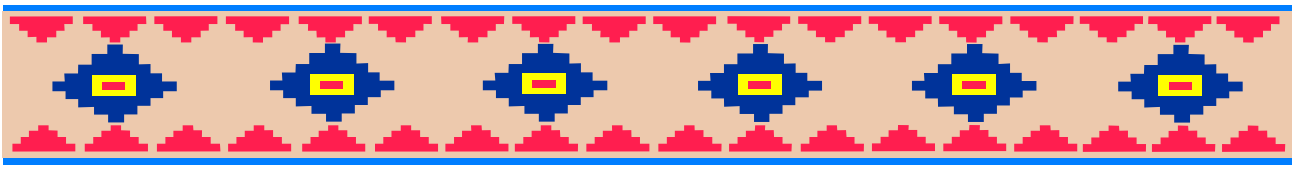
Guidance and Policy for Implementation of Tribal Air Monitoring Programs

Final

April 2008



Page intentionally left blank

Abstract

This document, *Guidance and Policy for Implementation of Tribal Monitoring Program,* was developed to improve the ability of tribes and EPA Regional Offices to prioritize monitoring needs, choose an appropriate level of funding for ambient air monitoring on tribal lands relative to other air management work, and ensure that monitoring funds are used effectively on chosen projects. This document is also intended to provide a level of consistency between OAR and the EPA Regions in our expectations of tribal monitoring programs. The intended audience for this document is EPA Regional Office and Headquarters staff involved in resource allocations, tribal air grant award and management, program evaluation, strategic planning of monitoring networks, technical support to monitoring programs, and using ambient air data collected from tribal monitoring programs.

This document has been developed in a question/answer format as a way of distinguishing discrete topics related to ambient air monitoring activities. This guidance and policy document is an internal EPA document and will be revised as needed.

Background:

In August 2005, a Tribal Monitoring Workgroup made up of staff from the Office of Air and Radiation (OAR), EPA Regional Office tribal air coordinators, and tribal air professionals gathered to develop guidance on tribal ambient monitoring. An early draft version of the guidance was shared with a wider group at the National Tribal Air Association (NTAA) meeting in October 2005, and at other Tribal meetings. As a result of tribal input, the Workgroup agreed that, due to the scope of the topics covered, the guidance should evolve into two separate documents, of which this document is the second. The first of these two documents was the *Technical Guidance for the Development of Tribal Air Monitoring Programs.* This guidance document provided specifics on how to plan and implement ambient air monitoring programs and was developed specifically for tribes as the primary audience. The document was completed in August 2007, and posted on the OAR Tribal Website (http://www.epa.gov/air/tribal/airprogs.html).

Table of Contents

List of Abbreviations

AQI	Air Quality Index
AQS	Air Quality System
CAA	Clean Air Act
CASTNET	Clean Air Status and Trends Network
CFR	*Code of Federal Regulations*
EPA	Environmental Protection Agency
GAP	General Assistance Program
HAP	hazardous air pollutants
IMPROVE	Interagency Monitoring of Protected Visual Environments
IT	information technology
ITEP	Institute for Tribal Environmental Professionals
MDN	Mercury Deposition Network
NAAMS	National Ambient Air Monitoring Strategy
NAAQS	National Ambient Air Quality Standard(s)
NADP	National Atmospheric Deposition Network
NATTS	National Air Toxics Trend Stations
NCore	National Core Network
NPAP	National Performance Audit Program
OAQPS	Office of Air Quality Planning and Standards
OAR	Office of Air and Radiation
OMB	Office of Management and Budget
PEP	Performance Evaluation Program
PM	particulate matter
$PM_{2.5}$	particulate matter $\leq$ 2.5 microns
PSD	prevention of significant deterioration
QA	quality assurance
QAPP	quality assurance project plan
QMP	quality management plan
RPOs	Regional Planning Organizations
SIP	State Implementation Plan
SLAMS	state and local monitoring stations
STAG	State and Tribal Assistance Grants
SOP	standard operating procedure
TAR	Tribal Authority Rule
TAMS	Tribal Air Monitoring Support Center
TIP	Tribal Implementation Plan
$\mu g/m^3$	micrograms per cubic meter
WRAP	Western Regional Air Partnership

BACKGROUND

The U.S. Environmental Protection Agency's (EPA) Indian Policy, originally signed in 1984 by Administrator William Ruckelshaus, sets forth the principles that guide EPA in working with tribal[1] governments. In Principle 3 of that Policy, EPA states that "The Agency will take affirmative steps to encourage and assist tribes in assuming regulatory and program management responsibilities for reservation lands." The statement under this principle identifies grants as a mechanism that EPA will use "….within the constraints of EPA's authority and resources..."

Section 301 (d) of the 1990 Clean Air Act Amendments provides federally recognized tribal governments the authority to implement Clean Air Act programs for their reservations and other land for which they can demonstrate jurisdiction. The Tribal Authority Rule (TAR) promulgated on February 12, 1998, further delineates the authority of tribes to implement air quality programs under the Act.

The EPA Office of Air and Radiation (OAR) supports tribes in ambient air monitoring activities. The funds that support the OAR Tribal Program are appropriated by Congress to assist tribes in developing and implementing air quality management programs. Funds under the State and Tribal Assistance Grants (STAG) appropriation are allocated among the Regional Offices, which are responsible for awarding grants to tribes and tribal consortia, where appropriate. With goals to protect public health, welfare and cultural values, the grants are used by tribes for activities such as: identifying specific air quality issues; deploying and operating monitoring stations for various pollutants; participating in the work of regional planning organizations; providing education and outreach to tribal leaders and community members; developing and adopting air quality regulations; and ensuring tribes are represented in regional and national policy developments and initiatives.

Since 1999, funding of tribal grants has remained relatively constant while EPA's outreach to tribes and the growing awareness of air quality issues among tribes has led to steadily increasing numbers of applications and grants being awarded. In FY 1995, the EPA Regional Offices awarded nine grants to tribes to conduct air quality work; by FY 2003, grants were awarded to 115 tribes.

EPA anticipates that requests by tribes for air grants will continue to increase, while the amount of funds available may not. Air quality is becoming more of a priority for many tribes as they become more aware of the potential impacts of airborne pollutants from local and distant sources, as air pollution transport issues become more evident, and as tribes participate on regional and national air quality initiatives. Tribes generally have a much better understanding of the need for and importance of air programs than they did only a few years ago.

[1] For the purposes of this document, the terms "tribe," "tribal", and "tribal government" refer to federally recognized Indian tribes that are acknowledged by the Secretary of the Interior to exist pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 U.S.C. Section 479a. See 67 Fed. Reg. 46328 (July 12, 2002). These terms also refer to tribal consortia, as appropriate, where tribal governments have authorized consortia to act on their behalf.

Tribes are diverse in their air quality problems, challenges, and capabilities. Because EPA Regional Offices understand individual tribal situations, effective decisions about funding and in-kind assistance are best made at the Regional Office level. EPA has taken the approach of delegating to the Regional Office level the roles of assisting tribes in identifying their goals and managing the available resources to help meet those goals. To date, Regional Offices and individual tribes have entered into many grants that have dedicated a significant portion of the available tribal air management resources to plan, establish, and operate ambient air monitoring stations in Indian country.

It is important that management policies ensure grant funds are used effectively and that there is sufficient regional flexibility to consider and weigh the unique circumstances of individual tribes. Since federal funds are not likely to increase in the near future, it will be important to ensure that the funds are distributed appropriately and are based on strategic goals. These goals must be articulated in clear and consistent grant criteria. The draft document titled: *Protecting Public Health and Air Quality Resources in Indian Country: A Plan for EPA/Tribal Partnerships 2008-2013* articulates these goals and should be used by the EPA Regions as a basis for formulating the grant criteria. This document will be referred to as the "*2008-13 Plan*" for the remainder of this document and will be finalized in 2008.

Concerns Expressed by the Tribes

Although this document addresses EPA goals, EPA has met with interested tribal professionals to prepare this strategic guidance on tribal air monitoring. These tribal air quality professionals have helped shape this document through their communication with EPA and the concerns they have expressed about the approaches EPA has taken.

One point of concern expressed by tribal professionals is the budget allocation for tribal air programs. As tribes become more aware of their air quality issues, and more tribes attempt to secure funds for monitoring activities, they also become aware of the limited funds available to support these activities. The tribes realize that they will be in competition with other tribes for these federal funds and have expressed negative feelings with this competitive approach. Many tribes do not have the time or the expertise to write "winning" proposals. Smaller tribes that may have legitimate monitoring needs tend to be at a disadvantage to larger tribes or tribes that have had past success. In addition, the tribes are aware that the EPA Regions use different approaches in their grant allocations, leading to concerns about consistency.

EPA believes that tribes would like to follow as many of the monitoring requirements as possible. Because they are often small organizations and resource limited, they cannot always afford to implement certain requirements or secure and keep the technical expertise they need. Tribes have hired and trained monitoring personnel only to see them hired at higher salaries by private, state, or local agencies. This turnover means that training is required at higher frequencies, but also that monitoring and or data reporting may be interrupted until replacements can be found. In addition, some requirements, like QA programs, require a level of independence that may be very difficult to meet by some tribal monitoring agencies. Tribes believe EPA needs to be sensitive to these issues and help to find workable solutions.

The data submission requirement to Air Quality System (AQS) has become an issue with some tribes. The tribes feel the current level of AQS support has not been sufficient to meet their needs and because data submission to AQS occurs so infrequently (every quarter at most); the tribal information technology (IT) person has a hard time maintaining his/her skills. Some tribes wanting to continue monitoring (using federal funds) may not want to submit data to AQS for various political or cultural reasons and now feel they are being forced to comply. These tribes may decide to discontinue monitoring or monitor using other funds to avoid submission requirements.

Tribal members participated in the development of the National Ambient Air Monitoring Strategy (NAAMS) and as of 2006, have had a representative on the National Ambient Air Steering Committee. Some tribal professionals feel the motivation to study human health issues (a tribal concern) is not addressed in the National Ambient Air Monitoring Strategy (NAAMS)[2]. The document does have many useful details that address tribal air monitoring.

The NAAMS highlights that the NCore strategy could benefit from including tribes. Tribes can provide additional monitoring sites, fill data gaps, and identify background conditions. These are the reasons why tribal air monitoring can help the entire NAAMS. Tribes feel an institution/organization with a nationally recognized leadership role in working with tribes on environmental issues, such as the Institute for Tribal Environmental Professionals (ITEP), should be identified to do the "representativeness" analysis for all tribes in certain regions of the U.S. Identifying those tribes that are not currently represented by the NCore network will help in providing the tribes with access to regional air monitoring data, so that they can determine the status of their air quality. This project also should be aimed at locating opportunities for filling tribal data gaps, as well as where air is pristine enough to provide data on background conditions. An example of how this could be performed is the data gathering work ITEP performed for the Western Regional Air Partnership (WRAP) in 2001. In this case, ITEP was able to gather data for 156 of the 237 federally recognized tribes in the WRAP region. This project identified several challenges and opportunities for tribal air quality programs in the Western U.S., and can be used as a template all over the U.S.

[2] http://www.epa.gov/ttn/amtic/monstratdoc.html

OVERVIEW

1. Who are the intended readers and users of this document?

The intended audiences for this document are EPA Regional Office and Headquarters staff involved in resource allocations, tribal air grant award and management, program evaluation, strategic planning of monitoring networks, technical support to monitoring programs, or using ambient air data collected from tribal monitoring programs. Higher-level EPA managers and staff with experience and responsibility in these topics have reviewed the document to ensure that it reflects EPA intentions and policies. Other EPA staff, especially new staff, should use this document as guidance in their own work related to tribal monitoring programs and in explaining those programs to others. State monitoring officials will find the document useful in improving their understanding of tribal goals and how EPA strives to help tribes meet their goals so they can collaborate more efficiently with tribes whenever collaboration serves state and tribal objectives.

In addition, tribal environmental professionals may also benefit from this document. It should be useful to those tribal professionals who want to apply for EPA funding support for ambient air monitoring, or whose tribes are already receiving funding, by helping them understand EPA practices and the reasons for them.

2. What are the purposes of this document?

The intended purpose of this guidance document is to help tribes and EPA Regions prioritize monitoring needs, determine an appropriate level of funding for ambient air monitoring[3] on tribal lands relative to other air management work, and ensure that the funds are used effectively on chosen projects. With support from OAR, the EPA Regions should:

1. provide a unified strategy for applying resources in support of tribes which allows them to form the vision for their program themselves;
2. serve as information resources for tribes as they determine their need for monitoring, prepare work plans and grant applications, as well as a one-stop resource for locating technical information[4];
3. ensure that tribal goals and measures of success for air monitoring are clearly stated and documented in grant agreements (or other suitable forms) before resources under EPA management are applied;
4. ensure that milestones and/or timetables are articulated within the grant;
5. track progress in meeting those goals and make adjustments when appropriate; and
6. recognize the need for flexibility to address the unique needs of individual tribes.

[3] For ease of use, ambient air monitoring will refer, in general, to any type of air monitoring and will include for example, criteria pollutant monitoring, IMPROVE, CASTNET, PAMS or toxics monitoring (NATTS or local scale)
[4] In July 2007, a Technical Guidance Document for the Development of Tribal Monitoring Programs was developed to provide the "one-stop" resource http://www.epa.gov/ttn/oarpg/t1pgm.html.

Consistency-

Another goal of this document is to provide a level of consistency between OAR and the EPA Regions in our expectations of tribal monitoring programs. Some of these expectations include:

- Monitoring - There is an expectation that ambient air monitoring will be implemented following the requirements developed for the specific data collection activity (i.e., monitoring for NAAQS or IMPROVE). There is an expectation that upon grant approval, monitoring and data reporting commences within an appropriate and agreed upon time period.
- Efficiency - There is an expectation that the most efficient methods for meeting a particular monitoring objective will be implemented. There have been circumstances where tribes and states have worked together to achieve objectives of mutual benefit and resource savings. The potential for teaming and cooperation should be encouraged in the planning process.
- Quality Assurance- Regardless of the type of monitoring, appropriate quality systems will be developed for any monitoring program prior to commencement of routine monitoring. In particular, any monitoring for NAAQS comparison must meet 40 CFR Part 58 Appendix A requirements. OAQPS has developed a graded approach[5] and software to help tribes develop these documents. This approach provides the EPA Regions flexibility during review and approval of the required quality assurance documentation.
- Data - There is an expectation that monitoring results will be reported to the Air Quality System (AQS) or the appropriate national data base with very few exceptions. Data should be reported, at a minimum, within nine months of the start of routine monitoring implementation and then at agreed upon timeframes (i.e., quarterly).
- Monitoring Completion - There must be some expectation agreed upon by the tribes and EPA Region as to the length of the monitoring program. This length needs to be based on the objective of the monitoring activity and subsequent data evaluation, but should be articulated in the grant workplan or program documentation so false expectations on commitments to long-term monitoring are eliminated. Any tribal monitoring should be assessed at least every five years and a written determination made either to continue or discontinue funding the activity.
- Technical Support- Some tribes will need more technical help than others in developing monitoring programs. In addition, some EPA Regions have different technical capabilities. Good communication must be established to understand what technical needs a tribe has, prior to approving a monitoring program, and to determine ways to meets these needs in order to ensure monitoring program success.

This guidance document is rather general in nature, reflecting the need to accommodate the diversity of tribal situations. Even though EPA should not and does not have a national strategy for what types of monitoring should be conducted by specific tribes, EPA can and does have a national strategy (or approach) for administering resources that it directs to supporting tribal monitoring. EPA's budget for supporting tribal air quality management work of all types is not large enough to allow approval of all requests from tribes for funds for monitoring programs. As

[5] Graded Approach to Quality Assurance http://www.epa.gov/ttn/amtic/geninfo.html

a result, EPA makes decisions about what tribal work to fund. While these decisions are made at the Regional Office level and are not guided by a specific national strategy, there are general guiding principles that the Regional Offices follow.

3. What are the guiding principles for working with the tribes on air monitoring?

The purpose of listing these guiding principles is to promote understanding and observance of the principles by EPA staff and to help tribes anticipate and understand the basis for future EPA actions. Most of these principles flow from the Clean Air Act, the EPA Indian Policy, the Tribal Authority Rule, and other existing EPA rules and policies such as budget, quality assurance and ambient monitoring. EPA Regional Offices may have their own guidelines or grant criteria. In the course of developing this guidance document, Regional Offices have ensured their guidelines and criteria do not conflict with the principles stated here. EPA's guiding principles include the following:

(1) EPA has a responsibility to relate to each tribe on a government-to-government basis and has a trust responsibility to act in the tribe's best interest. The federal Indian trust responsibility is a legally enforceable fiduciary obligation, on the part of the United States, to protect tribal lands, assets, resources, and treaty rights, as well as a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native Tribes. To the extent possible, EPA should also take into account the tribe's preferences. EPA is obligated to consult with tribes at an appropriate level. Input from tribal environmental professionals was obtained starting at an early point in the development of this guidance/strategy. However, EPA's consultation responsibilities may require continued discussions between tribal leaders and appropriate EPA staff or management.

(2) Tribes set their own air quality goals. As sovereign nations, tribes can set air quality standards below the level of the NAAQS. EPA strives to assist tribes in setting air quality goals and in determining how monitoring can help clarify and/or accomplish those goals.

(3) Monitoring supported by EPA grant funds should always be for the identified purpose of characterizing and/or managing specific known or suspected short-term and/or long-term risks to environmental values that depend on maintaining or restoring good air quality, including:

a. Human health risks
b. Ecological risks
c. Cultural resources and values, including those related to visibility.

(4) EPA and each tribe receiving funding to conduct monitoring should reach a clear understanding, before operations commence, of the duration of the funding or the timing and process for future decisions regarding continuation of the funding. There needs to be periodic re-evaluation of the need for and value of ongoing monitoring, for example on a three-to-five year cycle.

(5) EPA supports tribal capacity building. Contractor support may be necessary and appropriate in some situations, but generally is not the preferred approach to carrying out monitoring. In the area of ambient monitoring, capability includes development of monitoring objectives, development/execution of quality assurance plans, installation and operation of the monitors, information management and reporting to AQS, and understanding the implications and uses of the observed ambient concentrations for appropriate air quality management purposes. EPA should seek to provide tribes sufficient support and opportunity to progress through these stages.

(6) EPA has limited resources in its enacted budget to help pay for tribal air quality management in general. EPA is, therefore, unable to support all monitoring in Indian country that may have value to the affected tribes.

(7) There needs to be consistency, equitability and flexibility to address unusual or unexpected tribe-specific situations.

(8) Decisions affecting specific tribes should be made at a level where individual situations can be appreciated.

(9) Where technically relevant, EPA should encourage all parties to take advantage of all available data on ambient air quality. Non-tribal monitors may provide useful information on air quality in and around tribal lands.

(10) Tribes should have equal opportunity to participate in programs that are not inherently tied to state/tribe distinctions. They also should benefit from resources used to support those programs, where such access is consistent with program goals.[6]

(11) Grant procedures and grant performance must comply with applicable laws and regulations.

(12) EPA will work with tribes to ensure that there is timely EPA and public access to data collected with federal funds. EPA will need to explain the significance and need for this access to tribes generally and to each grant recipient. EPA should help tribes understand the significance of their data so they are aware of the data and its implications.

(13) This EPA guidance does not limit any tribe's right to monitor for whatever air pollutants it chooses in its own portion of Indian country, but rather addresses how EPA will make decisions on what to fund and support within its available resources.

[6] For example, EPA's CASTNET monitoring program is intended to monitor acid deposition across broad areas for the purposes of national objectives. CASTNET is funded separately from the state and tribal air grant (STAG) funds. Some CASTNET sites are currently located in Indian country. As strategically appropriate new sites are contemplated , tribal lands should be considered equally with state and federal lands.

4. Does this guidance supersede or change any previous guidance or procedures?

This guidance document is not intended to modify any existing EPA policies on tribal air quality management, nor is it intended to set goals or timetables for the tribes. General tribal grant requirements are published at 40 CFR Parts 31 and 35. Nothing in this document is intended to supersede any part of the applicable regulations. This guidance document provides information on applying resources in support of tribes as it relates to the *2008-13 Plan*, but it allows individual tribes to form their own vision for their ambient monitoring programs.

IMPORTANCE OF AIR MONITORING PROGRAMS AND EPA-TRIBE RELATIONSHIPS

5. Why is having an ambient monitoring program important?

Tribes are concerned about the health and welfare of their tribal members and the environment and on those activities of cultural significance. For these reasons, they may need to conduct ambient air monitoring for a variety of reasons: (1) attainment with health and welfare-based National Ambient Air Quality Standards (NAAQS); (2) impairment of visibility and biological diversity for vistas within or near reservations; (3) supporting designations as a Federal Class I area; (4) measurement of toxic air pollutants for health and ecological effects; (5) collection of near-real time data for reporting Air Quality Index (AQI), to the tribal community, and to EPA's AIRNOW real-time mapping program; (6) monitoring air quality relative to tribal environmental and cultural resource concerns; (7) participation in a regional/state monitoring network; and (8) determining air quality background levels and establishing air quality baselines. Appropriate regulatory decisions or voluntary measures can be pursued from these monitoring activities to restore air quality as needed. In addition, tribal participation in ambient air monitoring may also serve to increase the tribal community's awareness of the health risks of indoor air and its association with asthma and respiratory disease.

This spectrum of air quality issues is frequently shared with states, since pollutant transport and meteorological systems ignore political boundaries. Tribes have a need to understand the short- and long-term effects of long distance transport on tribal lands and the effects of atmospheric deposition on the ecology of their lands. Tribes also need air monitoring data to identify the role of off-reservation sources and to build support for controlling those sources. Examples of programs for tribal participation include IMPROVE, CASTNET, NADP, MDN, ozone, $PM_{2.5}$, precursor gas (CO, NOx and SO_2) and toxic air quality monitoring. Any measurement contribution from tribal monitoring efforts may be viewed as an asset to a larger integrated national need for air quality measurements. Similarly, tribes should perceive some level of ownership of air quality data collected on non-tribal lands that has relevance to tribal air quality issues.

6. What facilities, staff capabilities, and other resources (apart from funding) does a tribe have to possess to make ambient air monitoring a realistic possibility?

Staffing-

A recent document titled: *Technical Guidance for the Development of Tribal Air Monitoring Programs*[7] has been developed to provide the tribes with information necessary to plan and implement an air monitoring program. One section of the document provides a discussion on the technical staffing necessary to implement an air monitoring program. There are a number of important functions, depending on the type of monitoring accomplished, that tribes must be able to accomplish or have funds to accomplish. Table 1 identifies these functions and provides some of the key activities within the functional category. Not all functions are needed for long periods of time. The tribe may feel that it can contract some of the functions that are needed. For example, the tribe may wish to contract the information technology (IT) function to have the monitoring instruments connected to a data logging system that would transfer data to a local data base and eventually to an external data base like AQS. This part of the process might be considered a "one-time" event needing a particular expertise and may not require a full time person. However, someone within the tribe must have the ability to understand this IT function to ensure data collection is operating properly on a day-to-day basis. Regardless of whether the tribe possesses the expertise in-house, or will contract for these functions, resources are needed and should be identified in grant documentation to cover the activities in Table 1.

Table 1 Monitoring Functions that Need Some Level of Staffing or Expertise

Function	Activities
Procurement	- Purchasing capital equipment and consumables - Developing contracts and maintenance agreements - Applying for EPA grants
Technical	- Setting up a monitoring site, electricity, communications - Developing standard operating procedures - Selecting and installing monitoring equipment - Calibrating equipment, performing quality control - Shelter and equipment maintenance
Data Analysis (Statistical)	- Understanding population and measurement uncertainty - Developing sampling designs - Developing networks to achieve objectives - Assessing/interpreting data (data quality assessments)
Quality Assurance	- Developing quality systems, QMPs/QAPPs - Developing data quality objectives - Implementing technical systems audits, performance evaluations - Validating data - QA reporting
Information Technology	- Selecting information technology (data loggers and local data base) - Developing analyzer outputs to data loggers and data transfer to local data base - Transfering data from local data base to external data repositories (AQS, etc.)

[7] http://www.epa.gov/air/tribal/airprogs.html

Facilities-

Depending on the particular pollutants being measured and the type of instruments used to make these measurements or collect a sample, a facility should be available that is capable of calibrating instruments, performing repairs, storing spare parts/equipment, shipping and archiving samples (e.g., cold storage). The facility should be capable of housing the information management system including backing-up and archiving electronic data securely. A question that may be posed is "does the tribe have a facility which can provide instrument repairs such that a minimum amount of data loss (1 month) would be expected if an instrument (analyzer/sampler) went down?" A tribe may not have the facilities or capabilities to perform calibrations, maintenance, or repairs. If this is the case, then the grant documentation should describe how these activities will be accomplished with a minimum loss of data and the resources that will be allocated to this activity.

7. Does EPA support the full cost of a tribe's monitoring program? How does the degree of funding for tribes compare to that for state/local agencies?

During the development stages of a tribe's monitoring program, EPA may support the full cost of monitoring through the use of CAA §103 state and tribal assistance grant (STAG) funds. Section 103 grants are for air program planning and short-term projects and have the advantage of not requiring the tribe to match any of the federal funds. Since many tribal monitoring programs may be using data to compare to National Ambient Air Quality Standards (NAAQS) -- which may take 1 year to plan, 1-3 years for data collection, and a year for information management, data reduction and assessment -- use of §103 funds may be 3-5 years for any specific monitoring project.

If the tribe wants to continue monitoring after the initial monitoring period, they may seek CAA §105 funds for the monitoring program [8] or continue to apply for §103 funds. There is no guarantee the §103 funds will be available for a particular tribe to continue monitoring past the initial funding period.

Although there can never be a guarantee of §105 funding, §105 fund recipients have a greater chance of receiving ongoing funding and cannot have their grant reduced without an opportunity for a hearing. The disadvantage is that the tribes must provide some matching funds for monitoring. The match cannot be made up from other federal government funds. Information on tribal match requirements can be found in 40CFR § 35.575 or 40CFR § 49.4{q} http://www.gpoaccess.gov/cfr/index.html. In addition, the tribes should know that they are eligible only for the specific tribal §105 funds, and may not compete for the §105 funds allocated for state and local monitoring organizations.

Degree of Funding

40 CFR Part 49.4 makes it clear that the §105 grant federal maximum contribution of three-fifths (60%) for state and local monitoring agencies does not apply to all tribes. There are differences

[8] Ambient air monitoring is just one of many §105 activities.

in the maximum federal financial assistance that can be provided depending on whether the tribe has demonstrated eligibility to be treated as a state under 40 CFR Part 49.6.

Demonstrated Eligibility to be Treated as a State -

As described in 40CFR Part 35.575, for tribes that receive funds under §105 and that have demonstrated eligibility to be treated as a state under 40 CFR Part 49.6 "the Regional Administrator may provide financial assistance up to 95% of the approved costs of planning, developing, establishing or improving an air pollution control program, and up to 95% of the approved costs of maintaining the program." After two years, the Regional Administrator can reduce the maximum federal share to 90% if it is felt, based on objective assessment, that the tribe has the ability to increase its share.

Not Demonstrated Eligibility to be Treated as a State -

If the tribe has not demonstrated eligibility under 40 CFR Part 49.6, the Regional Administrator may provide financial assistance under §105 in an amount up to 60% for planning and maintaining a monitoring program.

In general, since many tribes are small, run small monitoring programs, and may be operating with limited resources, the federal contribution tends to be larger than those for state and local monitoring agencies that have been operating for a significant period of time. However, the amount of federal financial assistance granted to each tribe will reduce the overall amount of tribal assistance within the Region. Decisions will need to be made to either fund fewer programs with a higher percentage of federal funds or fund more projects but allocate fewer federal funds to each.

8. What are the differences between EPA's relationships with states regarding monitoring and EPA's relationships to tribes regarding monitoring?

In most cases, EPA's relationship to tribes and states are similar with regard to air monitoring. When tribes are implementing ambient air monitoring for specific objectives, such as comparison to the NAAQS, then 40 CFR 58 requirements for network and siting criteria, method use (federal reference or equivalent methods), and QA requirements must be followed. When tribes are cooperating or participating in national programs such as IMPROVE, there is an expectation that the implementation requirements of these programs will be met. Therefore, when tribes participate in national monitoring programs their relationship with EPA is similar to the state relationship. EPA does provide some allowances and flexibility in regards to timelines, data submission and the techniques to achieve the monitoring requirements. As an example, EPA is working with the tribes on a strategy to submit data to AQS. This strategy may allow for more time to submit data to AQS than is required by state and local monitoring organizations.

Tribes implementing special purpose monitoring for other objectives not national in scope will not need to meet CFR requirements. However, if the monitoring is funded by EPA, the tribe will need to develop an appropriate quality assurance project plan (QAPP) and quality management plan (QMP) which will describe the appropriate siting, methods and quality assurance activities

needed to achieve the objective. EPA Regions can work with the tribes to ensure the usability of this information and may suggest that it conform to as many of the ambient air monitoring requirements as applicable without being cost-prohibitive. This will allow the data to be used for multiple purposes.

9. Can tribes participate in NATTS, local scale air toxics, IMPROVE, CASTNET, NADP, and/or NCore monitoring programs?

Yes, tribes have the opportunity to participate in any national monitoring program provided that the tribes are providing the funds for that activity. EPA will not obligate or even strongly encourage a tribe to conduct any particular monitoring that would be mostly helpful in meeting national objectives unless EPA is providing extra resources beyond those originally designated in its budget for support of tribal air quality management. The following is a summary of what the NAAMS provides with regard to monitoring:

> Tribal nations generally are seeking to expand ambient air monitoring efforts, and it is generally recognized that there is a substantial need for tribal air monitoring support. Nothing in the NAAMS imposes requirements regarding tribal monitoring or mandates linkages of tribal air monitoring with national networks.
>
> Tribal participation in national monitoring networks can benefit all parties as opportunities exist for tribes to operate NCore multi-pollutant sites, particularly in rural areas where there remain significant spatial gaps in monitoring. There are many rural tribal airsheds that could be considered pristine and, therefore, excellent candidates for background monitoring sites, potentially filling in important gaps in the nation's network. Tribes will be given fair consideration for hosting sites of national interest, and for receiving associated funding. In making determinations on sites for rural monitors, EPA is committed to considering Indian country on an equal basis, such as for CASTNET or a possible new mercury deposition network. It is also possible that some NCore multi-pollutant rural stations might best be sited in Indian country.

These comments are not intended to suggest that the tribal monitoring priority is, or should be, to foster a connection to national networks. Most of the tribal monitoring priorities involve developing a better characterization of local exposure to air pollutants, and utilize funding separate from funds that would be used to host national network sites. The linkage to national programs should be perceived as leveraging opportunities that simultaneously benefit tribes and the state/national networks. As an example, tribes in Maine have worked with the Maine Department of Environmental Protection and EPA Region 1 to develop a cooperative air monitoring network that shares important resources (shared QA and data management support) and serves the needs of these monitoring agencies.

10. Does EPA set overall goals for its support to ambient air monitoring by tribes? How does EPA evaluate success in meeting those goals?

Yes, as described in the *2008-13 Plan,* OAR has developed a broad set of 5 goals:

1. Provide financial and technical support to tribes, with assistance from the EPA Regions, to assess air quality (and potential health concerns) within its jurisdiction.
2. Build tribal capacity to implement air quality programs.
3. Support a wide variety of training activities, outreach and detailed technical support.
4. Ensure that the appropriate mechanisms and tools exist to address regulatory and non-regulatory program needs in Indian country.
5. Develop and implement the use of voluntary programs to address the specific needs of tribes in areas such as indoor air quality outreach, mobile source emissions and exposure to ultraviolet (UV) radiation.

Goal two and four provide support for ambient air monitoring, but within the context of the goals, the tribes decide what ambient air monitoring is needed. As mentioned earlier, resources may not be adequate to cover all requests from the tribes for air monitoring. In order to ensure that EPA is targeting its funding to ensure the greatest possible health and environmental benefits, funding decisions should address one or both of the following overriding factors:

1. **Significant Air Quality-Related Health Concerns:** A tribe has, or is believed to have, a significant air pollution problem that has an adverse impact on human health. An air pollution problem would include, but not be limited to: a reservation or a portion of a reservation being designated nonattainment; air toxics issues; atmospheric deposition/bioaccumulation issues; and indoor air quality concerns (except radon). On-reservation population size (tribal and non-tribal) may be considered as part of this factor.

2. **Significant Air Quality - Related Environmental and Cultural Resource Concerns:** A tribe has reasonable concerns that air pollution is having an adverse impact on cultural resources or the environment within its jurisdiction. Issues such as visibility concerns and modeled or monitored Class I increment violations under the Prevention of Significant Deterioration regulation would be addressed here. On-reservation population size (tribal and non-tribal) may be considered as part of this factor.

<u>Evaluating Success</u>

EPA is very aware of the importance of being able to document that the success of the tribal assistance portion of the Air Program. EPA can evaluate the success of ambient air monitoring efforts by:

- allowing the tribes to set their own ambient air monitoring goals;
- ensuring that the individual grants have goals that are well articulated, and provide measurable outcomes and environmental results; and
- selecting the most appropriate grants to fund (these then become EPA goals).

One of the keys to measuring success is being able to supply management and interested parties with information about tribal monitoring programs, how the monitoring program's information is being used, and the key assessments that demonstrate success. OAR is collaborating with the EPA Regions to develop a tribal database that will accommodate these important pieces of information. This database is expected to be operating and collecting data in 2008. Some of the information in this database will be derived from "pulling" information from other databases and some will be input directly from the EPA Regions. Tribes will not be required to maintain or physically input data directly to this system.

11. How does EPA ensure that funds given to a specific tribe for ambient monitoring are used efficiently?

As described in the document: *The Tribal Air Grants Framework- A Menu of Options,* [9]one way to ensure that funds provided to the tribes are used efficiently is to ensure that proposals submitted for federal funds have:

1. One or more **objective(s);**
2. **activities** that support the achievement of the **objective(s);**
3. **outcomes** or **deliverables** that will produce **environmental results** within the **objective(s);** and
4. **performance measures and milestones** that help to measure progress in achieving the environmental results.

Federal funds should be allocated to those projects that clearly address the highlighted items above. In November 2007, EPA produced a document titled: *Technical Guidance for the Development of Tribal Air Monitoring Programs*[10]. This document provides materials for the tribes to determine the need for monitoring and the basic technical requirements to consider for planning and implementing a monitoring activity. In addition, the document provides guidance on how to write workplans/proposals that articulate the items highlighted above.

With regards to whether funds are being used efficiently, the EPA Regions will need to balance their response between achieving the monitoring objectives and the goal of capacity building. With these aspects in mind, EPA Regions should review the workplan with an eye to whether the objectives are being accomplished efficiently from the standpoint of:

Technology – Will the objectives best be met with the chosen technology or can the objective be met just as well with something less costly or over shorter periods of time?
Collaboration/Cooperation – Could the tribe partner with other entities that can help meet the objectives?
Infrastructure- Is the tribe requesting funds for infrastructure that may not be the most efficient use of funds for this particular project?

[9] Available on OAR website http://www.epa.gov/air/tribal/grants.html
[10] http://www.epa.gov/air/tribal/airprogs.html

As an example, a tribe may propose a short term $PM_{2.5}$ monitoring program (initial objective to assess if the tribe has $PM_{2.5}$ problems it should be aware of) for which the tribe requests funds that includes development of a $PM_{2.5}$ filter weighing laboratory. It may be more efficient from the initial assessment aspect of the project to procure laboratory services rather than purchase laboratory equipment, develop a lab with adequate filter weighing conditions, and hire/train personnel to weigh filters. However if the tribe's initial assessment found that $PM_{2.5}$ is an issue and there was a commitment to long-term monitoring, then a laboratory may be considered feasible and an efficient use of funds.

During the communication process with the tribes on funding ambient air monitoring projects, there should be a discussion of project completion. The proposal should relate completion to the achievement of stated objectives or environmental results. If a tribal ambient air monitoring project meets the objective for which it was funded, EPA should declare success in order to enable the funding of other priority projects within the tribal community. Discussing the issue of project start and completion with tribes up front will acknowledge the importance of meeting the objectives and provide the tribes lead time to either find other sources of funds or apply for additional funds that may further the objective or improve the environmental results.

It is important that tribes identify the performance measure/milestones that will allow the tracking of progress and that these are described in the grant agreements so that both the tribes and EPA know what they are, are in agreement, and can work cooperatively towards a successful project or product. These measures and milestones should be set such that they can be reviewed at some appropriate frequency (e.g., quarterly) so that if problems are occurring, they can be discovered and resolved quickly. Documenting the goals that are achieved will communicate the success of these monitoring programs and help garner support for more resources in the future.

By establishing a good communication process with the tribes and having well documented goals and performance measures, EPA can avoid situations where projects falter or do not meet performance measure and milestones. If a project is not meeting expectations, it should not come as a late surprise to the tribes or EPA. Depending on the outcome of discussions, it may be necessary to discontinue funding a project until the best method to get the project back on track can be determined.

<u>Encouraging Collaboration/Cooperation</u>

Because resources to fund important environmental projects are becoming increasingly scarce, collaboration among tribal and non-tribal organizations can provide solutions to the benefit of all. EPA Regions can help foster this collaboration. Examples of successful collaborations include:

- The Nez Perce Tribe, Region 10, and Idaho Department of Environmental Protection have successfully collaborated on the development of a smoke management plan.
- The Salt River Pima-Maricopa and Gila River Indian Communities, Fort McDowell Yavapi Nation, Maricopa County, Institute for Tribal Environmental Professionals, Arizona Department of Environmental Quality, Arizona Department of Transportation, and the EPA (Region 10 and OAQPS) have collaborated on the Joint Air Toxics

Assessment Project. The parties have partnered to develop a monitoring site for a Differential Optical Absorption Spectroscopy (DOAS) instrument that is currently collecting and reporting "real-time" toxics data.

- Several tribes in the Northeast operate ozone and PM2.5 air monitoring sites in areas that the states are less able to monitor. The Wampanoag Tribe of Gay Head at Aquinnah, MA (Martha's Vineyard) operates an air monitoring program consisting of an ozone monitor, an IMPROVE sampler and a meteorological station in partnership with the Massachusetts Department of Environmental Protection. The state provides quality assurance audits, data entry into AQS, and technical support for the ozone monitoring and the Tribe operates and maintains the site. EPA provided the air monitoring equipment and data logger through the Tribal Air Grant Program.
- The Nez Perce, Yakama Nation, Umatilla and Warm Springs Tribes are involved in a cooperative effort to look at air impacts in the Columbia River Gorge Scenic Area where all four tribes have treaty fishing rights.

These are but a few examples of the cooperative/collaborative efforts occurring throughout the EPA Regions. The EPA Regions should document these successes and use them as examples as ways of extending limited monitoring resources and working in an efficient manner.

12. How much time does EPA allow a tribe with a new grant for ambient monitoring to be operating its new monitors, have a QAPP in place, and reporting data to AQS?

In general, a tribe will need about one year from the award of a grant to prepare for a new monitoring activity. It is important to recognize the work involved in developing a new monitoring capability. The tribe will typically be required to:

- identify and purchase the appropriate equipment and consumables;
- select and build/procure site(s) including outfitting electrical and communications services;
- develop information management systems including local systems and communication to national data bases;
- seek the necessary expertise and/or the necessary training to implement monitoring; and
- develop QA documentation (QMPs/QAPPs/SOPs).

The document *Technical Guidance for the Development of Tribal Air Monitoring Programs* provides more detail on activities and personnel necessary to develop and implement a monitoring site or network and should be used to assist the tribes in making good monitoring decisions. EPA Regions should encourage collaboration with successful monitoring organizations to help in the selection of equipment and information technology. Tribes should also be aware of the training opportunities offered by EPA Headquarters, the EPA Regions, ITEP, TAMS, RPOs, state monitoring organizations and various national organizations.

It is an EPA requirement to have a QAPP in place and approved before an environmental data operation begins (see Question 14).

MONITORING REQUIREMENTS AND DATA REPORTING

13. Why is it important for tribal data to be reported to AQS? Are there other alternatives that are acceptable to EPA, if preferred by a tribe?

While recognizing the sensitivity of tribes to the use of their data, OAR expects tribal grants to include a grant condition for quality-assured monitoring data to be submitted on a timely basis to the Air Quality System (AQS) or other relevant databases (e.g., AQS is not able to receive the data directly from the CASTNET or IMPROVE networks at this time). EPA also encourages tribal participation in AirNow, but this does not need to be a condition required in the grant unless this is one of the primary reasons for monitoring. The following are some advantages to submitting data to AQS:

- Builds tribal capacity and familiarity with EPA staff and systems.
- Demonstrates that tribes are active in environmental issues.
- Brings tribal participation to national awareness when tribal data is used in NAAQS decisions, trends evaluations or the Air Quality Index.
- Makes data available to EPA tribal staff that must assess grant performance and plan future directions.
- Provides automated range checking, data quality assessments and ensures all calculations are accomplished as required in EPA regulations; reducing the programming burden on the tribal offices.
- Ensures data meet an acceptable level of quality and comparability which helps in data sharing and building partnerships.
- Can become the final data repository and data archive.
  - AQS data are secure and can be recovered
  - Can be retrieved in different formats
- AQS system is available at no cost
- AQS provides:
  - Data base and reporting enhancements. Recent enhancements to AQS eliminated tribal concerns regarding use of state codes to enter tribal data;
  - training; and
  - support team for assistance through help desks and conference calls.
- Takes advantage of other sophisticated Web tools like AirNow and Air Explorer and the numerous reports available.

Although AQS reporting is a “front-end” investment in time for the tribes, the pay-off is the wealth of statistical data evaluation and mapping tools that become available to the user once their data are in the AQS system.

Some tribes performing air monitoring have not submitted data to AQS. OAR has worked with ITEP to develop a strategy to increase the number of tribes reporting data to AQS. EPA Regions will need to communicate to the tribes on the approaches in this strategy. However, the first approach will be to ensure that grant conditions require the submission of data to AQS for relevant tribal air monitoring programs.

There does not appear to be any acceptable alternative to tribal submissions to AQS that would not increase the burden on EPA Regions or OAR staff to support such an alternative system. Prior to AQS re-engineering, when the system was mainframe based, a monitor type "9" was used to secure certain monitoring data from access to the general public. During the re-engineering process, OAR determined that this process should be discontinued. Tribal concerns related to data submission frequently stem from other entities having access to the raw data and making assessments that could be detrimental to tribal issues. Any alternative system that would provide data to EPA (e.g., to the EPA Regions) would still be accessible by the public through the Freedom of Information Act and so would not ameliorate this concern. EPA "regional" tribal databases would make it difficult to perform national assessments particularly when and if NAAQS attainment decisions need to be made, in addition to the fact that one cannot take advantage of many of the new web applications available to information supplied to AQS.

14. Why is it important that tribes adopt and follow a quality assurance project plan and quality management plan (QAPP/QMP)?

EPA QA Policy 5360.1[14] requires that all organizations funded by EPA for environmental data collection develop QMPs and QAPPs before collecting data. In addition, monitors in Indian country must be properly sited, use adequate technology, and follow prescribed QA procedures in 40 CFR Part 58 Appendix A (including reporting quality data to AQS) if a tribe wants to use data from the monitor to compare to the NAAQS. Independent of the requirement, these QA documents are important because they:

- identify the reasons for collecting data and for collecting it in a specific way;
- document how the data are collected and how quality is maintained;
- ensure data will be collected in the same way
  - from day to day; and
  - from one person to the next.

Tribes should approach the development of QAPPs and standard operating procedures (SOPs) as an investment. Tribal monitoring programs are known to have high personnel turnover rates which can cause monitoring program delays and downtime until new personnel are hired and trained. The QAPPs and SOPs, if written properly, serve to preserve the institutional technical knowledge of the tribes monitoring approach and can be used as a training tool. This alone is reason to ensure these documents are in place. In the past, EPA has been able to use QAPPs and SOPs to defend an agency's data; without them, data may be considered suspect.

Guidance for the development of these QA documents can be found on the EPA Quality Staff's website[11]. In addition, EPA has provided flexibility to EPA organizations on how they implement this policy, allowing for use of a graded approach. Because EPA funds the collection and use of data for a number of monitoring objectives and for organizations with a broad range of capabilities, flexibility in the QMP and QAPP requirements is necessary. For example, data collection for the purpose of comparison to the NAAQS is associated with more stringent requirements, while monitoring programs for special purposes may not require the same level of

[11] http://www.epa.gov/quality1/

quality assurance. The level of detail of QMPs and QAPPs, as explained in the EPA Quality Manual, "should be based on a common sense, graded approach that establishes the QA and QC requirements commensurate with the importance of the work, available resources, and the unique needs of the organization." The ambient air program has developed a graded approach that will help the tribes develop both QMPs and QAPPs. In April 2007, the ambient air monitoring graded approach[12] was distributed to the Regional Tribal Air Coordinators and the Regional Ambient Air Contacts.

QA requirements and/or guidance have been developed for most of the major national monitoring programs. Many programs such as the $PM_{2.5}$ Chemical Speciation Network and the National Toxics Trends Network (NATTS) have developed program QAPPs that should be adopted by the monitoring organization by providing written confirmation to the EPA Regions.

There is also an opportunity for tribes and states to consolidate monitoring sites into one primary quality assurance organization (PQAO). Region 1 has adopted this approach where tribes and the state monitoring organizations have consolidated to one PQAO[13]. This will allow tribes to adopt one QAPP and set of SOPs. There must be written confirmation of this activity on file in the EPA Regional Office identifying all monitoring sites and organizations for which the QAPP/SOPs apply, and each tribe should have these documents available at its offices.

OAR has worked with ITEP to develop a generic ambient air monitoring QAPP software product called Turbo-QAPP. Turbo-QAPP mimics the functions of "tax software" to lead tribal monitoring personnel through the development of their project specific ambient air monitoring QAPPs. Turbo-QAPP should help tribes by providing most ambient air monitoring guidance for the criteria pollutants within a click of a mouse. For information on Turbo-QAPP, contact ITEP http://www4.nau.edu/itep/index.asp.

Once the tribe has finished writing the QAPP, it is submitted to the Regional Office for approval. QAPPs should be written and approved before any "official" data is collected. The QAPP provides EPA some assurance that the monitoring organization has performed adequate planning to control and assess the quality of its data before funds are spent on data of questionable quality. In many cases, EPA provides funding for the tribal monitoring organization to purchase the necessary equipment and consumables to start a monitoring project, as well as time to become familiar with the instruments in order to develop an adequate QAPP.

15. How does EPA help tribal monitoring programs satisfy the 40 CFR Part 58 Appendix A requirement to have adequate and independent performance evaluation audits (NPAP and PEP)?

Most of the QA requirements in 40 CFR Part 58 Appendix A are performed by the monitoring organization. These checks are very important and should be submitted to AQS along with routine data. Requirements like the National Performance Audit Program (NPAP) and the $PM_{2.5}$ Performance Evaluation Program (PEP), although they are the responsibility of the monitoring

[12] http://www.epa.gov/ttn/amtic/geninfo.html
[13] See OAR Tribal Newsletter November, 2007 edition http://www.epa.gov/air/tribal/tribalnws.html

organizations, are being performed, in most cases, through federally implemented programs using STAG funds.

The Appendix A requirements are specific to data that are collected for comparison to the NAAQS. Tribes monitoring for NAAQS comparison purposes must follow these requirements including participation in the NPAP and PEP programs. This should be acknowledged during grant negotiations. Tribes monitoring for other purposes are encouraged to participate in these two programs, as well as the other QA requirements in Appendix A, but it is not a requirement.

The tribes, similar to all state and local monitoring organizations, have the option of implementing the program themselves (through a number of options including contracting) or utilizing the federally implemented program with an appropriate redirection of STAG funds to EPA to support the audits. Tribes will need to meet specific criteria for adequacy and independence before being able to self-implement the audit programs. In addition, there are some cases where a Regional Office or a state may be able to perform these audits for the cost of consumable supplies. EPA Regions 1 and 7 provide all or some portion of the audits for monitoring organizations in its region.

Tribes requiring the audits or wishing to participate in them need to make this decision each year. In April 2007, OAR developed a whitepaper[14] that explained the options available to the tribes. This document should be a used as a "communication" starting point to provide an understanding of the programs and the specific options available for implementation. A form, included in the whitepaper, can be used during the grant application process to collect the information needed to address implementation decisions each year.

STATUS OF MONITORING NETWORKS

16. How many tribes are monitoring their air quality using funds from EPA? Are the data from this monitoring available to others?

The OAR Tribal Program has accomplished significant gains in the short number of years since its inception in 1996. As of 2007, 120 tribes received grant support and some of these tribes are operating the 150 air quality monitors in Indian country. Tribes have continued to progress from assessments to program development and 26 tribes have received eligibility determinations of CAA authority under the Tribal Authority Rule. These more experienced tribes are beginning to complete Tribal Implementation Plans for submission and approval– two have been submitted to date and several more are in development. Tribes have also expressed interest in PSD redesignations to reclassify their airsheds for optimum protection against deterioration, and to date, nine tribes have redesignated their airsheds to Class 1 under PSD. Over 100 tribes participate in Regional Haze planning organizations, and the Western Regional Air Partnership is currently co-chaired by Councilman Lloyd Irvine, of the Confederated Salish and Kootenai Tribes. We expect this trend to continue, and the Tribal Operations Committee is reflecting this increasing interest in air programs in Indian country. EPA continues to strive to support the ongoing needs in this growing program.

[14] Options Available for Tribes to Meet Independent Performance Evaluation Requirements for the Ambient Air Monitoring Programs Collecting Data for Comparison to the NAAQS http://www.epa.gov/air/tribal/announce.html

Over the past several years, 96 tribes have implemented air monitoring programs using tribal air grants provided by EPA (84 tribes were collecting ambient air data as of July 2007). As expected, most of the data collection activity is located in the Indian country west of the Mississippi River where about 80 percent of the monitoring sites are located, primarily in EPA Regions 6, 8, 9 and 10. To date, approximately 80 percent of the tribes with monitoring programs have reported their data to AQS or other national data bases (IMPROVE, CASTNET) and about half of those tribes submitted their data themselves while the other half relied on some type of assistance from another tribe, an EPA Regional Office, a state agency or a contractor. Of the six criteria pollutants, data are being collected primarily for ozone, PM_{10}, and $PM_{2.5}$.

17. How does EPA help a tribe understand its air quality in the absence of a monitoring program?

In the absence of monitoring on tribal lands, EPA assists the tribes by providing access to important data evaluation tools and data sources. OAR has recently completed revision on a document titled: *Technical Guidance for the Development of Tribal Air Monitoring Programs*[15], which was developed to help tribes gain a better understanding of the ambient air monitoring process and to provide information on resources and tools to build and sustain air environmental monitoring programs. A section of the document provides information on various web-based tools for air quality assessments, the types of models available and how they are used. In addition, the document provides web links to many ambient air data sources and tools, most of which are available on the OAR website.

EPA has been successful at building various data assessment tools, but tribes also need to understand the basis for using these tools and should be trained on various aspects of air quality monitoring and assessment. EPA works with the ITEP to sponsor training courses at the Tribal Air Monitoring Support Center[16] (TAMS). TAMS was created through a partnership between tribes, the ITEP and EPA. It is the first technical training center designed specifically to meet the needs of tribes involved in air quality management and offers an array of training and support services to tribal air professionals. EPA participates in many of the training activities and this assistance should continue to be encouraged. EPA Regions should get involved in this training because it helps to build relationships with the tribes.

Many EPA Regions offer training on various aspects of air monitoring and may offer to share this expertise with other EPA Regions. For example, if a few EPA Regions have expertise in AQS reporting they may be able to provide this training to tribes in regions that are not as familiar with AQS, or that do not have the same capacity to help tribes in this area.

ADDITIONAL INFORMATION

[15] http://www.epa.gov/air/tribal/airprogs.html
[16] http://www4.nau.edu/tams/

18. Where can a tribe get more information on ambient monitoring and on other air quality topics that relate to monitoring?

The Ambient Monitoring Technology Information Center (AMTIC)[17] is the foremost website for the ambient air criteria pollutant network. The site is operated by EPA's Ambient Air Monitoring Group (AAMG). AMTIC contains information and files on ambient air quality monitoring programs, details on monitoring methods, quality assurance guidance and reports, relevant documents and articles, information on air quality trends and nonattainment areas, and federal regulations related to ambient air quality monitoring. AAMG is in the process of revising this website and looks for the EPA Regions to help provide review/critique to make this website more useful.

The guidance document mentioned in Question 17, *Technical Guidance for the Development of Tribal Air Monitoring Programs,* was developed to help the tribe plan and implement a monitoring program and assess the data collected from their program. This document discusses:

- steps for identifying goals and objectives for conducting air monitoring;
- information for planning and selecting the appropriate type of monitoring network including discussions of staffing, network design, monitor selection, quality system development and training;
- costs for operating a monitoring network, funding sources and tips and resources for writing a grant proposal and work plan;
- implementation of monitoring networks;
- data acquisition, management and reporting; and
- data analysis and interpretation including information on modeling techniques.

The document might be considered the "yellow pages" of information on ambient air monitoring. It is not intended to provide the details of each specific monitoring program, but it can provide the key attributes and web addresses that would lead one to those details. Although it is somewhat skewed toward traditional "NAAQS" monitoring, it attempts to be generic and contains fact sheets (Appendix A) describing many of the major national air monitoring programs like IMPROVE, CASTNET, PAMS etc. These fact sheets contain the pertinent web addresses where more information on the programs objectives, methods, guidance, or data attributes can be found. The document is posted on the OAR Tribal Website[18]. Appendix B of this document also provides some general background on ambient air monitoring and may be very useful as a guide to the tribes.

[17] http://www.epa.gov/ttn/amtic/
[18] http://www.epa.gov/air/tribal/airprogs.html

APPENDIX A

GRANT RELATED MATERIAL

The Funding Process

Ambient air monitoring is one of many activities that is supported by federal funds for air quality management. The following information provides a brief synopsis of how funds are provided in support of air quality management in Indian country. Although this section goes beyond ambient air monitoring, it provides a beneficial understanding of the current allocation techniques and how ambient air monitoring fits into the overall allocation scheme.

Each year, EPA requests a certain amount of funding for use in providing grants to tribes to support air quality management. For the last several years, Congress has appropriated about $11 million for this purpose.[19] An increasing number of tribes are interested in establishing monitoring stations, and not all interested tribes will be able to obtain EPA financial support for ambient air monitoring--if resources for tribal air quality management remain steady. Many Regional Offices report that they are not able to meet all requests to provide grant funds for tribal air monitoring. The experience of working across Headquarters and Regional Offices and with tribal professionals has better informed EPA staff and EPA budget decision-makers about the tension between resources and needs. Based on this growing tension, in April of 2005, a workgroup representing each of the EPA Regions participating in the Tribal Program (as appointed by their respective Division Directors) and OAR convened to discuss revising the principles by which the tribal STAG allocation to the Regional Offices was determined. Meetings were held roughly every two weeks, and the Workgroup arrived at a set of draft recommendations[20]. Additional input was received from EPA's Air Program Managers followed by discussions with EPA's Air Division Directors and extensive outreach and discussions with tribal government representatives nationwide.

[19] In FY 2005, EPA proposed to Congress that there be separate amounts of air grant funding for states and tribes. EPA observes these two separate ceilings in its operating plan under the enacted FY 2005 budget. EPA has proposed the same separation for FY 2008, and EPA has issued grant and technical guidance for FY 2008 based on this separation. The proposed 2008 budget provides ~ $ 11 million, see http://www.epa.gov/ocfo/budget/ .
[20] April 24, 2007 Memo from Darrel Harmon to Beth Craig and Regional Air Directors on STAG Allocation Revisions

General Principles for STAG Distribution

The principles generally fall into three categories: 1) to target funds based on priority considerations as surrogates for risk; 2) to target funds based on stability considerations, and; 3) to balance support for new and ongoing programs (such as §103 and §105). The Workgroup's approach was to reach consensus while recognizing that a balance was required between considerations for priority and stability. These principles were developed by the entire group: discussed, refined and restated as the following:

1. EPA supports the development of tribal air monitoring programs to assess, understand and address problems affecting the health and environment of federally recognized Indian tribes. While all tribes are eligible for support, our priorities are to address areas with the highest risks and those where the greatest results are being realized when funds are unavailable to meet every request.
2. As stated in the January 27, 2005, Assistant Administrator memo on awarding STAG funding to tribes: AWe should recognize that some tribal governments made long-term commitments to develop and implement air quality programs (programmatic commitment) and, AWe should also recognize tribes that have emerged or are expected to emerge as leaders or key participants in providing tribal input into external factors that affect air quality management nationwide@ (leadership and involvement).
3. Funding levels to each Region should remain relatively stable over time.
4. All federally-recognized tribes and tribal consortia are eligible for funding regardless of their air quality status, but are not assured of receiving a grant due to limited funds.
5. Every Region with federally recognized tribes should receive some portion of the available funding each year.
6. Grant resources are limited so EPA Regions must prioritize on what basis tribes receive funds.
7. In allocating tribal resources at the national level (Region by Region), relative need, capability, and past accomplishments also need to be considered.
8. The allocation should support the ongoing operations of CAA 105 tribal air quality programs.
9. EPA will seek the input of the tribes in devising a strategic and equitable funding allocation.
10. Adequate funding coverage of large, complex tribal air quality programs should receive priority consideration.

The full document can be found at the Tribal Grants and Funding Website[21]. Headquarters will continue to secure funds to support national priorities, specifically the national tribal training program through the Institute for Tribal Environmental Professionals (ITEP) and the Tribal Air Monitoring Support (TAMS) Center.

[21] Memo summarizing the process of revising the tribal STAG allocation http://www.epa.gov/oar/tribal/grants.html

Major Tribal Funding Sources

EPA is committed to working with tribes to develop and implement CAA programs in Indian country. One of OAR's primary tools in this effort is to award CAA grants in order to help build tribal knowledge and increase the tribes' capacity to manage air quality issues. General Assistance Program (GAP), CAA §103 and CAA §105 grants all allow EPA to provide support to tribes for this purpose.

GAP: The Indian General Assistance Program [22] (GAP) provides resources to tribes to "build the basic infrastructure of a tribal environmental program, which may include planning, developing, and establishing the administrative, technical, legal, enforcement, communications, and environmental education and outreach infrastructure." The planning and development elements of a GAP program can include specific activities related to assessing environmental degradation and acquiring the tools to complete the assessment. For instance, a tribe may want to know the extent of degradation in its air quality to determine whether or not a dedicated tribal air program is warranted. In such a case, a tribe can incorporate activities into its GAP work plan to establish an ambient air quality monitoring network. This network can characterize the air quality of the reservation as part of building their capacity to operate and manage an environmental program. In addition, GAP funds can be used to develop QA documentation such as quality management plans or quality assurance project plans, as well as fund travel to QA training activities.

CAA §103: used for special projects, generally for limited terms, to study the causes and prevention of air pollution, including demonstrations, experiments, surveys, and research, such as that will demonstrate uniquely effective or efficient means for preventing air pollution or its adverse effects. A federally-recognized reservation is not a prerequisite to a recognized tribe receiving such a grant. Through CAA §103 grants, tribal air pollution control agencies, among others, may conduct and promote research, investigations, experiments, demonstrations, surveys, studies and training related to air pollution. Tribes typically use this funding source to research and investigate the air quality within their jurisdiction.

CAA §105: used for implementing ongoing programs for the prevention and control of air pollution. Tribes that have established eligibility to receive CAA §105 grants under the Tribal Authority Rule and have assessed their air quality and demonstrated a need and commitment to manage air pollution on their reservation will receive first consideration for funding. Through CAA §105 grants, tribes may develop and implement programs for the prevention and control of air pollution or for the implementation of national primary and secondary ambient air quality standards.

[22] http://www.epa.gov/indian/gap.htm

Principles to Awarding Grants for Tribal Air Quality Management Projects

Tribal air grants are critical to the development and continued operation of tribal air programs. To ensure the successful development and implementation of tribal air programs to address the most serious risks and concerns, the Agency will use the criteria that follows to evaluate tribal air grant requests. This will ensure that available funding is expended to meet the greatest environmental needs, while also meeting the goals of the Clean Air Act and the EPA Indian Policy. Regional Offices may develop more specific criteria based on this policy.

In order to ensure that EPA is targeting its funding to ensure the greatest possible health and environmental benefits, funding decisions should address one or both of these overriding factors:[23]

1. Significant Air Quality Related Health Concerns: A tribe has, or is believed to have, a significant air pollution problem that has an adverse impact on human health. An air pollution problem would include, but not be limited to: a reservation or a portion of a reservation being designated nonattainment; air toxics issues; atmospheric deposition/bioaccumulation issues; and indoor air quality concerns (except radon). On-reservation population size (tribal and non-tribal) may be used as part of this factor.

2. Significant Air Quality Related Environmental and Cultural Resource Concerns: A tribe has reasonable concerns that air pollution is having an adverse impact on cultural resources or the environment within its jurisdiction. Issues such as visibility concerns and modeled or monitored Class I increment violations under the Prevention of Significant Deterioration regulation would be addressed here. Again, on-reservation population size (tribal and non-tribal) may be used as part of this factor.

To better clarify EPA's decision making process, the following five criteria should be considered in addition to the overriding factors. Where tribes are addressing similar issues, these criteria should be used to support decisions that increase the chance of successful implementation of tribal air quality management programs.

1. (a) Programmatic Commitment: EPA should recognize that some tribal governments have made long-term commitments to develop and implement air quality programs.

(b) Leadership and Involvement: EPA should recognize tribes that have emerged or are expected to emerge as leaders or key participants in providing tribal input into external factors that affect air quality management nationwide.

(c) Staffing and Facilities: EPA should recognize tribes that have the staffing and facilities to plan, implement and assess air quality monitoring programs and report information generated from the programs.

[23] For regions awarding first time grants to tribes where these factors are unknown, the Region may award a grant for an initial assessment or determination. Any additional grant would then be awarded based on whether there is a significant air-quality health issue.

2. Prior Demonstration of Grant Performance. A tribe has successfully completed the work plan activities and objectives for a prior grant or grants. Successful completion includes timely submission of reports, deliverables and required grant and financial management activities with additional consideration for having established and sustained some air quality project management capacity.

3. The tribe is located where essential data can be gathered. This factor may be important in network monitoring, particularly where it is important to collect data that describe background or attainment conditions, to quantify transport, and to assess attainment status, as well as to assess conditions such as deposition and toxics.

4. The tribe has demonstrated a commitment to working on air quality issues or participated actively in collaborative air quality management planning with federal, state, local or tribal air quality agencies, such as through a Tribal/EPA Agreement that contains an air component, or an air-related Memorandum of Understanding or Intergovernmental Agreement.

5. The tribe has submitted a proposal for innovative ways to improve air quality that is likely to be transferable to other areas.

Regional Office Responsibilities in the Tribal Air Grant Process

Because of the diversity in situations and goals from tribe-to-tribe, EPA has delegated to the Regional Office level the tasks of assisting tribes in identifying their goals and managing available resources to help meet those goals. Because the EPA Regions understand individual tribal situations, effective decisions about funding and in-kind assistance are best made at that level. In general the EPA Regions are responsible for:

- articulating and distributing pertinent information to tribes through websites, list serves, conference calls and meetings;
- answering technical questions related to ambient air monitoring or the development of the grant; and
- processing and awarding grants.

A tribe will need to work with its EPA regional contact to begin development of a work plan order to receive grant funds. This is especially important in the planning phase, as many of the air monitoring development steps can be incorporated into the work plan objectives. EPA Regional personnel can provide guidance on how to write an appropriate work plan but should not assist in the actual technical development or writing of tribal grant applications because this assistance could provide an unfair advantage to a tribe.

Criteria for Tribal Air Grant Funding from Regional Offices

The purpose here is to assist tribes that apply for CAA funding to draft more effective work plans for projects that will develop tribal knowledge of air quality issues and build tribal

expertise to manage air quality in Indian country. The CAA envisions an approach to air quality management that includes:

- Goals and standards to protect public health and the environment.
- Assessing air quality through emissions inventories and monitoring.
- Determining necessary reductions in pollution.
- Federal, State or Tribal Implementation Plans.
- Education or outreach programs and other voluntary measures.
- Implementing and enforcing control measures.

The tribe should try to develop performance measures that help measure progress on achieving the environmental results of their grants. Approvable work plans need to have (1) one or more objectives; (2) activities that support the achievement of the objectives; and (3) outcomes or deliverables that will produce environmental results within the objective. To assist tribes in writing effective grant proposals, OAR developed a document entitled: *Tribal Air Grants Framework: A Menu of Options*[24]. In addition, the EPA Office of Grants and Debarment has a website that provides tips on writing a grant proposal.[25] This information can help tribes develop comprehensive/acceptable proposals.

Through the grant negotiation process, applicants produce work plans with supporting budgets to address both the needs of the particular reservation or tribal community, as well as EPA priorities. See Appendix A in this document for significant features of the tribal air application process. This document should be reviewed to determine its current relevancy.

Once a determination is made that air quality monitoring may be appropriate on the reservation or tribal land, the following elements should be addressed in a grant proposal:

$ Identify the pollutant(s) which should be monitored and the proposed monitoring method (filter-based or continuous monitors) and the frequency of monitoring.

$ Identify potential monitoring location(s) and justify the purpose of each monitoring site.

$ Provide assurance that each monitoring site will comply with EPA's siting requirements found in 40 CFR Part 58 Appendix E (if this is necessary for the type of monitoring being conducted).

$ Commit to have EPA approve the Quality Assurance Project Plan (QAPP) before data collection or monitoring begins.

$ Ensure that the tribal air monitoring specialist will be adequately trained in the operation and maintenance of the monitor, data management, chain-of-custody procedures, and quality assurance requirements.

$ Assure that the quality-assured data will be entered into EPA's national air quality database system (AQS) or other appropriate national databases.

$ Plan for periodic analysis of the data and how it contributes to understanding and

[24] http://www.epa.gov/air/tribal/grants.html
[25] http://www.epa.gov/ogd/recipient/tips.htm

managing air quality on the reservation or tribal land, including the anticipated need for future monitoring of the same or different types. EPA requires states to assess their networks every 5 years. This interval may also be appropriate for tribes.

Funding limitations and other considerations of the grant process, as well as rules applicable to competition in EPA Regions where this process is used, prevent any guarantee that a particular grant proposal will be selected for funding. Work plans should help tribes develop proposals that can effectively address air quality issues in Indian country.

APPENDIX B

BACKGROUND FOR PLANNING TRIBAL AIR MONITORING

Introduction

This appendix contains general background on ambient air monitoring, as well as other technical information that is not specifically about tribal monitoring. It is intended to assist tribal professionals so that they can participate more easily and effectively with EPA staff. In order to be brief and understandable to tribal professionals unfamiliar with the history, complexity, and technology of air monitoring and related topics, this appendix consists of thumbnail sketches and pointers to other documents for fuller descriptions. The thumbnail sketches are simplified and do not convey all provisions or nuances. They are intended to assist tribal staff in understanding the more detailed references, and in discussing these topics with EPA specialists and more experienced tribal professionals. Additional substantial amounts of information concerning (1) technical issues related to monitoring, emissions inventories and air data; (2) health and ecosystem-related topics; as well as (3) the Clean Air Act and associated EPA rules; and (4) government policies, program planning, budgets and grants, can be found by tribal professionals working through the following Internet addresses:

-- Clean Air Act -- http://www.epa.gov/air/caa/
-- Chief Financial Officer (EPA) -- http://www.epa.gov/ocfo/index.htm
-- American Indian Environmental Office (EPA) -- http://www.epa.gov/indian/index.htm
-- Tribal Air (EPA/OAR) -- http://www.epa.gov/air/tribal/
-- Technology Transfer Network (EPA/OAR) -- http://www.epa.gov/ttn/
-- Institute for Tribal Environmental Professionals -- http://www4.nau.edu/itep/programs/

Ambient Monitoring Technology Information Center (AMTIC)

The AMTIC Internet website contains information and files on ambient air quality monitoring programs, details on monitoring methods, relevant documents and articles, information on air quality trends and nonattainment areas, federal regulations related to ambient air quality monitoring, as well as information on training, contacts and related Internet sites. The AMTIC Internet website is a valuable starting point for tribal members seeking information on a wide range of air monitoring topics; its Internet address is:

-- http://www.epa.gov/ttn/amtic/

Existing State/Local/Tribal Monitoring Networks

Ambient air monitoring programs make it possible to evaluate the status of the atmosphere compared to clean air standards and historical information. A review of various air monitoring networks (e.g., SLAMS, NAMS, PAMS, SPMS, including tribal monitoring) is provided as part of the National Ambient Air Monitoring Strategy. That strategy and other relevant information (including types, purposes, history, funding)

of monitoring networks, including tribal programs, are provided at the following addresses:

-- http://www.epa.gov/oar/oaqps/qa/monprog.html#Ambient
-- http://www.epa.gov/oar/oaqps/montring.html
-- http://www.epa.gov/ttn/amtic/files/ambient/monitorstrat/naamstrat2005.pdf
-- http://www.epa.gov/ttn/amtic/amlinks.html
-- http://www.epa.gov/castnet/
-- http://vista.cira.colostate.edu/improve/Default.htm
-- http://nadp.sws.uiuc.edu/
-- http://www4.nau.edu/tams/services/index.html
-- http://www.epa.gov/air/tribal/tribetotribe.html

Quality Assurance (QA) of Air Monitoring Programs

EPA uses its Quality System to manage the quality of environmental data collection, generation, and use; the primary goal is to ensure that data are of sufficient quantity and quality to support decisions for protecting health and the environment. The Ambient Air Monitoring Quality Assurance program applies these principles to air quality data. This is accomplished through effective communication and cooperation with monitoring organizations, which include EPA, state, local, tribal agencies, the academic community and industry. To address QA requirements and associated resource needs, the following tools are routinely provided: guidance documents, The National Performance Evaluation Program, data quality assessments and reports, ambient air quality assurance training, and example QA project plans (QAPPs). Information on QA tools, QA requirements, and example applications should be given consideration in the development of tribal monitoring programs; this information is available at the following Internet addresses:

-- http://www.epa.gov/quality/index.html
-- http://www.epa.gov/airprogm/oar/oaqps/qa/index.html
-- http://www.epa.gov/ttn/amtic/quality.html
-- http://www.epa.gov/ttnamti1/files/ambient/airtox/nattsqapp.pdf

National Ambient Air Monitoring Strategy

The overarching goal of the draft National Ambient Air Monitoring Strategy is to improve the scientific and technical competency of the nation's air monitoring networks while increasing the ability to protect health and environmental welfare. The Strategy seeks to accomplish this in flexible ways that accommodate future needs in an optimized resource constrained environment. Objectives in achieving this broad-based goal include: manage the nation's air monitoring networks, establish a new air monitoring approach, provide a greater degree of timely public air quality information, improve network efficiencies, foster the utilization of new measurement method technologies, encourage multi-pollutant measurements, provide a base air monitoring structure, develop and implement a major public information and outreach program, seek input from the scientific community, provide air monitoring platforms and data bases, and assess funding levels needed to maintain support for this monitoring strategy. The impact of this strategy on tribal monitoring is also addressed, including operation of monitoring sites by tribes.

Tribal monitoring programs should consider their activities in relation to implementation of this strategy and should be poised to influence the strategy as it evolves. The draft monitoring strategy document (December 2005) and supporting documents, which provide both a description of the strategy and reflect ongoing components of the strategic plan development, are available at the following Internet addresses:

-- http://www.epa.gov/ttn/amtic/monstratdoc.html
-- http://www.epa.gov/ttn/amtic/monitor.html

Air Quality System (AQS)

The AQS is EPA's widely used repository of ambient air quality data. AQS stores data from over 10,000 monitors, 5000 of which are currently active. State, local and tribal governments collect the data and submit it to AQS on a periodic basis. Tribes conducting air monitoring programs should strongly consider submitting the resulting air data to AQS, if they are not already doing so. A detailed description of AQS, supporting manuals and guides, web-based access, information on training, and links to other sources of air quality information, including State/Local/Tribal agencies, is provided at the following Internet address:

-- http://www.epa.gov/ttn/airs/airsaqs/

ITEP and TAMS Support

The Internet home page for the Institute for Tribal Environmental Professionals (ITEP) states that "ITEP was established in 1992 to assist Indian tribes in the management of their environmental resources through effective training and educational programs." The subcomponent for the Tribal Air Monitoring Support Center states that "The Tribal Air Monitoring (TAMS) Center was created through a partnership between tribes, the Institute for Tribal Environmental Professionals and the United States Environmental Protection Agency." It is the first technical training center designed specifically to meet the needs of tribes involved in air quality management and offers an array of training and support services to tribal air professionals. The TAMS Center's mission is to develop tribal capacity to assess, understand and prevent environmental impacts that adversely affect health, cultural, and natural resources." It provides technical support to tribes for all aspects of monitoring including workshops, a resource library, and one-on-one technical assistance through the Professional Assistance program. Listings of ITEP and TAMS Center training programs and services available to tribal programs are provided at the following Internet addresses:

-- http://www4.nau.edu/itep/
-- http://www4.nau.edu/tams/

National Emissions Inventory (NEI)

The National Emissions Inventory is a national data base of air emissions information with input from numerous state and local air agencies, from tribes, and from industry. This data base contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs). The data base includes estimates of annual emissions, by source, of air pollutants in each area of the country, on an annual basis. Emissions estimates for individual point or major sources (facilities), as well as county level estimates for area, mobile and other sources, are available currently for 1990 and 1996 through 1999 for criteria pollutants, and for 1999 for HAPs; a final version of the 2002 NEI was made available to the public in 2006. The NEI emissions data base is a key source of information useful to tribal air programs. More information about the NEI data base and the compilation of criteria pollutant and HAP emissions inventories, and links to the data base, are available at the following Internet addresses:

-- http://www.epa.gov/ttn/chief/net/index.html
-- http://www.epa.gov/ttn/chief/eiinformation.html

Air Quality Models

Air quality models, and how they can provide insight to ambient air quality in Indian country when monitoring is not available, should be of particular interest to tribes. There are three types of air quality models: dispersion, photochemical, and receptor models used in assessing control strategies and source impacts. Source code and associated user's guides and documentation are routinely provided for preferred/recommended models, screening models, and alternative models. In addition, guidance is provided for applying air quality models in regulatory applications for State Implementation Plans (SIP) and Tribal Implementation Plan (TIP) demonstrations and revisions, as well as permit applications for new source reviews, including Prevention of Significant Deterioration (PSD) regulations. These latter applications are particularly relevant for estimating air quality impacts in Indian country. A Model Clearinghouse is also available to help record the interpretation of modeling guidance for specific regulatory applications. Modeling contacts within the EPA Regional Offices and state environmental agencies can assist tribes in the regulatory application of air quality models. Detailed information on models, codes and guidance in their use is available at the following Internet addresses:

-- http://www.epa.gov/ttn/scram/
-- http://www.epa.gov/scram001/guidanceindex.htm
-- http://www.epa.gov/scram001/guidance_clearinghouse.htm

The NSR/PSD Programs (relationship to monitoring needs)

The New Source Review (NSR) and the Prevention of Significant Deterioration (PSD) programs apply to new major stationary sources and major modifications locating in areas designated as attainment or unclassifiable for the NAAQS. These programs generally require the permit applicant to conduct a source impact analysis using monitored data and air quality models. For the NSR program, the impact analysis must demonstrate that the new or modified source will not cause or contribute to a violation of state or national air quality standards or cause an adverse

impact to visibility in any federal Class I area. The PSD program is generally designed to provide a more comprehensive source impact analysis than the NSR program, including effect on air quality related values, e.g., visibility, that have been identified for Class I areas. NSR and PSD are major pollutant control programs that should be of concern to tribes. Coordination of NSR/PSD and the use of air monitoring data in source impact analyses, to identify existing (representative) conditions and potential future impacts, should be addressed by tribes; relevant information is available at the following Internet addresses:

-- http://www.epa.gov/nsr/
-- http://www.epa.gov/ttn/amtic/files/ambient/criteria/reldocs/4-87-007.pdf
-- http://www.epa.gov/ttnamti1/files/ambient/visible/r-99-003.pdf

Benchmarks for Health and Ecosystem Effects

General Air Benchmarks. Air Quality indicators, concentrations of criteria pollutants relative to the NAAQS, effects on health due to toxic air pollutants, and other ambient measures such as visibility and acid deposition, all provide benchmarks of the nation's air quality. These benchmarks are directly relatable to the needs of tribal programs. The Report on the Environment, and associated information on criteria and toxic air pollutants, is available at the following Internet addresses:

-- http://www.epa.gov/indicators/index.htm
-- http://www.epa.gov/indicators/roe/html/roeTOC.htm
-- http://www.epa.gov/ttn/naaqs/
-- http://www.epa.gov/air/visibility/index.html
-- http://www.epa.gov/airmarkets

Air Toxics and the Integrated Risk Information System (IRIS). IRIS was prepared and is maintained by EPA as an electronic database containing information on human health effects that may result from exposure to various chemicals in the environment. It was developed in response to the need for consistent information on chemical substances for use in risk assessments, decision-making and regulatory activities. The collection of computer files covering individual chemicals contains descriptive and quantitative information concerning (1) oral reference doses and inhalation reference concentrations (RfDs and RfCs, respectively) for chronic noncarcinogenic health effects; and (2) hazard identification, oral slope factors, and oral and inhalation unit risks for carcinogenic effects. Information on IRIS and other sources of air toxics information that may prove useful to tribal programs are available at the following Internet addresses:

-- http://www.epa.gov/iris/index.html
-- http://www.epa.gov/ttnatw01/hlthef/hapindex.html
-- http://www.epa.gov/air/toxicair/index.html

National Air Toxics Assessment (NATA)

In February 2006, EPA released the results of its national-scale assessment of 1999 air toxics emissions. The purpose of the national-scale assessment is to identify and prioritize air toxics, emission source types and locations which are of greatest potential concern in terms of contributing to population risk. EPA uses the results of these assessments in many ways, including:

- to work with communities in designing their own local-scale assessments,
- to set priorities for improving data in emissions inventories, and
- to help direct priorities for expanding and improving the network of air toxics monitoring.

The national-scale assessment includes 177 air pollutants (a subset of the air toxics on the Clean Air Act's list of 187 air toxics plus diesel particulate matter (diesel PM)). The assessment includes four steps that focus on the year 1999:

1. Compiling a national emissions inventory of air toxics emissions from outdoor sources.
2. Estimating ambient concentrations of air toxics across the United States.
3. Estimating population exposures across the United States.
4. Characterizing potential public health risk due to inhalation of air toxics including both cancer and noncancer effects.

Results are available at:

http://www.epa.gov/ttn/atw/nata1999/

Indoor Air Issues (radon and mold)

Radon and mold can both be problems in indoor environments. Radon is odorless and tasteless, and may exist at concentrations that exceed action levels in homes. Indoor air containing radon is the second leading cause of lung cancer in the United States. Molds can gradually damage homes and furnishings and can cause potential health problems. Internet addresses with additional information on radon and mold, associated effects, and mitigation strategies are available at the following Internet addresses:

-- http://www.epa.gov/iaq/index.html
-- http://www.epa.gov/mold/index.html
-- http://www.epa.gov/radon/index.html
-- http://www.epa.gov/iaq/atozindex.html