advantage of testing the performance of the entire monitoring sampling train including inlets and manifolds, and provides station operators immediate feedback on the audit results.

Each year, monitoring organizations are asked whether they plan on implementing the NPAP or would prefer continued Federal implementation of this program using STAG funds. Any non-EPA audits arranged by monitoring organizations must meet the minimum requirements of being adequate and independent. Additional guidance on demonstrating that a state-implemented program meets these minimums will be provided in a memorandum early in the calendar year. Under this approach EPA reserves a portion of appropriated STAG funds to cover potential Federal implementation of the NPAP, based on the number of geographically separate monitoring sites (not the number of distinct monitors) within each EPA Region.

The initial reserve of FY 2010 funds is estimated to be approximately \$454,000. This is based on EPA’s current understanding of monitoring organizations’ intentions for how NPAP audits will be implemented in 2010. If the number of sites in a Region to be audited by EPA staff or EPA-managed contractors is reduced because more monitoring organizations plan on implementing a program of adequate and independent NPAP audits without reliance on EPA contractors, and those organizations are assessed by the EPA regions as capable to perform the NPAP by September 2009, a corresponding amount of STAG funds will be made available to the regional office for allocation as direct awards. The amount of funds held by EPA to perform the NPAP includes both a fixed cost associated with programs tools and equipment such as standard operating procedures and hardware and variable costs such as the operator time and travel costs associated with the number of audits conducted. The September 2009 cutoff date gives EPA time to make necessary contracting and other arrangements for the audits it will manage in 2010.

Lead Performance Evaluation Program (Pb-PEP)

The implementation of a Pb-PEP is a new requirement starting in calendar year 2010 and it provides an assessment of overall bias at the primary quality assurance organization (PQAO) level. PQAO is defined in 40 CFR Part 58 Appendix A. The program will be a mix of one or two PM_{2.5} PEP like audits with additional collocated sampling. The program will require the same number of audit samples as required for PM_{2.5} meaning:

- PQAOs with ≤ 5 sites require 5 audits (1 PEP, 4 collocated)
- PQAOs with > 5 sites require 8 audits (2 PEP, 6 collocated)

The Pb-PEP audits consist of the implementation of a separate portable TSP Pb audit sampler that is placed within 2-4 meters of the routine Pb sampler, is operated by an independent auditor and the sample is shipped to an independent Pb-PEP laboratory for analysis. For the collocated samples, each quarter the monitoring organization field operator

will take one additional collocated sample and send this sample to the independent Pb-PEP laboratory for analysis.

Similar to the PM_{2.5} PEP and the NPAP, implementation decisions for Pb-PEP are made by the monitoring organizations on an annual basis. EPA will draft a memo to the monitoring organizations to determine whether they plan to self implement the Pb-PEP or utilize the federally implemented program using STAG funds. Any non-EPA audits arranged by monitoring organizations must meet the minimum requirements of being adequate and independent. The definition for adequate and independent for Pb-PEP will be very similar to PM_{2.5} PEP and the actual requirements will be developed by June, 2009. The decision memo will be distributed in July 2009 and take the form of previous PM_{2.5} PEP decision memos. It is very likely that the Pb-PEP information will be incorporated into PM_{2.5} memo so all decisions are made at the same time. An example of one of these decision memos can be found at: <http://www.epa.gov/ttn/amtic/npepqa.html>. The EPA regions will collect this information from the monitoring organizations and provide the information to OAQPS in time to redirect the appropriate STAG funds for the federally implemented program.

Under this approach EPA reserves a portion of appropriated STAG funds to cover potential Federal implementation of the Pb-PEP, based on the number of monitoring sites (not the number of distinct monitors) within each PQAQ within a Region.

Another QA activity being developed as part of supporting the revised lead (Pb) monitoring network is making available Pb quality control strips for laboratories that provide analytical support. EPA envisions a program where a third party laboratory develops lead strips with known concentrations that are sent to participating Pb analytical laboratories. Data from participating laboratories would be reported similar to current lead strip reporting requirements, and assessments would be available for determining laboratory bias. Funds to support the third party contractor are still being determined and are proposed to be reserved from §105 funds.

The amount of funds held by EPA to perform the Pb-PEP includes both a fixed cost associated with programs tools and equipment such as standard operating procedures and hardware and consumables and variable costs such as the operator time and travel costs associated with the number of audits conducted.

Photochemical Assessment Monitoring System (PAMS)

Required by section 182(c)(1) of the Clean Air Act, the PAMS program collects ambient air measurements in areas classified as serious, severe, or extreme ozone nonattainment. Each PAMS area collects data for a target list of volatile organic compounds (VOCs), NO_x, NO_y, and ozone, as well as surface and upper air meteorological measurements.

Monitoring rule amendments published on October 17, 2006 greatly reduced the minimum PAMS requirements. The revisions were intended to require the retention of the minimum common PAMS network elements necessary to meet the objectives of every

PAMS program, while freeing up resources for states to tailor other features of their own PAMS networks to suit their specific data needs. Overall, the changes significantly reduced the costs of the minimum PAMS monitoring requirements, but it was not EPA's intention to require or encourage a reduction in the overall level of PAMS monitoring. The following summarizes the changes to the PAMS requirements:

- The number of required PAMS sites has been reduced. Only one Type 2 site is required per area regardless of population, and Type 4 sites are no longer required. Only one Type 1 or one Type 3 site is required per area.
- The requirements for speciated VOC measurements have been reduced. Speciated VOC measurements are only required at Type 2 sites and one other site (either Type 1 or Type 3) per PAMS area.
- Carbonyl sampling is no longer required.
- NO₂/NO_x monitors are required only at Type 2 sites.
- Trace level NO₂/NO_y are required at one site per PAMS area (either Type 1 or Type 3).
- Trace level CO is required only at Type 2 sites.

Consistent with recent years, FY 2010 STAG funds will support four types of PAMS activities: monitoring system implementation and operation including replacement of aging equipment, data reporting to AQS, data analysis, and quality assurance. Also, regions are to plan and as appropriate approve the use of some of these funds to replace or upgrade aging or obsolete equipment. For FY 2010, about \$14 million is targeted for operation of the PAMS network. Of this, \$10.5 million has nominally been allocated for program implementation and operation, data reporting, and QA. \$3.5 million has been nominally allocated for data analysis by state and local agencies. However, Regional Offices have had the flexibility to allow states to adjust this split and even to use a portion of their designated PAMS funds for other purposes. Table A-3 shows the FY 2009 allocation of PAMS funds within the regional allotments. These PAMS funds are included in the ozone category of the national region-by-region allocation.

The §105 reallocation study process now underway also provides EPA and its state and local partners an opportunity to critically re-examine the purposes, funding level, and basis for distribution of funds targeted for PAMS support. A variety of considerations could be involved including accounting for those areas subject to the changing PAMS rule requirements, relative ozone air quality, the robustness of the networks, dollar needs over time, etc. EPA would like to discuss the future of PAMS with the state and local agencies as part of the analysis process.

In addition to the reallocation study, EPA is also working with its state and local partners that are involved in PAMS in an assessment of the program. This PAMS assessment includes a workgroup of representatives from EPA, state, local, and multi-state. The assessment is scheduled to be completed during FY 2009. Outcomes of the assessment have identified many insightful interpretations of the data, but also the need for additional follow-up work. EPA seeks comment on follow-up assessment work by utilizing a prorated amount from each PAMS Region in the amount of \$150,000 during both FY 2009 and FY 2010.

The PAMS program has been operational since the mid 1990's and as such for a number of agencies the monitoring equipment is becoming significantly aged. Some agencies have been able to upgrade or buy new equipment from within their existing allocation; however, due to the high initial capital cost, many other agencies have reported they are not able to set aside enough funds from within one year to purchase these large capital cost items. For FY 2010, EPA solicits comment on a hold-back of 5% of the PAMS

Table A-3. Distribution of FY 2009 Funds for PAMS Support

Region	Number of PAMS Areas	Local Data Analysis	Implementation and Operation	Total	Total with proposed \$150K set aside for national data analysis and \$700K set aside for equipment replacement
1	5	\$726,297	\$2,125,815	\$2,852,112	\$2,678,979
2	1	\$232,415	\$571,060	\$803,475	\$754,701
3	3	\$348,623	\$1,087,907	\$1,436,530	\$1,349,328
4	1	\$145,259	\$366,848	\$512,107	\$481,020
5	21	\$290,519	\$959,749	\$1,250,268	\$1,174,372
6	5	\$617,603	\$2,061,029	\$2,678,632	\$2,516,030
7	0	\$0	\$0	\$0	\$0
8	0	\$0	\$0	\$0	\$0
9	82	\$1,162,075	\$3,307,303	\$4,469,378	\$4,198,071
10	0	\$0	\$0	\$0	\$0
National Data Analysis					\$150,000
Equipment Replacement					\$700,000
Totals	24	\$3,522,791	\$10,479,711	\$14,002,502	\$14,002,502

¹ Chicago and Milwaukee have a combined network.

² So. Coast & Mojave Desert AQMDs have a combined network

funds (\$700K) for the expressed purpose of purchasing new capital equipment (e.g., gas chromatographs and upper air meteorology equipment) for participating PAMS agencies. If successful, EPA would work with all PAMS agencies to set up a equipment replacement plan over a multi-year period.

Notwithstanding a re-allocation, and in light of the recent changes in PAMS requirements, regional offices should still re-examine the current split between data analysis and implementation and operations with their recipients rather than strictly adhere to the splits shown in Table A-3. Regional offices may also consider other departures from historical funding practices, for example providing more funds to a particular state in FY 2010 to support a needed one-time intensive study, with temporarily reduced funding for routine PAMS monitoring in other states. In CY 2009 or 2010, resources permitting, EPA will issue a new technical guidance document to assist regional offices and states in evaluating the utility of the data collected by current PAMS networks and in identifying new types of PAMS monitoring that can provide useful missing data for ozone attainment planning.

EPA recognizes that the PAMS sites are a major source of data on air toxics including some of the toxics that contribute significantly to the total risk from air toxics in some of the largest cities. The regions, state and local monitoring agencies should keep this dual purpose in mind as the plan network changes in FY 2010 and beyond. For example, as speciated VOC sampling is reduced at type 4 sites, consideration should be given to moving to auto-GC sampling at the remaining PAMS sites.

FY 2010 PAMS Activities for State and Local Agencies

The allocated PAMS funds should be used to meet the following objectives:

(1) Continue System Implementation

- Reduce number of monitoring sites and monitoring at remaining sites, while remaining in compliance with revised PAMS regulations or approved alternative plans developed as part of reconfiguration efforts.
- Operate remaining existing sites, including replacement of aging equipment.
- Continue to improve NO_x monitoring, replacing NO_x instruments with NO_y/NO instrumentation and/or more sensitive NO₂/NO_x monitors at select PAMS sites.
- Install and operate trace level CO monitors at Type II sites.
- Develop and conduct area specific ozone precursor studies based on area specific needs.
- Continue making surface measurements of wind direction, wind speed, temperature, and humidity at all PAMS sites and additional measurements of solar radiation, ultraviolet radiation, pressure, and precipitation at one site in each PAMS area. Continue making upper-air measurements of wind direction, wind speed, and temperature at a representative location in each PAMS area. The upper-air monitoring program will depend upon region-specific factors such that the optimum design for a given PAMS region is expected to be some combination of remote sensing and

conventional atmospheric soundings.

- For PAMS sites collocated with NCore multi-pollutant precursor gas sites, the meteorological monitoring data for ambient temperature, wind speed, wind direction, relative humidity, barometric pressure, and solar radiation are to be submitted to the AirNow program.

(2) Data Analysis

- Continue to develop and implement PAMS data analysis plans at the state and local levels that demonstrate use of data, provide analyses demonstrating data analysis products and results commensurate with allocated resources targeted for data analysis in grant work plans and the minimum set of PAMS data analyses specified in EPA guidance.
- Use PAMS data to develop and optimize control strategies in State Implementation Plan for ozone.
- Develop trends in ozone precursors, based on PAMS data that may serve to corroborate “rate-of-progress” and accountability demonstrations.
- Use PAMS data to corroborate ozone precursor emissions inventories and to address transport concerns.

(3) Data Reporting

- All PAMS data, including meteorological data, shall be submitted into AQS consistent with 40 CFR Part 58.
- All PAMS data shall be identified in EPA’s Air Quality System (AQS) as monitor type ‘PAMS’ or ‘Unofficial PAMS’.
- Adequate procedures must be developed and followed to ensure proper validation of data prior to submission to AQS.

(4) Quality Assurance

- All sites must have and operate according to a Quality Assurance Project Plan (QAPP) approved by an EPA regional office.
- Ensure that adequate and independent audits are conducted for FRM and FEM SLAMS monitors at PAMS sites. These audits are discussed above under ‘National Performance Audit Program (NPAP).’

Air Toxics Monitoring

For FY 2010, the President’s request includes resources for the support of national air toxics monitoring and characterization activities. Funds are awarded under §105 authority to continue support for ongoing air toxics monitoring activities initiated and conducted by state and local air quality agencies. In addition, the Agency is proposing dedicated funds under CAA §103 for the support of : (1) operation and maintenance of the multi-year National Air Toxics Trends Stations (NATTS), and (2) local air toxics monitoring projects (see Table A-4). Funding for NATTS and local projects is being planned with §103 authority which enables 100% federal funding.

Included in the NATTS program total are three supplemental program components: quality assurance, methods development, and an analysis initiative using all available ambient air quality data for toxics with special emphasis on observations from the NATTS and community-scale monitoring programs. These three components are associated program support for all grants that support air toxics monitoring or management activities. FY 2010 will be the eight overall year of NATTS data collection, the sixth complete year of NATTS data collection, and the fourth local-scale grant cycle in seven years. The desired program objectives are:

- Establish trends and evaluate the effectiveness of air toxics emissions reduction strategies.
- Characterize the local-scale ambient concentrations that result when air toxics originating from local sources concentrate in relatively small geographical areas, producing the greatest risks to human health.
- Provide data to support, evaluate, and improve emission inventories and air quality models used to develop emission control strategies, perform exposure assessments, and assess program effectiveness.
- Provide data to support scientific studies to better understand the relationship between ambient air toxics concentrations, human exposure, and health effects from these exposures.

In FY 2009, EPA expects approximately \$4.1 million in §103 STAG funds will be used to fund operation of the National Air Toxics Trends Station (NATTS) Network during the period July 1, 2009 – June 30, 2010. About \$0.8 million is proposed to be used for quality assurance, data analysis, and methods and instrumentation associated with the NATTS program.

The NATTS program component will continue to build on the established quality assurance and methods protocols. Laboratory and field staff continue to work with EPA to ascertain the optimum methods for capturing and analyzing core pollutants associated with risk, develop performance based quality indicators to prove valid data results that will contribute to our understanding of risks, and stabilize the measurements for all NATTS sites so that comparisons across the nation can be made. Efforts to further improve methods for hexavalent chromium and acrolein are anticipated to continue through at least 2010, and additional methods development work may include how to best measure coarse particles (PM_{10-2.5}) for HAP metals and other speciation components to complement the existing measurement of metals in PM₁₀ at NATTS. The analytical community will continue to assess trends in air toxics concentration levels, relate those data to associated risk levels, and explore relationships between these ambient and risk levels to emission sources and changes in these levels to emission reduction efforts.

The community-scale projects are intended to better characterize air toxics problems at the local level and to address those problems through local actions which complement national regulatory requirements. Such monitoring has the potential to elucidate the scope of local air toxic problems, measure what reductions have been achieved through actions taken,

and provide information needed for local policy development on reducing emissions from particular sources.

While aimed at meeting local data needs, EPA expects that data, results, and findings from all community-scale projects will also be valuable to other areas and to the national air toxics programs. Hence, a portion of the air toxics STAG funds are used to organize, summarize, and analyze the air toxics data from the community-scale studies and the NATTS sites (and data from other monitoring efforts) and to communicate the findings to all states involved in air toxics management. This includes a data analysis workshop.

While EPA anticipates that monitoring of air toxics hotspots at the community level, particularly around schools, will continue into FY 2010, EPA intends to further consult with stakeholders on the nature and approach for local scale air toxics monitoring for FY 2010. The Agency will produce supplementary information and guidance for FY 2010. For further information regarding prior year community-scale air toxics monitoring projects, including previous solicitations, successful project proposals and final reports, may be found at: <http://www.epa.gov/ttn/amtic/local.html>. For more information contact Michael Jones in OAQPS' Ambient Air Monitoring Group at 1-919-541-0528, or jones.mike@epa.gov.

The FY 2010 allocation categories and amounts are provided in Table A-4. The funding allocation for operation of NATTS sites will be sub-allocated to the regions with state and local agencies hosting those sites. The split of funding among the other listed line items may be adjusted prior to the start of FY 2010 based on consultations with state and local air agency representatives. Funds for other line items listed are anticipated to be used in nationally administered support contracts or competitively awarded to eligible recipients for specific activities.

Table A-4
**Proposed FY 2010 Funding for Lead, National Air Toxics Trends
and Community-Scale Monitoring**

\$4,195,000	Operation and maintenance of existing and new NATTS sites.
\$320,000	NATTS Quality Assurance: includes periodic Proficiency Testing, targeted Technical Systems Audits, and annual data quality assessment via centrally (OAQPS) managed contracts.
\$300,000	Data Analysis: delineate and assess trends, data and network assessment to include exploration / demonstration of monitoring data utility in providing local scale findings that are useful in S/L/T air quality program management, and Annual Data Analysis Workshop for EPA and S/L/T's to share results; synthesize into annual report.
\$180,000	Methods and Instrumentation: support for improved air toxics monitoring methodology, especially for priority HAPs for which methods either do not exist, or existing methods have been deemed insufficient to meet end user needs; acquire new, upgrade, or replacement sampling or analytical equipment on a limited, case-by-case, as needed basis in direct support of NATTS.
Pending	Community-scale monitoring projects: EPA is seeking comment on supporting monitoring projects involving "hot-spots" such as locations where schools may be impacted from a local source or sources with elevated levels of air toxics emissions. .
TBD	Total Funding

IMPROVE Visibility Monitoring Network

The IMPROVE monitoring program supports the national goal of reducing haze to near natural levels in National Parks and wilderness areas. IMPROVE monitoring sites collect data on visibility, including optical, photographic, and speciated particulate data, though EPA resources are only used for the particle speciation monitoring. EPA works with the Regional Planning Organizations (RPOs) to help states prepare their SIPs for regional haze rule (these were due 12/07). Data from IMPROVE sites are needed to meet the regional haze rule requirements of states for monitoring Class I area long-term trends through and beyond the 10-year SIP period (2008 to 2018), as well as being useful in the required periodic assessments of progress towards the national visibility goal. States also use data from the IMPROVE network to characterize upwind and background PM₁₀ and PM_{2.5} conditions and to assess source attribution for the PM_{2.5} and PM₁₀ NAAQS in nonattainment areas.

The IMPROVE network was started in 1987 as part of a federally-promulgated visibility plan and operated by the Department of the Interior (DOI) under the direction of a multi-agency federal/state steering committee. EPA expanded the original network in FY 1999 and FY 2000 from approximately 30 sites to 110 sites. The expanded network covers all of the Clean Air Act Class I areas where visibility is important (except the Bering Sea area which is impractical to monitor). EPA provides state/local air quality management STAG funds to the DOI to help maintain the IMPROVE network because of the importance of IMPROVE data to development of SIPs for both regional visibility and PM NAAQS attainment. The DOI and the other participant organizations contribute in excess of \$3 million of their own funds or in-kind resources per year to support field operations and other monitoring at IMPROVE sites.

For reasons of convenience and/or consistency of data, a number of state, local, and tribal monitoring organizations have historically chosen to ask the IMPROVE program to provide field technical support and laboratory services for additional sampling stations at locations under their control, using the IMPROVE protocols for sampler design, sampler operation, and laboratory analysis. Data from these additional “state/local IMPROVE protocol sites” (currently about 60) are managed and made public along with the data from the 110 sites in protected class I areas. These additional sites are provided as associated program support. This arrangement will continue in FY2010. In addition, some federal agencies provide full funding for additional IMPROVE protocol sites to meet various program or research objectives.

Tribal, state, local, and federal monitoring organizations may continue, discontinue, or add sites for the monitoring period which runs from July 1, 2010 through June 30, 2011. Once a monitoring organization has identified its source of funds for such sites, it may contact Marc Pitchford (see below) to request monitoring support services and to begin arranging for the necessary funds transfer. Requests should be made as early in calendar year 2010 as possible, but no later than April 30, 2010. Tables A-3 and A-4 are based on a

placeholder assumption that monitoring organizations will retain all current state/local IMPROVE protocol sites in 2010.

After extensive testing to ensure data comparability, the IMPROVE steering committee approved a change in carbon analysis methodology (both analyzer and protocol) to replace their 18-year old analyzer systems with new system for all samples collected starting in 2005. The IMPROVE steering committee also mandated the development and approved for use a revised algorithm for estimating light extinction from IMPROVE PM speciation data, that is expected to be used by most (perhaps all) states in their Regional Haze Rule SIPs. A revised (incorporating the latest data flags and edits) IMPROVE dataset required by the Regional Haze Rule for the 5-year baseline period (2000 to 2004) was disseminated through the IMPROVE and VIEWS (<http://vista.cira.colostate.edu/views/>). The Visibility Information Exchange Web System (VIEWS) is a database system and set of online tools originally designed to support the Regional Haze Rule. VIEWS provides easy online access to a wide variety of air quality data and provides online tools for exploring and analyzing these data. It also is used to facilitate the research and understanding of global air quality issues.

For FY 2009, about \$2.6 million of PM_{2.5} monitoring funds appropriated under §103 authority and about \$1.2 million of state/local STAG funds appropriated under §105 authority were proposed to be targeted to support visibility monitoring at 110 IMPROVE sites and 7 sites collocated with CASTNET. For more information on the IMPROVE program, contact Tim Hanley (919-541-4417) or Lew Weinstock (919-541-3661) in OAQPS.

Planning Information for Ambient Monitoring on Tribal Lands

EPA respects each tribe's sovereign ability to identify its air quality goals and to make monitoring decisions it deems appropriate for its needs. This section addresses issues for consideration when conducting ambient air quality monitoring in the particular context of an EPA grant work plan. There are no Clean Air Act requirements for ambient monitoring on tribal lands, so tribes have flexibility in customizing ambient monitoring to address the many different situations they face in terms of air quality and other environmental concerns. Whatever the local situation, the purpose of any ambient monitoring should be to inform the public living in Indian country about the quality of the air where that quality is in doubt, to assist the tribe in managing its air quality, to help the tribe make the case that other governments or private parties need to control emissions due to their effect on air quality on tribal land, and/or to help track the effects of control actions to verify that they have addressed a problem.

For some tribes ambient monitoring may or may not be a priority for funding compared to other air quality program or environmental program activities. If monitoring is conducted, a tribe's interests can be best served when the type of monitoring is appropriate for the specific situation. For a given tribe, some types of monitoring may be useful, while others may not be relevant. With limited resources available, strategic planning based on

thoughtful priorities is needed. The EPA regional offices will be the principal EPA partners with tribes in this case-by-case planning.

Over the last few years, EPA has emphasized that data from EPA-funded monitors on tribal lands should be available to both EPA and the general public through the AQS or other relevant national data system, once start-up issues are worked out and the data are reliable. EPA will continue to work with tribes on workable alternatives for data preparation and submission. In awarding grants to tribes with FY 2010 funds, regional offices are expected to make sure that tribes will have a way to get data submitted, including QA-related data.

EPA has developed an Ambient Air Monitoring Strategy for State, Tribal and local Air Agencies that re-examines how the national ambient monitoring programs can be more thoughtfully directed towards their multiple purposes (<http://www.epa.gov/ttn/amtic/monstratdoc.html>)²¹. For the most part, this strategy addresses situations and considerations relevant to states, rather than the special situations and considerations relevant to tribes. In FY 2008, EPA developed a document titled: *Technical Guidance for the Development of Tribal Air Monitoring Programs* (<http://www.epa.gov/ttn/oarpg/t1/memoranda/techguidancetribalattch.pdf>) with the intent of providing tribes a better understanding of the ambient air monitoring process and to provide information on resources and tools to help build and sustain an air quality monitoring program. For 2009 and beyond, EPA may provide additional guidance specifically related to tribal air monitoring. Any new guidance will continue to provide flexibility for tribes and regional offices to address the many different air quality situations on tribal lands on a case-by-case prioritized basis. See: <http://www.epa.gov/oar/tribal/tam.html> for information on the progress in developing new guidance for tribal monitoring.

Technical assistance in conducting ambient monitoring is provided to tribes through the Tribal Air Monitoring Support (TAMS) Center (<http://www4.nau.edu/tams/>). [TAMS staff can provide more specific information on any of the types of monitoring described here.](#)

The remainder of this section provides general information that may assist tribes in clarifying their objectives for ambient monitoring and getting started on planning monitoring to meet those objectives.

Air Toxics Monitoring: This may be the type of ambient monitoring of most interest to many tribes, because local sources potentially subject to tribal management can dominate exposures and because public perceptions of air toxic risks can be strong. As with all monitoring, the purpose of monitoring air toxics is to identify problems that merit action, plan what action will be effective, and track the effects of the action to verify it has addressed the problem. Of the 187 officially listed air toxic compounds under the Clean Air Act, a subset of 18 have historically been monitored at EPA-funded non-tribal sites.²² In 2008,

²¹ The Ambient Air Monitoring Strategy was last updated in December of 2008.

²² These monitored compounds are: benzene, carbon tetrachloride, chloroform, 1,3-butadiene, 1,2-dichloropropane, methylene chloride, tetrachloroethylene, trichloroethylene, vinyl chloride, arsenic and compounds, beryllium and compounds, cadmium and compounds, Hexavalent chromium, lead and compounds, manganese and compounds, nickel and compounds, acetaldehyde, formaldehyde, and acrolein.

EPA expanded the list to cover a number of Polycyclic Aromatic Hydrocarbons (PAHs). Tribal monitoring likely should not aim beyond this list or its revision without specific local reasons, and should not necessarily attempt to measure all of these. While many other compounds will be collected on the same filter or cartridge, or in the same canister, there is extra cost at the laboratory for each compound that is measured and reported. Some of the compounds on this list, for example carbon tetrachloride, are not emitted (or not supposed to be emitted) from any current source and/or have about the same concentration everywhere in the U.S. so there is little to be gained from measuring them on any particular reservation.

For many air toxics (except some gases), samples need to be collected in the field (or indoors) and shipped to specialized laboratories for analysis. EPA has contracts with qualified labs which make it relatively easy to have this done.

Interpreting air toxics monitoring data is not a simple task, since there are no bright legal lines between “acceptable” and “unacceptable” air quality, as there are for NAAQS pollutants. Interpretation can be more difficult or impossible if the monitoring location or the monitoring schedule is not appropriate for estimating risk to residents. Each regional office has specialists in risk assessment that can assist tribes in planning air toxics monitoring so that it is useful.

See <http://www.epa.gov/air/tribal/airtoxics.htm> for more information on air toxics from a tribal perspective. See <http://www.epa.gov/ttn/amtic/airtoxpg.html> for information on monitoring of air toxics. See <http://www.epa.gov/ttn/atw/nata> for the 1999 National Scale National Air Toxics Assessment website²³; the information and links on this website may be useful background when considering whether and what air toxics to monitor on a reservation, even if no 1999 assessment was possible for that reservation due to lack of an emissions inventory.

Monitoring for NAAQS Pollutants using Federal Reference Methods (FRM) or Federal Equivalent Methods (FEM): This type of monitoring is primarily useful for determining on a formal basis whether air quality in a given location meets or does not meet a national ambient air quality standard (NAAQS), for example ozone, PM_{2.5}, PM₁₀, CO, SO₂, NO₂ or lead. It takes three years of data collection to make this determination for most NAAQS of interest. Establishing attainment status via FRM/FEM monitoring data can be important as it can affect the legal requirements that apply to sources at and around that location. It can also affect whether a tribe can pursue action to seek emission reductions from upwind sources beyond the tribal boundary.

Monitoring for certain NAAQS pollutants may indicate a need to reduce emissions within the tribal boundary in order to protect public health of the residents, but in many cases it will be obvious from an understanding of emission-generating activities that local sources do not cause or contribute to concentrations near or above the NAAQS. Judging from experiences

²³ The 1999 NATA is the latest available as of January 2009.

in many non-tribal situations around the country, CO nonattainment is very unlikely on reservations, even where traffic is attracted by entertainment centers.

On October 17, 2006, EPA promulgated a rule which lowered the 24-hour $PM_{2.5}$ NAAQS from 65 to 35 micrograms per cubic meter. This change should be considered when planning tribal monitoring, because the more stringent standard is more likely to be violated as a result of local sources such as seasonal wood burning, wild fires, and prescribed burning than is the annual $PM_{2.5}$ NAAQS. EPA also revoked the annual PM_{10} NAAQS everywhere (not the 24 hour PM_{10} NAAQS). This change is expected to have no impact on tribes, as the annual standard was rarely violated anyway. PM_{10} and $PM_{2.5}$ sources on reservations (wood burning, fires, road and agricultural dust, etc.) could be a problem by themselves or on top of concentrations coming from upwind areas.

In March 2008, EPA strengthened the ozone NAAQS by revising the 8-hour standard to a level of 0.075 ppm. At the time of finalizing the ozone NAAQS, EPA stated its intention to propose a separate rule to address changes to the ozone monitoring requirements that would be necessary to implement the revised ozone NAAQS. These may include proposed changes to the required ozone season, requirements for minimum monitors in smaller urban areas – where monitoring are not currently required, and requirements for non-urban areas such as sensitive ecosystems. The proposed rule may occur in 2009 and finalized in time for implementation of some or more requirements in 2010. However, as explained earlier no such requirements would exist for tribal nations. Despite monitoring regulations not being required of tribal nations, the potential for these changes are mentioned here so that they can be considered for implementation in tribal monitoring programs in 2010, if available at that time. The potential for ozone nonattainment, if it exists, is most likely due to upwind off-reservation sources. Tribal monitoring programs may have an interest in characterizing both ozone exposure of their population as well as characterizing sensitive ecosystems on their lands.

In October 2008, EPA significantly strengthened the lead NAAQS from $1.5 \mu\text{g}/\text{m}^3$ to $0.15 \mu\text{g}/\text{m}^3$ as measured by total suspended particulate. With a substantially stronger NAAQS, regional offices and tribal monitoring agencies should work closely together to ensure that any sources of lead exposure on or immediately impacting tribal lands have been identified and appropriate steps are taken (ensuring the adequacy of the emission inventory and modeling impacts) to determine if ambient air monitoring is warranted.

Before beginning any NAAQS monitoring, the regional office and tribe should consider: (1) whether attainment status can be determined with reasonable confidence in other ways (including passive monitors and other methods that do not qualify as Federal Reference methods but can be sufficient for unofficially showing that concentrations are well below the NAAQS), (2) how information on the attainment/nonattainment status once available could affect management of the tribal air program, and (3) how long the monitoring should continue if it does or does not show a NAAQS violation.

The EPA regional offices should work with the tribes to review the status and continued utility of any FRM monitors which have been operating long enough to have to have

reasonably complete data for at least 3 to 5 years. If attainment with a comfortable margin has been found and if there is no on-reservation or nearby development that is likely to change the situation substantially, it may be good to discontinue this type of monitoring in favor of other environmental management efforts.

Continuous PM_{2.5} Monitoring – There are several types and brands of monitors that provide estimates of PM_{2.5} concentrations on a continuous basis, without need for filters to be sent to a laboratory for weighing. These are both less expensive to operate than a filter-based monitor and can give information on air quality that tribal officials and the public can use in real time to manage emission sources and personal activities. The first continuous PM_{2.5} Federal Equivalent Method (FEM) was approved by EPA’s Office of Research and Development on March 12, 2008 and others may be approved in the coming year. For a complete list of approved methods, see: <http://www.epa.gov/ttn/amtic/criteria.html>. Continuous PM_{2.5} monitors with official status as a Federal Equivalent Method (FEM) can be used for purposes of comparing to the NAAQS.

Passive Monitoring and Other Types of Screening Monitoring: A passive monitor is one which “soaks up” pollution rather than actively collecting it on a filter or pumping it through an on-site measurement device. This means they can be used where there is no electricity supply. Also, the monitoring unit is usually inexpensive, so it is possible to place them more closely together or over a much larger area than conventional powered monitors could possibly be placed. Passive monitors are not suitable for formal designation of an area as attainment or nonattainment but they can help a tribe understand the air quality situation on its reservation, for example, what part of a reservation has the worst air quality and whether any part has concentrations that approach health benchmarks. There are passive monitors available for a number of pollutants including several volatile organic air toxics including benzene, ozone, CO, and SO₂. Time periods for exposing the monitor to the ambient (or indoor) air vary. The monitors must be collected each sampling period and sent to a laboratory for chemical analysis, so costs are not insignificant. Passive monitoring programs are usually of short duration because of the field labor and laboratory costs, compared to automated continuous analyzers. They have the advantage of requiring little up-front investment, however. EPA Region 6 has been in the forefront of applying passive monitoring to a variety of situations on and off reservations. See <http://www.epa.gov/ttn/amtic/passive.html> for more information.

Photochemical Assessment Monitoring: This is a very specialized type of monitoring related to the ozone NAAQS, in which air samples collected in the morning are taken to a laboratory for measurement of the concentrations of many individual hydrocarbon species including some toxic gases. This monitoring is only done during the ozone season. The purpose is to help identify the chemicals and sources contributing to ozone and the most efficient controls for reducing ozone concentrations. It is unlikely that this type of monitoring meets any distinct tribal need. See <http://www.epa.gov/ttn/amtic/pamsmain.html> for more information.

PM_{2.5} Speciation Monitoring: This is a very specialized and expensive type of monitoring related to the PM_{2.5} NAAQS, in which filters collected over a 24-hour period are shipped by

overnight express to a laboratory for measurement of various components of PM_{2.5} such as sulfate, nitrate, elemental carbon, organic carbon, and individual metals. This type of monitoring is done every third or every sixth day, year round. The purpose is to help identify the direct and precursor pollutants and sources contributing to PM_{2.5} and the most efficient controls for reducing PM_{2.5} concentrations. Most STN sites are in urban areas. This type of monitoring may meet a tribal need, if a PM_{2.5} nonattainment (or near nonattainment) situation is confirmed through simpler monitoring and its causes are not apparent, if high numbers of diesel engines operate in or upwind of the reservation, or if sources of toxic metals in PM_{2.5} form are known or suspected to be a health risk. However, if metals are a concern, it may be more appropriate to sample for metals in PM₁₀ form in order to capture all the PM that enters the human thorax and may affect health. Most air toxics monitoring programs sampling for toxic metals do so in PM₁₀ form. See <http://www.epa.gov/ttn/amtic/speciepg.html> for more information.

IMPROVE Protocol Monitoring: IMPROVE stands for Interagency Monitoring of Protected Visual Environments. The IMPROVE program is described elsewhere in this Appendix. See <http://vista.cira.colostate.edu/improve/> for more information. Each site has several monitors, all aimed at collecting information to understand what pollutants and sources contribute to haze and to track changes in visibility over many years. Among these monitors are a PM₁₀ sampler and samplers to provide speciation details for PM_{2.5}. These data allow calculation of an index of visibility. The IMPROVE program can be convenient for the monitoring organization providing the site, because the IMPROVE program contractors provide equipment installation, training, periodic field support, laboratory analysis, and data management and publication.

Over the last several years, about 10 tribes have applied for and received grant assistance from their EPA regional office to allow them to request the IMPROVE program to establish and provide technical services for an IMPROVE protocol sampling station on tribal land. Some tribal sites have operated for a period and then been discontinued. The grant funds needed to pay for this are awarded to the tribe by the EPA regional office, but transferred to the IMPROVE program through OAQPS. Tribal monitoring organizations may ask for FY 2009 funding from their EPA regional office to continue, discontinue, or add sites for the monitoring period which runs from July 1, 2009 through June 30, 2010. FY 2010 funding would be used for the July 1, 2010 through June 30, 2011 period. Once a tribal monitoring organization has been awarded funds for such sites, the tribe and/or the regional office may contact EPA to request monitoring support services and to begin arranging for the necessary funds transfer. Requests should be made as early in calendar year 2010 as possible, but no later than March 31 in order to start or continue monitoring on July 1.

In some cases in the past, a Regional Planning Organization or other multi-state organization has funded a tribe's operation of an IMPROVE protocol site because of its advantageous location. In the future, EPA plans on streamlining this process by talking to the regions and Tribes at the early stages of the planning process so IMPROVE funds for tribal sites (that decide to operate for the next fiscal year) can be forwarded directly to OAQPS without being distributed to the regions and then being transferred to OAQPS. This should save time and provide for greater efficiencies.

IMPROVE protocol monitoring is the generally accepted approach to quantifying visibility, and is the right approach if a tribe has a need for such quantification. EPA regional office staff can assist a tribe in understanding how such data could be used for official and unofficial purposes. Because the protocol quantifies carbonaceous material in PM_{2.5}, IMPROVE protocol sampling may also be of interest if high numbers of diesel engines operate in or upwind of the reservation. IMPROVE monitors are not Federal Reference/Equivalent monitors, however, and cannot be used for designation purposes or to officially trigger a requirement for off-reservation sources to reduce their adverse impact on attainment within a reservation or other tribal land area.

CASTNET Monitoring: CASTNET is a long-term monitoring network of more than 80 sites located primarily in rural areas. This network is designed to measure status and trends in deposition of particles, ozone, and other pollution emitted from facilities with tall stacks (generally power plants), mixed in the atmosphere, and transported over long distances. Ambient monitoring at CASTNET sites is supposed to reflect the overall effect of emissions from many sources, rather than any individual plant. While there is likely to be no direct use of such monitoring data in a tribe's own air quality program, a tribe may wish to host a CASTNET site in order to help advance the national air quality program. Tribes presently operate three sites. CASTNET is seeking to expand the number of sites in the western U.S. CASTNET sites are supposed to remain in operation for a long time. See: <http://www.epa.gov/castnet> for further information.

National Atmospheric Deposition Program: The NADP program is run by the U.S. Geological Survey, and collects data on the chemistry of precipitation. NADP wet deposition sites are usually located such that there are no dominant nearby sources, which means that a site may not be of direct use of such monitoring data in a tribe's own air quality control program for sources on tribal land. However, a tribe may wish to host a NADP site in order to understand its air and water quality as impacted by near and distant sources, and/or to help advance the national air quality and water quality programs. A number of tribes currently are partners in this program and have sampling sites on their lands. See <http://nadp.sws.uiuc.edu/> for more information.

Mercury Monitoring: The NADP and several federal agencies including EPA are collaborating on a technical framework for a nationally coordinated network of speciated ambient mercury monitoring stations including both gas and particulate forms of mercury. Data of this sort eventually will be useful for calculating dry deposition and possibly for identifying the emission sources of mercury. Once technical, administrative, and data handling procedures are developed, tribes may wish to join this network. Tribes may also wish to participate in this development. It is anticipated that a high level of on-site expertise will be needed to successfully operate a mercury monitoring stations, even with centralized technical and QA support. At this time, no new source of funding exists to support tribal mercury monitoring sites. More information is available at <http://nadp.sws.uiuc.edu/mtn/>.

Smoke Monitoring: Tribes who use controlled or prescribed burning to manage forest or range land, or whose populations are frequently affected by fires may be interested in

monitoring smoke concentrations either to help make decisions on when it is safe to burn, or to advise residents of when to take action to avoid smoke exposure. There are no formal procedures or standard techniques for such monitoring at this time, but portable monitors and satellite data communication devices have been tested and found to be practical by EPA and several governmental partners.

NCore Multi-pollutant Monitoring: The NCore multi-pollutant monitoring network is a concept that will be turned into reality over the next few years. Network plans for required NCore stations (there are no requirements for tribal NCore stations) are to be submitted by July 1, 2009 with stations fully operational by January 1, 2011. The plan is to have a network of about 75 sites which simultaneously measure a variety of gas and particle pollutants, using continuous methods to follow changes during a single day, across the seasons, and over many years. Most of these sites will be in urban areas and will be operated by state or local governments. However, about 20 sites need to be in rural areas. While there is likely to be a direct use for only some of the monitoring data collected at an NCore station in a tribe's own air quality program, a tribe may wish to host a rural site in order to understand its air quality and to help advance the national air quality program. EPA OAQPS and regional offices will be planning the location of sites over the next couple of years, and regional office staff will contact a tribe if there appears to be an advantage in placing a site on a reservation. Alternatively, tribal monitoring programs are encouraged to contact their applicable regional office if they have an interest in hosting an NCore station. EPA has not yet identified exactly how a rural site on tribal land would be funded, given that the benefit of the data from such a tribal site would accrue to many other parties. EPA will be exploring this question with tribal and state/local officials over the next year or two. These sites are supposed to operate for many years without being moved, once initiated. See <http://www.epa.gov/ttn/amtic/ncore/index.html> for more information.

Program Support for Monitoring (National/Regional Monitoring Procurement Contracts)

EPA makes procurement services available to state and local agencies, via national or regional contracts or interagency agreements, for a variety of support services and materials. These services can be conducted as either associated program support or as in-kind assistance. In providing associated program support, EPA works with regions, tribes, and state and local agencies in advance to identify needs on a national basis and targets funds for the support *before* determining the final Region-by-Region allocation of grant funds (i.e., pre-allotment). In contrast, in-kind assistance is agency-specific and the value of the service is included in the grant agreement of a state, tribe, or local agency *after* final agency-by-agency allotments are determined. This approach requires the recipient provide an appropriate amount of matching funds and meet other grant administrative obligations relative to the in-kind assistance. This occurs when contract support is requested by a grant recipient after its grant is awarded. Most support to monitoring programs is provided as associated program support, with the in-kind support being used to increase the level of support above planned levels if unexpected needs arise.

Traditionally, OAQPS works with regions to determine the level of funds that each state or Tribe wants to allocate for the national procurement contracts. The services offered in past years included assistance in monitoring site set-up and laboratory sample analysis for nonmethane organic compounds, urban air toxics, carbonyls, PAMS, and hazardous air pollutants; performance evaluation (PE) sample support for agencies participating in NATTS; filters for PM₁₀ and Pb in the form of total suspended particulates; PM_{2.5} filters; laboratory services for PM_{2.5} speciation; IMPROVE monitoring services; and independent audits under the NPAP and PEP programs. Audits are usually provided via contracts managed by regional offices. Other services and materials are provided via contracts or interagency agreements managed by OAQPS.

A new opportunity EPA wishes to make available to monitoring organizations is to obtain NADP technical support for speciated ambient mercury monitoring stations via EPA's interagency agreement with the U.S. Geological Survey, as associated program support or in-kind service. Organizations interested in this should contact Gary Lear of EPA's Clean Air Markets Division (lear.gary@epa.gov).

Table A-5 lists categories and funding amounts for associated program support not previously identified under specific monitoring topics: site support and laboratory analysis for air toxics and PAMS monitoring and filters for PM₁₀. Typically final amounts to be set aside on a pre-allotment basis for the forthcoming fiscal year are identified after EPA and states conclude their grant negotiations in the preceding spring and summer. The amounts shown in Table A-5 are current best estimates. Final FY 2010 amounts will be based upon confirmed needs received from the regions and their state and local agencies by early in FY 2010.

Table A-5. Preliminary FY 2010 National Procurement Contract Amounts
(For Certain Categories of Associated Program Support)

Preliminary FY 2010 Section 105 Contracts in Ambient Air Monitoring and Quality Assurance

Program	Region										Totals	
	1	2	3	4	5	6	7	8	9	10		
S/NMOC Sampling Sites (O3)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
UATMP Sites (Air Toxics)	\$0	\$139,341	\$0	\$87,063	\$49,303	\$0	\$0	\$128,894	\$0	\$0	\$0	\$404,601
PAMS QA Support (O3)	\$12,268	\$9,201	\$12,268	\$35,696	\$64,480	\$9,201	\$0	\$0	\$24,538	\$0	\$0	\$167,652
Carbonyl Monitoring (O3)	\$0	\$34,866	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$34,866
HAP Support (Air Toxics)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
All PM10 and Pb Filters ¹	\$10,643	\$6,533	\$57,304	\$42,872	\$46,719	\$20,664	\$37,052	\$29,617	\$64,140	\$16,189	\$0	\$331,733
Sub-total	\$22,911	\$189,941	\$69,572	\$165,631	\$160,502	\$29,865	\$37,052	\$158,511	\$88,678	\$16,189	\$0	\$938,852

Note: Funds for PM10 and Pb filters are calculated based on fall 2008 request for filters. See separate spreadsheet for details.

(These STAG amounts are considered to be initial placeholders for FY 2010. The final level will depend upon a more definite indication of needs from recipients and will be adjusted accordingly. Adjustments will

necessarily cause changes in the level of direct grant awards. Residual funds are always returned to regional offices for use in direct awards to recipients.)

In general, funding that would otherwise go to specific agencies in the form of a direct award at the regional office level can be identified in advance for associated program support. In essence this reduces the direct award level to that agency. If associated program support costs identified for a specific agency are not used or are less than anticipated then these resources would ostensibly be returned to that agency's allotment. However, for some associated program support common to all recipients, there is a fixed EPA cost which does not depend on the number of individual recipients. An example would be the PEP or NPAP programs for auditing monitoring stations, which have fixed costs to pay contractors to maintain measurement standards and keep standard operating procedures current. There may also be variable costs for the contractor labor and supplies to make monitoring station visits. For audits, therefore, changes in the number of audits within a Region will result in a refund of only the variable portion of the cost of the station visits (i.e., the associated program support).

Another exception is that EPA considers the IMPROVE sites representing the Class I visibility protection areas to have benefits for all state air grant recipients because of interstate transport impacts and the responsibility of each state to protect visibility in every Class I area it impacts. Individual states (or regions) therefore cannot "unorder" these monitoring sites and receive back their operating costs. In contrast, the cost of supporting state/local IMPROVE protocol sites is "refundable" to a regional office.

Centralized Site Support and Laboratory Analytical Services - The EPA will continue coordinating centralized laboratory analytical services to support air toxics, organic compound, and PAMS programs in FY 2010 with those regional, state, and local agencies wishing to participate. Examples of services available via this national contract include those listed below.

Speciated and Total Nonmethane Organic Compound Program (SNMOC/NMOC): The SNMOC/NMOC program has been operating since 1984. The EPA continues to support a centralized program for assistance to state and local agencies in the collection of NMOC, SNMOC, selected toxic compounds, and carbonyl compounds. This program was initiated to provide data for use in development of control strategies for ozone. As part of the SNMOC /NMOC program, participating sites are provided with all necessary sampling equipment, which they may co-locate with NO_x monitors. The SNMOC/NMOC program consists of the following base components:

- Base Site support for sampling equipment preparation, installation and training, problem solving, and final reporting; and
- Canister sample analysis for 78 speciated NMOC or total NMOC.

Options include:

- Analysis for 60 toxic and polar compounds;
- Cartridge sample analysis for 15 carbonyl compounds; and

- Concurrent analysis for both toxic and polar compounds and speciated NMOC at a cost significantly reduced compared to performing the two analyses separately.

States collect the samples in canisters and/or cartridges and air freight them to Research Triangle Park, NC, for analysis. The samples are collected each week day from 6:00 to 9:00a.m. during the summer (typically June 1-September 30). In general, 96 samples are collected at each site over the study period. However, additional samples may be purchased.

Urban Air Toxics Monitoring: To support emerging needs for information on levels of organic toxic species in ambient air, OAQPS initiated the Urban Air Toxics Monitoring Program (UATMP) in 1988. This program serves as an analytical/technical support program similar to the SNMOC/NMOC program. The major purpose of this program is to support state and local agency efforts to assess the nature and magnitude of various air toxics problems via collection of 24-hour integrated ambient air samples at six or twelve day sampling intervals, sample analysis in a central laboratory, data reporting to EPA's Air Quality System, and site-specific data analyses. This program continues to be highly successful, with excellent overall data capture and data quality that meets well-designed program goals. The UATMP consists of the following base components:

- Base site support for sampling equipment preparation, installation and training, problem solving, and final reporting;
- Canister sample analysis for 60 toxic and polar compounds; and
- Cartridge sample analysis for 15 carbonyl compounds.

Options include:

- Canister sample analysis for 78 speciated NMOC; and
- Concurrent analysis for both toxic and polar compounds and speciated NMOC at a cost that is significantly reduced compared to performing the two analyses separately.

Carbonyl Monitoring: Carbonyl sampling and analysis has been part of the monitoring support options that the Agency has provided since 1990. While carbonyl monitoring support can still be performed simultaneously with other program elements, the independent carbonyl option provides more flexibility for special studies and saturation monitoring programs. The Carbonyl Monitoring Program support consists of the following base components:

- Base site support for sampling equipment preparation, installation and training, problem solving, and final reporting; and
- Cartridge sample analysis for 15 carbonyl compounds.

PAMS and Toxics: PAMS support items will be available to include technical off-site and on-site support (initial equipment set-up, on-site technical assistance, consultation, problem solving, etc.); quality control (QC); and quality assurance (QA) program support (data validation, standards acquisition, and data management support). VOC canister, carbonyl

compounds sample and concurrent toxics and speciated hydrocarbon analysis are also available.

The PAMS and toxics technical support program consists of the following base components:

- Technical site support;
- QA/QC support;
- Canister analysis support for PAMS compounds;
- Cartridge sample analysis for 15 carbonyl compounds; and
- Concurrent analysis for both toxic and polar compounds and speciated NMOC at a cost that is significantly reduced compared to performing the two analyses separately.

The PAMS automated analysis systems and/or multiple canister collection system purchase and installation are the responsibility of the participant. The amount of support an agency can order for the PAMS technical site support and QA/QC components of the program have been divided into smaller increments so that state, and local agencies can order the exact amount of support they require.

Other Hazardous Air Pollutant Analysis: The national monitoring support programs have been expanded to provide for the measurement of additional HAPs to support the effective implementation of the CAA and address the needs of other special studies. Analytical services support is provided for samples containing specific HAPs, which are a subset of the 188 compounds listed in the CAA. Participants are responsible for providing all necessary sampling equipment. The analysis among categories is based upon the specific needs of the state or local agency. This support also will assist the states in implementing the new national ambient monitoring network. Some of the available options under this category include:

- Canister sample analysis for 60 toxic and polar compounds;
- Cartridge sample analysis for 15 carbonyl compounds;
- Metals, hexavalent chromium, semivolatiles, PAHs, dioxin, etc.

Air Toxics Performance Evaluation Sample Support: Agencies that are participating in the NATTS can receive PE samples on an annual basis. These can include VOCs, Carbonyls, SVOCs and metals on quartz filters. The PE samples shall be generated and analyzed by the national contractor and sent as “blind” samples to the participating agency. If an agency uses the national contractor for analysis, the agency will not be able to use the contractor for PE sample support.

For more information on Centralized Site Support and Laboratory Analytical Services, contact Margaret Dougherty at 919-541-2344 (dougherty.margaret@epa.gov) or Michael Jones at 919-541-0528 (jones.mike@epa.gov).

Particulate Matter Filters - OAQPS has historically purchased particulate matter filters (for PM₁₀ monitoring, total suspended particulate sampling used for Pb and other metals monitoring and PM_{2.5} monitoring) through national contracts and distributed these to state and local agencies across the nation. The economies of scale from this type of centralized purchasing, centralized acceptance testing, and distribution of filters has produced lower costs than if state and local agencies each purchased these filters through their individual agencies. State and local agencies are responsible for providing information to the regions each year on the numbers and types of filters required prior to shipment. For PM₁₀ filters, monitoring agencies will need to specify whether the filters requested are to be used to support high-volume samplers (i.e., 8 in X 10 in quartz filters) or low-volume samplers (i.e., 46.2 mm Teflon filters).

For information on filter purchases, contact David Lutz at 919-541-5476 (lutz.david@epa.gov).

Section V. PRELIMINARY STATE/LOCAL AIR GRANT ALLOCATION (Table A-6 - Reserved)

Section VI. STATE INDOOR RADON PROGRAM

The State Indoor Radon Grant (SIRG) Program distributes grants authorized under section 306 and 10(a) of TSCA. The SIRG program's objectives are outlined in EPA's *State and Tribal Indoor Radon Grants Program Guidance and Handbook* located at: http://www.epa.gov/radon/pdfs/guidance_and_handbook.pdf. See also: <http://www.epa.gov/radon/sirgprogram.html>.

Recipients of FY 2010 SIRG funds should emphasize radon risk reduction through increased action by consumers, homeowners, real estate professionals, homebuilders, and state-local governments. Funded projects should clearly result in the following outcomes:

- Building homes with radon-resistant new construction;
- Reducing radon in existing homes;
- Reducing radon in existing schools and building new schools with radon-reducing features; and
- Other projects and activities that clearly contribute to achieving the three preceding outcomes.

EPA will revise the grant allocation methodology for the SIRG program during calendar year 2009 and will implement a new methodology in FY 2010. As a result of an updated allocation methodology and expected changes in the FY 2010 appropriation amount, a new regional distribution will be developed. The Regional Offices will still have discretion in determining the actual amounts of the State or Tribal awards. EPA and SIRG recipients are expected to continue implementation of the SIRG measures template, checklist and guidance. SIRG workplans should reflect radon program priorities and measurable results.

Supplemental information will be provided by the Office of Radiation and Indoor Air including a final FY 2010 allocation (in Table A-7 - not yet available). The SIRG program contact is Phil Jalbert (202-343-9431, jalbert.philip@epa.gov).