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Developing a Tribal Implementation Plan

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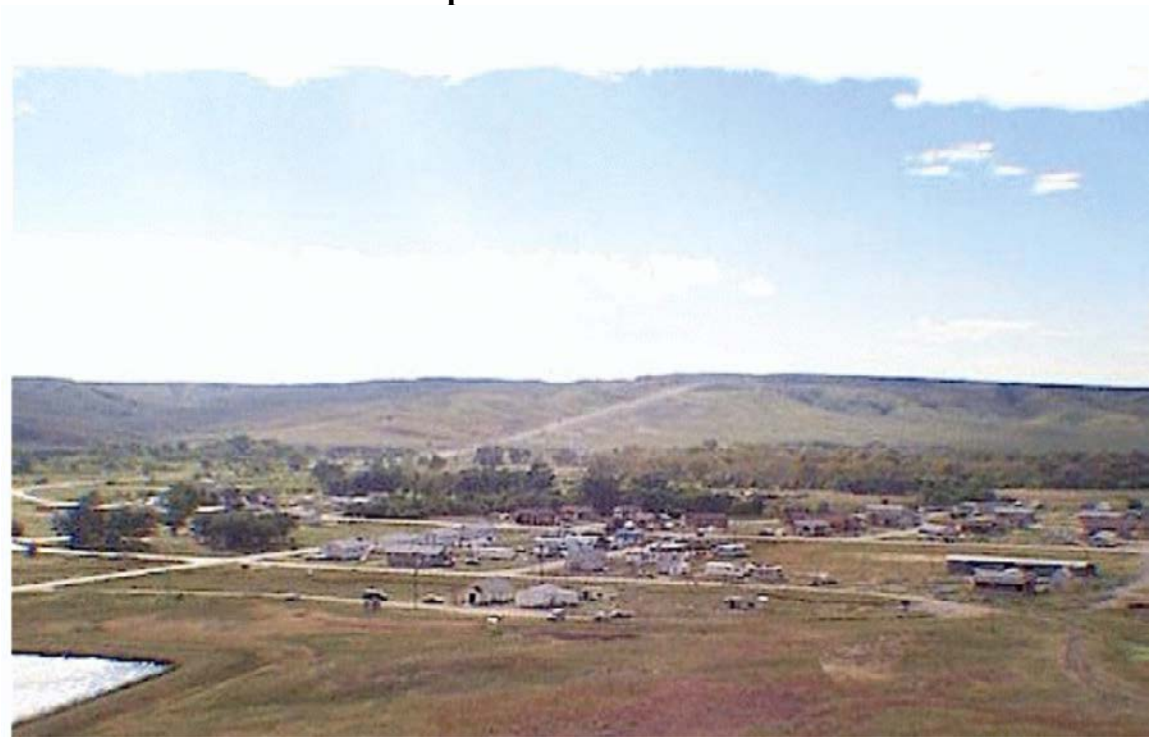

The Cherry Creek Community on the Cheyenne River Sioux Reservation.
Photo courtesy of the Cheyenne River Sioux Tribe.

Disclaimer

The discussion in this document is intended solely as an informal resource. The statutory provisions and the Environmental Protection Agency (EPA) regulations described in this document contain legally binding requirements. This document is not a regulation itself, nor does it change or substitute for those provisions and regulations. Thus, it does not impose legally binding requirements on EPA, tribes, or the regulated community. This document does not confer legal rights or impose legal obligations upon any member of the public.

While EPA has made every effort to ensure the accuracy of the discussion in this guidance, the obligations of tribes and the regulated community are determined by statutes, regulations, or other legally binding requirements. In the event of a conflict between the discussion in this document and any statute or regulation, this document would not be controlling.

The general description provided here may not apply to a particular situation based upon the circumstances. Interested parties are free to raise questions and objections about the substance of this guidance and the appropriateness of the application of this guidance to a situation. The EPA retains the discretion to adopt approaches on a case-by-case basis that differ from those described in this guidance where appropriate.

The initial version of this document was completed in October 2002. It is a living document and may be revised periodically without public notice. While the primary audience is tribal environmental staff, this document can also explain the federal air program to interested tribal councils and leaders. The EPA welcomes public comments on this document at any time and will consider these comments in any future revision of this document. Comments should be directed to EPA's website Tribal Air and Climate Resources.

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Chapter 1: Introduction

This document is intended to: 1) help tribal environmental staff assess the need for a Tribal Implementation Plan (TIP), 2) explain the different program elements that can be included in a TIP, and 3) provide suggestions from the Environmental Protection Agency (EPA)[1] about how to develop a TIP if a tribe chooses to do so. It also includes some preliminary interpretations of the statutory and regulatory requirements related to TIP preparation, adoption, submittal and approval.

A TIP is a set of regulatory programs a tribe can develop and adopt to help attain and/or maintain national air quality standards for six common air pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, lead, particulate matter, and ozone. A TIP may be one part of a broader tribal air quality management program that may also include programs to enforce federal limitations on other pollutants, monitor air quality, inventory emissions, issue stationary source operating permits, and address outdoor "ambient" air pollution.

The chapters are organized as follows:

- **Chapter 1** provides background information on the Clean Air Act (CAA) and National Ambient Air Quality Standards (NAAQS), explains how a TIP protects these standards and relates to the rest of your tribe's[2] air quality management program, and lists some of the benefits of developing a TIP.
- **Chapter 2**, *Characteristics of TIPs*, describes the unique qualities of TIPs and introduces the potential elements of a TIP.
- **Chapter 3**, *Goal Setting and Air Quality Assessments for a TIP*, explains the national air quality designations, provides suggestions on what should be considered in setting up your air quality goals for your TIP, and presents two methods of data gathering that can provide useful information to your tribe: emissions inventories and air quality monitoring.
- **Chapter 4**, *Potential TIP Elements*, provides information on the regulations and programs that can be included in a TIP: attainment strategies, maintenance strategies, provisions for preventing downwind air quality problems, preconstruction permitting programs, and regional haze plans.
- **Chapter 5**, *Compliance and Enforcement*, has information on how regulated sources can measure and report emissions to demonstrate compliance, and how to develop an enforcement program.
- **Chapter 6**, *TIP Adoption and Submission*, presents information on conducting public outreach, adopting your TIP, submitting your TIP for approval, and revising your TIP.

The appendices provide national and regional EPA contact information, resources on TIP development and air quality management resources for education, training and program development, and example documents related to TIP development. An acronym list and glossary are also provided at the end of this document.

[1] In this document, "we", "us", and "our" refer to EPA. "You and "your" refer to a tribe.
[2] The term "your tribe" does not assume that environmental staff are necessarily tribal members.

The Clean Air Act

What is the Clean Air Act?

The Clean Air Act (CAA) is the comprehensive federal law that regulates air emissions from stationary and mobile sources.[3] Among other things, the CAA requires EPA to: 1) set national air quality standards for certain pollutants; 2) develop programs to address specific air quality problems; 3) exercise enforcement authority; and 4) conduct air quality research. For most CAA programs, EPA establishes federal guidelines and sets requirements for states but allows tribes to decide whether and how to implement the programs. The CAA consists of the nine Titles listed in Table 1-1. A guide to the CAA is available at *The Plain English Guide to the Clean Air Act*.

National Ambient Air Quality Standards (NAAQS) ensure that all Americans have the same basic health and environmental protections for six common air pollutants (called "criteria" pollutants).[4] The CAA allows individual states and tribes to have air pollution standards that are stronger than the national standards, but not weaker than the national standards. Congress recognized that it makes sense for states and tribes to take the lead in carrying out the CAA because air quality problems are best addressed by those who hold a special understanding of local industries, geography, housing patterns, and other local circumstances.

Table 1-1. Organization of the Clean Air Act by Title

Clean Air Act Titles	Description
Title I	Stationary Sources: Criteria and Hazardous Pollutants
Title II	Mobile Sources
Title III	General Administrative Requirements (includes Section 301(d) – "Allowing Tribes to be Treated in a Manner Similar to States")
Title IV	Acid Deposition (also known as Acid Rain)
Title V	Stationary Source Operation Permits
Title VI	Stratospheric Ozone and Global Climate Protection
Title VII	Provisions Regarding Enforcement
Title VIII	Miscellaneous Provisions
Title IX	Clean Air Research

[3]For more information on the history of the CAA, please refer to EPA's website Overview of the Clean Air Act and Air Pollution.
[4] EPA calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally-based criteria (science-based guidelines) for setting permissible levels. For more information on criteria pollutants, please refer to EPA's website Criteria Air Pollutants.

Implementation plans, which are the subject of this document, focus primarily on control strategies for stationary sources to reduce criteria pollutants. Title I of the CAA establishes how criteria and hazardous pollutants from stationary sources are regulated and sets requirements for implementation plans. Guidance documents and assistance are available if your tribe wants additional information on implementing other CAA programs. These resources include:

- EPA's website Transportation, Air Pollution, and Climate Change for information on mobile sources of air pollution;
- EPA's website Hazardous Air Pollutants;
- EPA's website Operating Permits Issued Under Title V of the Clean Air Act;
- EPA's Office of Air and Radiation's website Tribal Air and Climate Resources or your EPA tribal program office for information on other air quality programs. Refer to *Appendix A* for EPA's regional tribal programs websites and regional Tribal Air Coordinators.

Under what authority can Indian tribes adopt Clean Air Act Programs?

Section 301(d) of the CAA authorizes EPA "to treat Indian tribes in a similar manner as states" and instructs the agency to enact regulations to identify the CAA provisions for which it is appropriate to treat tribes in a similar manner as states. Section 301(d)(2)(B) of the CAA allows tribes to obtain the authority to run CAA programs for the regulation of "air resources within the exterior boundaries of the reservation or other areas within the tribe's jurisdiction." Tribes have authority over all air resources within the exterior boundaries of their reservation (including non-Indian owned fee lands), but they must acquire authority from EPA to perform specific CAA functions and programs. For off-reservation areas, tribes must demonstrate the basis for jurisdiction. For simplicity, in this document, the word "reservation" will refer to all land within the exterior boundaries of the reservation and off-reservation areas determined to be under a tribe's jurisdiction.

To implement CAA section 301(d), EPA issued the Tribal Authority Rule (TAR) on February 12, 1998.[5] Under the TAR, Indian tribes can be treated in the same manner as states for CAA provisions related to implementation plans, except for certain provisions identified in 40 C.F.R. section 49.4. The exceptions in section 49.4 that are relevant to TIPs include:

- Tribes (unlike states) do not have deadlines for submittal of implementation plans.
- Tribes (unlike states) are not subject to sanctions for failure to submit a TIP.
- Tribes (unlike states) are not required to demonstrate criminal enforcement authority.

The EPA encourages tribes to develop and implement their own CAA programs. However, tribes are not required to adopt and implement CAA programs.

[5] The regulatory provisions of the TAR are codified at 40 CFR Part 49.

The TAR also outlines the eligibility criteria tribes must meet in order to be treated in a similar manner as a state (TAS) and defines the process by which the EPA will approve tribal CAA programs.[6]

What are the Eligibility Criteria for TAS?

To be treated in a similar manner as a state under the provisions of the CAA, tribes must demonstrate to EPA that they meet certain eligibility criteria, which are outlined in the TAR.[7]

You can apply for eligibility determinations at the same time you submit your TIP for approval or as a prior, separate action. You should consider the range of CAA provisions relevant to your request for eligibility and discuss with your EPA regional contact which provisions you may want to include in your request (e.g., all provisions or only specifically identified provisions). To be eligible, your tribe must:

- Demonstrate federal recognition.[8]
- Demonstrate that it has a governing body carrying out substantial governmental duties and powers. This can be demonstrated by submitting a descriptive statement that your tribe is currently carrying out substantial governmental duties and powers over a defined area. This statement should:
    - Describe the form of the tribal government;
    - Describe the types of government functions currently performed by the tribal governing body, such as the exercise of police powers affecting or relating to the health, safety, and welfare of the affected population; taxation; and exercise of the power of eminent domain; and
    - Identify the source of the tribal government's authority to carry out the governmental functions currently being performed.
- Demonstrate that the functions your tribe is applying to carry out pertain to the management and protection of air resources within the exterior boundaries of your reservation (or other areas within the tribe's jurisdiction). This should be demonstrated with a descriptive statement of the tribe's authority to regulate air quality. For applications covering areas within the exterior boundaries of the reservation, the statement must identify with clarity and precision the exterior boundaries of the reservation including, for example, a map and a legal description of the area. For tribal applications covering areas outside the boundaries of a reservation, the statement should include:
    - A map or legal description of the area over which the application asserts authority; and
    - A statement by the tribe's legal counsel (or equivalent official) that describes the basis for the tribe's assertion of authority (including the nature or subject matter of the asserted regulatory authority) which may include a copy of documents such as tribal constitutions, by-laws, charters, executive orders, codes, ordinances, and/or resolutions that support the tribe's assertion of authority.

[6] Eligibility criteria and additional information is available at EPA's website Tribal Authority Rule (TAR) Under the Clean Air Act.
[7] For a more detailed walkthrough of the steps necessary to obtain TAS, refer to 40 CFR part 49 and EPA's Strategy for Reviewing Tribal Eligibility Applications to Administer EPA Regulatory Programs.
[8] You can demonstrate federal recognition by showing that your tribe is on the list of federally recognized tribes published on an annual basis by the Department of the Interior, Bureau of Indian Affairs in the Federal Register.

- Demonstrate that your tribe is reasonably capable of performing the functions you are applying to carry out in a manner consistent with the terms and purposes of the CAA and all applicable regulations. This should be written in a narrative statement describing your tribe's capability to effectively administer the programs for which it is seeking approval. For example, if you are applying for a General Assistance Program (GAP) grant, you may have employed someone to write the grant proposal and carry out the work you have proposed to do with that funding. Their job descriptions could be included in the narrative statement. As the TAR preamble points out, some tribes may not want to go through the expense of developing a CAA program without first being assured that they satisfy the "treatment as state" eligibility criteria. The TAR allows for that approach. Specifically, the TAR allows a tribe that does not already have substantial experience in managing an environmental program to potentially satisfy the capability requirement by submitting a plan for how it will acquire necessary management and technical skills. The EPA regional office can provide guidance about additional information to include in the narrative.

If you have previously received authorization to implement a CAA program or any other EPA-administered program, you may satisfy the eligibility requirements by referencing the prior program authorization in your application and providing required information which has not been submitted in the previous application. For example, you may have to submit additional information to demonstrate your tribe's capability to administer the program you are seeking approval to carry out. It is generally expected that a program-by-program inquiry into the question of capability will be necessary since you may have the capability to carry out certain activities but not others.

You will find included, sample elements from the Salt River Pima-Maricopa Indian Community's 2008 Treatment as a State application in *Appendix M*.

What are the National Ambient Air Quality Standards?

The EPA established NAAQS for six common air pollutants ("criteria" pollutants) that are found all over the United States in the ambient air. ("Ambient" air is air to which the general public has access, as opposed to air within a facility or at a smokestack.) There are NAAQS for carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), particulate matter (PM), and ozone (O_3).[9] Ozone is not emitted directly into the air but is created by chemical reactions between oxides of nitrogen (NOx) and volatile organic compounds (VOC) in the presence of sunlight. To reduce ozone, air quality agencies regulate emissions of ozone precursors: NO_x and/or VOC.

The NAAQS are based on comprehensive studies of available ambient air monitoring data, health effects data, environmental and material effects studies. Major elements in the review process include the Integrated Review Plan (IRP), the Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and rulemaking. The IRP presents the schedule for the entire review, the process for conducting the review, and the key policy-relevant science issues that will guide the review. The ISA is an evaluation and integration of the science. The REA presents the methods, key

[9] For more information on each of the criteria pollutants, refer to EPA's website Criteria Air Pollutants.

results, observations and related uncertainties. The PA document contains EPA staff analyses of the scientific bases for alternative policy options for consideration by senior agency management prior to rulemaking. The CAA requires periodic review of the science upon which the standards are based and the standards themselves. When a review indicates that revisions to a standard are appropriate, EPA issues a proposed rule for public comment and, taking public comments into consideration, issues a final rule.[10]

Figure 1-1 below summarizes the process that EPA uses when reviewing and revising the NAAQS. This is a multi-year process that is grounded on the latest scientific studies and provides for public review and comment.

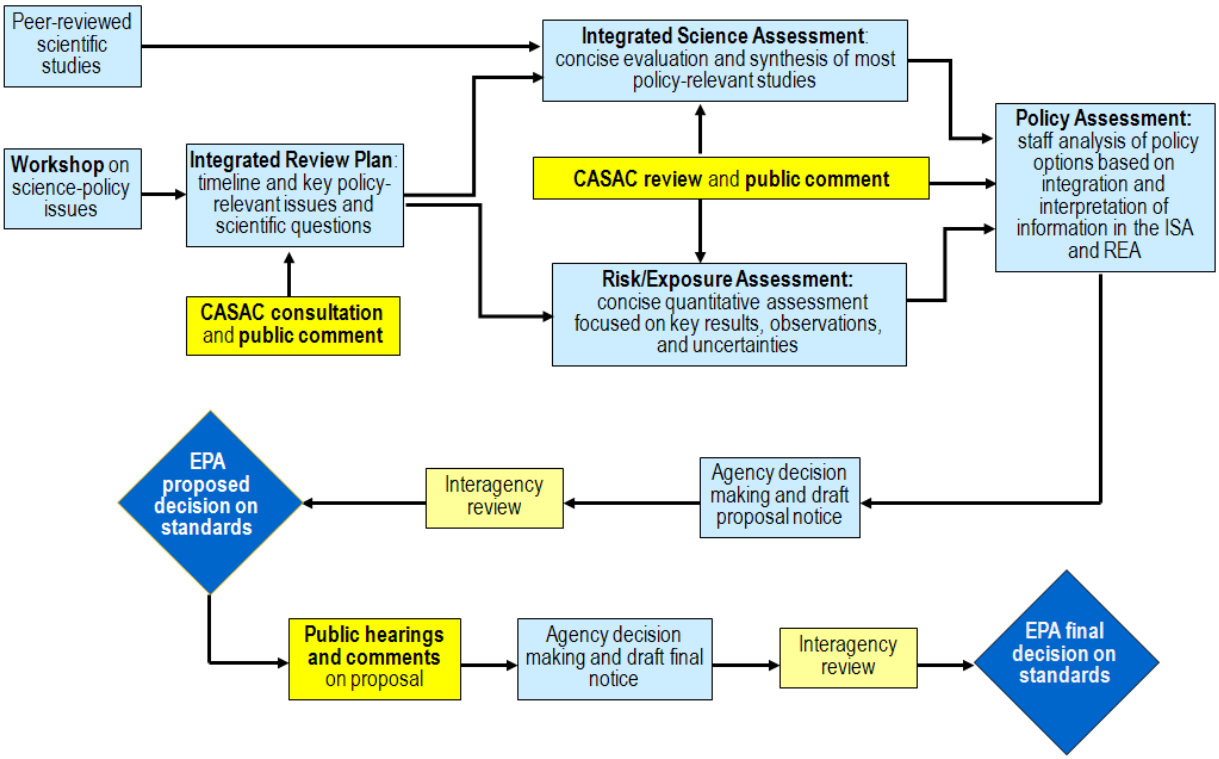

Figure 1-1. Overview of EPA review process for new or revised NAAQS standards

The six criteria pollutants come from numerous and diverse sources and can injure health, harm the environment, and cause property damage. A summary of information about these pollutants, their health and environmental effects, and common sources that emit them, is provided in *Appendix D* – more detailed information is available at EPA's website Criteria Air Pollutants.

Each of the criteria pollutants has primary and secondary limits, except CO which only has a primary limit. Primary standards protect against adverse health effects among sensitive population groups, such as children, people with asthma, and the elderly. Secondary standards protect against effects on public welfare such as decreased visibility and damage to crops, vegetation, buildings and property, and ecosystems. In the cases where the primary and secondary standards for a pollutant are not identical, an

[10]For more information on this review process, refer to EPA's website Process of Reviewing the National Ambient Air Quality Standards.

area can be designated as nonattainment for a primary standard but attainment for a secondary standard, and vice versa. The EPA is required to review and, if appropriate, revise the standards for each pollutant every five years. Table 1-2 below presents the current NAAQS.[11]

Table 1-2. National Ambient Air Quality Standards

Pollutant [links to historical tables of NAAQS reviews]		Primary/ Secondary	Averaging Time	Level	Form
Carbon Monoxide (CO)		primary	8 hours	9 ppm	Not to be exceeded more than once per year
			1 hour	35 ppm	
Lead (Pb)		primary and secondary	Rolling 3-month average	0.15 µg/m³ (1)	Not to be exceeded
Nitrogen Dioxide (NO_2)		primary	1 hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		primary and secondary	1 year	53 ppb (2)	Annual Mean
Ozone (O_3)		primary and secondary	8 hours	0.070ppm (3)	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
Particle Pollution (PM)	$PM_{2.5}$	primary	1 year	12 µg/m³	annual mean, averaged over 3 years
		secondary	1 year	15 µg/m³	annual mean, averaged over 3 years
		primary and secondary	24 hours	35 µg/m³	98th percentile, averaged over 3 years
	PM_{10}	primary and secondary	24 hours	150 µg/m³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide (SO_2)		primary	1 hour	75 ppb (4)	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
		secondary	3 hours	0.5 ppm	Not to be exceeded more than once per year

(1) In areas designated nonattainment for the Pb standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m3 as a calendar quarter average) also remain in effect.

(2) The level of the annual NO2 standard is 0.053 ppm. It is shown here in terms of ppb for the purposes of clearer comparison to the 1-hour standard level.

(3) Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) O3 standards additionally remain in effect in some areas. Revocation of the previous (2008) O3 standards and transitioning to the current (2015) standards will be addressed in the implementation rule for the current standards.

(4) The previous SO2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will additionally remain in effect in certain areas: (1) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (2) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO2 standards or is not meeting the requirements of a SIP call under the previous SO2 standards (40 CFR 50.4(3)). A SIP call is an EPA action requiring a state to resubmit all or part of its State Implementation Plan to demonstrate attainment of the required NAAQS.

[11] Any revisions to the NAAQS that occur after publication of this document can be found at EPA's website NAAQS Table.

Each NAAQS corresponds to a specific averaging time, and some pollutants have standards for more than one averaging time. The averaging time is the time period over which air pollutant concentrations are averaged for the purpose of determining attainment with the NAAQS. The number of measurements taken within each averaging time varies by standard and type of monitoring equipment.[12] Air pollutants are typically measured in either micrograms per cubic meter of air ($\mu g/m^3$), parts per billion (ppb), or in parts per million (ppm).

Tribal Air Programs and Tribal Implementation Plans

What is Air Quality Management?

Air quality management refers to all the activities that you can undertake to safeguard your air resources. These activities may include:

- Setting air quality goals,
- Evaluating existing air quality,
- Determining the emissions reductions necessary to reach these goals,
- Choosing control strategies to use to obtain those reductions,
- Implementing those strategies,
- Re-evaluating air quality and assessing results (refer to Figure 1-2).

How do you start managing air quality?

You may be new to air quality management, or you may already have an air quality management program in effect. In either case, knowledge of existing air quality in the vicinity of or on the reservation can help the tribe set air quality goals. You can use emissions inventories and ambient air quality monitoring systems to evaluate existing air quality and identify sources of emissions on your reservation as discussed in Chapter 3. The data you collect will help determine which pollutants, if any, the tribe should be concerned about.

Figure 1-2 below describes the basic steps in the air quality management process, which are applicable to all types of air quality goals, including the NAAQS. Depending on the existing air quality on your reservation, and the other factors mentioned above, you may want to set air quality goals stricter than the NAAQS and/or set goals to address other pollutants. The data you collect is just one factor you can use to set air quality goals and priorities. You may also want to consider tribal values, public health, and environmental problems related to air quality, plans for economic development, and other issues of tribal concern. More information on setting air quality goals is provided in Chapter 3.

[12] The EPA has officially approved certain brands and types of monitoring equipment for use in monitoring a specific criteria pollutant. The EPA also specified the settings at which the equipment must run, including sampling intervals. For a complete list of approved equipment and their required settings, known as EPA Designated Reference and Equivalent Methods, visit EPA's website Air Monitoring Methods – Criteria Pollutants.

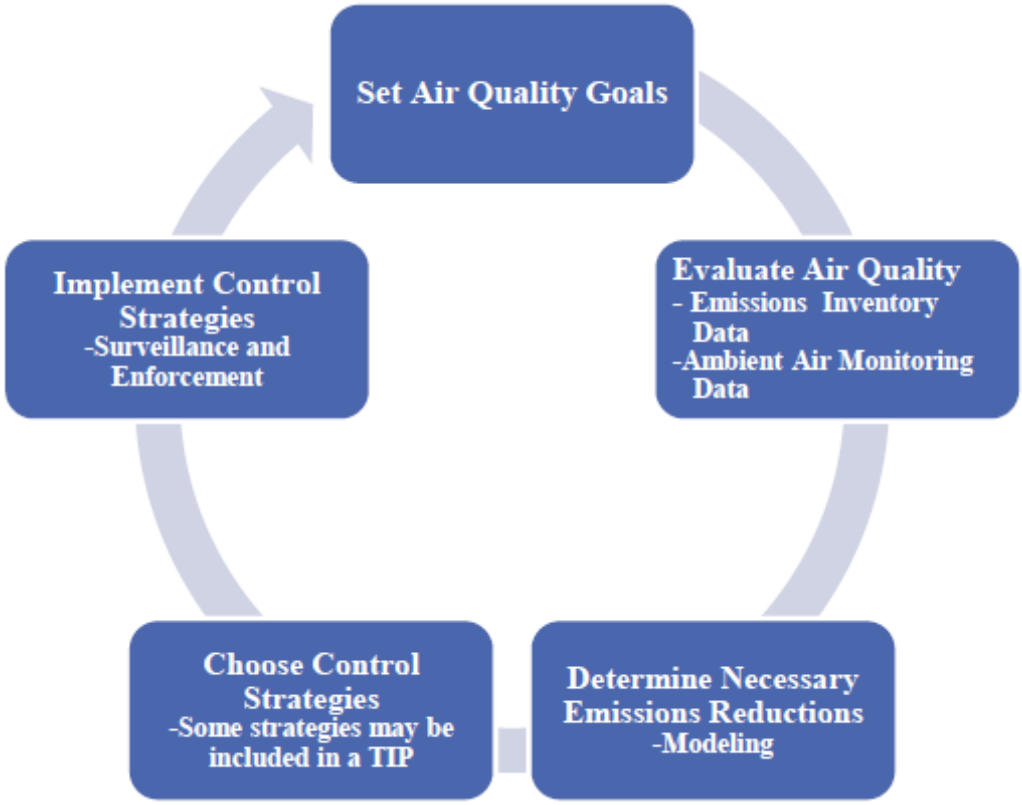

Figure 1-2. Flow diagram of the air quality management process

You may want to do some research after learning the types of sources and pollutants affecting your air quality. Different types of sources tend to emit different pollutants and different pollutants have different effects on health, the environment, and property. For example, NO_X is a prime precursor to ozone, which may be harming public health on your reservation – NO_X often comes from large industrial furnaces. PM negatively affects health and contributes to limiting the visibility of distant vistas – it is often generated by fossil fuel combustion, open burning, construction activities, and vehicles on unpaved roads. The goals you set and the strategies you choose will vary depending on the pollutants and sources that are an issue in your area.

Once you establish your air quality goals, you will need to determine if emissions reductions are necessary to reach those goals. You may use data collected through monitoring and through an emissions inventory to model the effect of different changes in emissions. Chapter 4 presents a methodology you can use to determine the emissions reductions needed if air quality exceeds the NAAQS. After establishing air quality goals and determining the necessary emissions reductions, you will need to decide which control strategies to use to obtain these reductions. To accomplish these reductions, you could decide to develop rules or form a cooperative agreement with EPA. The control strategies your tribe chooses will depend on the types of pollutants it is trying to reduce and the sources of those pollutants. Control strategies are discussed in more detail in Chapter 4.

Once control strategies are implemented, your tribe will need to ensure that sources are in compliance. Ensuring compliance involves inspecting facilities and, if necessary, taking enforcement actions that may assess penalties, if necessary. Chapter 5 presents information on compliance assurance and enforcement.

After implementing your control strategies, your tribe should continue to assess air quality through monitoring or modeling to determine how successful the strategies are. Depending on the results you find, you may decide to leave your program as it is, or you may choose to revise your goals, targeted emission reductions, and/or control strategies.

How does a TIP fit into a Tribal Air Program?

A TIP may be one part of your tribe's air program. The primary purpose of an implementation plan (whether it is developed by a state, a tribe, or EPA) is to ensure that the NAAQS are attained and maintained. A TIP is your plan for improving your ambient air quality (if it is in violation of the NAAQS); for maintaining or improving your air quality (if it is already cleaner than the NAAQS); and/or meeting regional haze program goals. Under the regional haze program, tribes may establish goals for improving visibility in Class I areas and may include regional haze plans in their TIPs.

Although not required to do so, you may choose to develop a TIP. A TIP can include:

- A strategy to attain the NAAQS if air quality violates the NAAQS,
- A strategy to maintain or improve current air quality if it is better than the NAAQS,[13]
- A preconstruction permitting program for new and modified major sources,
- A preconstruction permitting program for minor sources,
- A plan to attain regional haze goals.

Some air quality programs are not included in a TIP, but they may be covered under other tribal rules or programs. These include:

- Hazardous Air Pollutants (HAPs) program (authorized by Title I of the CAA),[14]
- Acid rain programs (Title IV),
- Operating permit programs (Title V),
- Stratospheric ozone protection programs (Title VI),
- Rules to control non-criteria pollutants,
- Nuisance rules,
- Odor rules,
- Worker exposure rules.

A TIP can be designed to respond to your particular air quality goals (associated with the criteria pollutants) and values, and can be changed over time to reflect the changing air quality concerns of your

[13] It is rare for states that are in attainment or unclassifiable status to voluntarily adopt maintenance programs. This option is presented here for tribes that may be interested in developing attainment plans.
[14] If necessary to implement a NAAQS program, a TIP could include hazardous air pollutants (e.g., if there is a nexus with VOC or PM).

tribe. Once EPA approves a TIP, its requirements become federally enforceable. The potential elements in a TIP are discussed in detail in Chapter 4.

What are the benefits of developing a TIP?

There are several benefits of developing a TIP:

- A TIP can impact the natural environment and quality of life in the area over which it applies. If you develop a TIP, you can play a more active role in managing your air resources and protecting the community's health.
- A TIP can reflect a tribe's culture. By developing a TIP, you can use your goals, values, beliefs, and priorities to create air quality regulations and permitting programs for facilities.
- A TIP enables you to regulate emissions sources within the exterior boundaries of your reservation and other areas within your jurisdiction.
- A TIP can impact the course of economic development in that area by helping you fill regulatory gaps. This provides a stable regulatory environment which, in turn, encourages economic development for prospective sources of air pollution (i.e., new industrial facilities, manufacturing centers, resource extraction operations, and other new or expanding businesses that release air pollutant emissions).
- A TIP is an exercise of your tribe's sovereignty.
- Once a TIP is approved by EPA, its provisions become federally enforceable.

How do you build the capability to develop a TIP?

Nationally, EPA supports a number of initiatives designed to help tribes develop air program capability or capacity. For example, courses on various air pollution topics are provided through the American Indian Air Quality Training Program at Northern Arizona University. These courses are highly recommended if your tribe is interested in developing a tribal air program and are available on the Institute for Tribal Environmental Professionals (ITEP) website.

Your EPA regional office provides information, technical assistance and financial resources to tribes developing environmental and air quality programs. One important source of financial assistance comes from the Indian Environmental General Assistance Program (GAP) Act[15], which authorizes EPA to award GAP grants. GAP funds are allocated to EPA regions by the agency's American Indian Environmental Office (AIEO) and are intended to help tribes build environmental program capability. GAP grants may be used for planning, developing, and establishing environmental protection programs, which can include hiring staff and monitoring if necessary to plan, develop, or establish an environmental program. GAP grants cannot fund monitoring or assessments in support of

[15]For more information on the GAP Act, visit EPA's website Indian Environmental General Assistance Program (GAP).

implementation programs.[16] Many tribes have begun air program development activities through GAP grants. GAP does not require tribal matching funds.

The CAA also authorizes EPA to award grants to support tribal air program activities. CAA grant funds are allocated to EPA regional offices by the Office of Air and Radiation (OAR) and are intended to support tribes in all phases of air program development. Under CAA Section 103 project grants – tribes can hire and train staff to conduct research and monitoring, assess tribal air issues, monitor air quality, and plan future monitoring or regulatory development. Section 103 does not require tribal matching funds. Section 105 grants are for developing and implementing air pollution control programs and are designed to support established air pollution control agencies. You are encouraged to contact your EPA regional office for more information on these grant programs.

What if you choose not to develop a TIP?

The EPA has responsibility under the CAA to ensure that public health and the environment are protected coast to coast, including Indian country. To address air quality issues in Indian country, EPA works closely with tribal environmental staff and tribal governments. In cases where a tribe does not have an approved TIP, EPA determines whether the agency should issue a Federal Implementation Plan (FIP) to protect air quality. The EPA will issue, without unreasonable delay, such Federal Implementation Plan (FIP) provisions as are necessary or appropriate to protect air quality.[17] The EPA encourages you to provide assistance if the agency develops such provisions.

The EPA has acted pursuant to this authority in several instances. For example, an area near Pocatello, Idaho that included a portion of the Fort Hall Reservation was designated as nonattainment for the PM_{10} NAAQS in 1990.[18] In 1996, the Shoshone-Bannock Tribes began monitoring PM_{10} concentrations on the Fort Hall reservation and determined that a large industrial facility located on the reservation was continuing to contribute to violations of the PM_{10} NAAQS. The tribes also determined that non-point sources on the reservation, such as open burning, unpaved roads, and agricultural activities, were contributing to the violations.

The Shoshone-Bannock Tribes believed that EPA would be better equipped to develop, implement, and enforce rules that would reduce emissions from the industrial facility because the agency had been working with the facility for several years. Therefore, the Shoshone-Bannock Tribes asked EPA to draft a FIP for the facility and worked with the agency to gather information on the industrial processes and emissions contributing to nonattainment in the area. It was also necessary to identify the reasonably available control measures for the processes, considering available technologies and their annualized costs. The EPA established emission limits for the facility, achievable with reasonably available control

[16] Detailed descriptions of the purpose of GAP and eligible activities can be found in the May 15, 2013 document Indian Environmental General Assistance Program: Guidelines on the Award and Management of General Assistance Agreements for Tribes and Intertribal Consortia.
[17] More information about Federal Implementation Plan provisions can be found in 40 CFR 49.11(a).
[18] Refer to Chapter 3 for more information on attainment and nonattainment designations.

measures, in 2000.[19] In a separate action, EPA also adopted regulations for sources in Indian country in the northwestern United States that would apply to sources on the Fort Hall Reservation.[20]

Conclusion

The CAA requires NAAQS to be established for six common pollutants that are known to be harmful to human health, the environment, and property. A TIP is the mechanism you can use to establish a program to attain and/or maintain the NAAQS. Whether to adopt a TIP is a choice you should consider in the context of your overall air program goals. If your tribe does not adopt a TIP, EPA will issue FIP provisions if the agency determines a FIP is necessary or appropriate to protect air quality.

For Further Reading

Clean Air Act

- Overview of the Clean Air Act and Air Pollution.
- Clean Air Act Requirements and History.
- The Plain English Guide to the Clean Air Act.
- Clean Air Act Text.
- CAA 1990 Amendments
  - The Clean Air Act – Highlights of the 1990 Amendments.

Tribal Authority Rule (TAR)

- Overview of the Tribal Authority Rule (TAR) Under the Clean Air Act.
- Fact Sheet: Clean Air Act Final Rule, Indian Tribes: Air Quality Planning and Management (TAR).
- Full Text of "Final" Tribal Authority Rule *(Indian Tribes: Air Quality Planning & Management)*.
- Full Text of "Proposed" Tribal Authority Rule.[21]
- Eligibility for Treatment in a Manner Similar to States (TAS).
- Strategy for Reviewing Tribal Eligibility Applications to Administer EPA Regulatory Programs.

National Ambient Air Quality Standards (NAAQS) Information

- Reviewing NAAQS: Scientific and Technical Information.
- NAAQS Table.

[19] For additional information, refer to EPA Federal Implementation Plan for the Astaris-Idaho LLC Facility (formerly owned by FMC Corporation) in the Fort Hall PM-10 Nonattainment Area; Final Rule.
[20] For more information, refer to EPA's website Federal Air Rules for Indian Reservations (FARR), which applies to 39 Indian reservations in Idaho, Oregon, and Washington.

[21] Note, this document is only available in basic text format and takes time to load.

Chapter 2: Characteristics of TIPs

This chapter explains what an implementation plan is, compares TIPs and SIPs, introduces the technical information that can support a TIP and the potential elements of a TIP, and explains the background information that may accompany a TIP when you submit it to EPA. More detailed information about the technical information that can support a TIP (such as emissions inventories and air quality modeling) is found in Chapter 3. More detailed information on the potential elements of a TIP is found in Chapter 4.

Implementation Plan Basics

What is an Implementation Plan?

An implementation plan is a set of programs and regulations developed by the appropriate regulatory agency in order to assure that the NAAQS are attained and maintained.[22] Implementation plans can also regulate pollutants that cause haze, which can negatively affect views of distant vistas. These plans can be developed by the state, tribe, or EPA, depending on which has jurisdiction in a particular area and whether the tribe chooses to develop a TIP.

What are the potential elements in a TIP?

The CAA and TAR give EPA broad discretion in approving TIPs to address the specific air quality problems and circumstances of individual tribes. As described above, a TIP can address one or more relevant criteria pollutants and may include selected elements of a complete NAAQS implementation plan, provided those elements are reasonably severable from the other CAA elements not included in the TIP. The potential elements of a TIP are:

- Attainment strategies,
- Maintenance strategies,
- Provisions to prevent downwind air quality problems,
- Source preconstruction permits,
- Regional haze plans.

The EPA believes these elements are "reasonably severable" from each other and can be approved for tribes to implement. They are briefly described below — more detailed descriptions are provided in Chapter 4. You may elect to develop a TIP that includes one or several of these elements. Elements that are initially excluded from a TIP can be included at a later date. The EPA expects that in some cases a

[22] See Chapter 3 of this document for more information on attainment, nonattainment, and unclassifiable air quality designations. Keep in mind that an area may be in attainment for some pollutants and in nonattainment for others. If this is the case on your reservation, the tribe may want to develop a maintenance strategy for some pollutants and an attainment strategy for others.

TIP may need to be supplemented with a Federal Implementation Plan (FIP), which would be administered by EPA, if it is necessary or appropriate to protect air quality.

Attainment strategies (for areas in nonattainment for NAAQS)[23]

You may find that EPA has designated your reservation as nonattainment for one or more pollutants. Or, after you conduct your own air quality assessments or study conditions near your reservation, you may find that some pollutant levels are above the NAAQS. If this is the case, you may choose to develop a TIP that includes a strategy designed to improve your air quality. You may also want to include source preconstruction permit programs in your TIP, which are discussed in more detail below.

A goal of a TIP in an area with air quality worse than the NAAQS for one or more criteria pollutants (a "nonattainment" area) would be to reduce the concentrations of those pollutants to levels at or below the NAAQS. The EPA can work with you to develop an attainment strategy for a nonattainment area. An attainment strategy generally includes:

- Enforceable emission limits and controls that will require application of at least Reasonably Available Control Measures (RACM) or Reasonably Available Control Technology (RACT) for existing sources;[24]
- Evidence the emission limits/controls are adequate to prevent NAAQS violations on the reservation (an "attainment demonstration");
- Schedules for implementing emission limits/controls and evidence that the compliance schedules will produce annual reductions in emissions until the NAAQS are met; and additional "contingency measures" to be held in reserve and used only if the primary regulations do not result in attainment of the NAAQS;
- Additional "contingency measures" to be held in reserve and used only if the primary regulations do not result in attainment of the NAAQS.

When tribal lands are part of a multi-jurisdictional area,[25] if you do not show that the emission limits/controls in your TIP are adequate to prevent NAAQS violations, EPA will review the emission limits and controls as well as compliance schedules to assure that they will not interfere with the overall plan to attain the NAAQS in the area. In cases where sources on tribal lands would interfere with a multi-jurisdictional area meeting its attainment date, the agency will develop a FIP to reduce emissions from those sources, since you are not required to meet the attainment date. Construction of new sources on the reservation could add enough emissions that jeopardize attainment of the NAAQS. Therefore, you may also want to include source preconstruction permit programs in your TIP. These permit programs, which are "severable" elements of a TIP, are discussed later in this chapter. However, if you choose not to do preconstruction permitting, EPA will implement the Tribal NSR Program (issued in 2011) in your area.

[23]A nonattainment area is an area where air pollution levels persistently exceed the NAAQS or that contributes to ambient air quality in a nearby area that fails to meet standards. Designating an area as nonattainment is a formal rulemaking process, and EPA normally takes this action only after air quality standards have been exceeded for several consecutive years. Nonattainment areas are given a classification based on the severity of the violation and the type of air quality standard they exceed.

[24] See Chapter 4 for explanations of RACT and RACM.

[25] A multi-jurisdictional area is an area that includes one or more counties or states.

The ambient air quality on the reservation may violate the NAAQS because emissions from sources located outside of your reservation are transported there. Sources of pollutants outside the TIP area may be a concern if your reservation is adjacent to or surrounded by a nonattainment area, or if it is downwind of major sources of emissions that are not under your tribe's jurisdiction. Although your tribe can only regulate sources in the area covered by its approved TIP, Chapter 4 describes ways your tribe can address this problem.

Maintenance strategies (for areas that attain the NAAQS or are unclassifiable)

An area may be attaining the NAAQS for some pollutants and be in nonattainment for other pollutants. In an attainment area, the air quality is as clean as, or cleaner than, the NAAQS for a particular pollutant. Areas for which there are insufficient air quality data to determine if the NAAQS are met may be designated "unclassifiable" and generally have the same implementation requirements as attainment areas.

If your reservation is in an attainment or unclassifiable area, you can choose to develop a TIP.[26] A goal of your TIP could be to maintain your air quality. A maintenance strategy could include:

- Enforceable emission limits/controls for existing emission sources;
- Evidence the emission limits/controls are adequate to prevent NAAQS violations on the reservation; and
- Schedules for implementing emission limits/controls strategies expeditiously.

The EPA can approve a TIP even if it does not include these elements if the TIP contains elements that are "severable" or independent from other elements. You may submit a TIP that includes enforceable emission limits/controls and compliance schedules for a single source or a TIP that does not include evidence that the emission controls are adequate to prevent NAAQS violations in other jurisdictions. The EPA can fully approve such TIP elements as progress toward developing a more complete implementation plan that meets your air quality goals.

Provisions to prevent downwind air quality problems

CAA Section 126 and 110(a)(2)(D) requires that SIPs contain measures that prohibit emissions from one area from contributing significantly to nonattainment in another jurisdiction, from interfering with maintenance of the NAAQS, and from interfering with measures required to prevent significant deterioration of air quality or to protect visibility in Class I areas. Your TIP may include these provisions, regardless of whether the TIP applies to an attainment or a nonattainment area. This is discussed in more detail in Chapter 4.

[26] It is rare for states that are in attainment or unclassifiable status to voluntarily adopt maintenance programs. This option is presented here for tribes that may be interested in developing attainment plans.

Source preconstruction permit programs

As part of an overall strategy to attain or maintain the NAAQS, the CAA provides for programs to review and issue permits to new sources and existing sources that modify their facilities. These programs are collectively known as New Source Review (NSR):

- The Prevention of Significant Deterioration (PSD) program is a federal program for attainment and unclassifiable areas.[27] Under this program, new major sources and major modifications to existing sources must obtain a PSD permit before construction.[28] You can adopt a PSD program of your own that meets EPA's requirements, or you can accept delegation to manage the federal PSD program.
- The nonattainment New Source Review (NA NSR) program is for major sources in nonattainment areas. To regulate emissions from new major sources and major modifications to existing sources in nonattainment areas, you can adopt an NSR program of your own that meets regulatory requirements, or you can accept delegation to manage the federal NA NSR program.
- The minor New Source Review (minor NSR) program is for new minor sources or minor modifications to existing major and minor sources in Indian country. A minor NSR program can be used to establish enforceable emission limits and controls for minor new sources to (1) limit the source's potential to emit,[29] (2) help attain or maintain the NAAQS, and (3) help prevent significant deterioration of air quality. As part of your TIP you can develop a minor NSR program, or you can take delegation to manage the federal minor NSR program which was established in the Tribal New Source Review (NSR) Rule issued in 2011.[30] In the absence of any action by your tribe, the minor NSR program is administered by the EPA.

Source preconstruction permit programs are described in more detail in Chapter 4.

Regional haze plans

The purpose of regional haze plans is to improve visibility in mandatory federal Class I areas (primarily national parks and wilderness areas). In 1999, EPA issued regional haze regulations that require states to work together, specifically to improve regional haze. Five regional planning organizations (RPO's)[31] were established to analyze the nature and causes of regional haze in mandatory federal Class I areas,

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[27] For more information, refer to EPA's website Prevention of Significant Deterioration Basic Information.

[28] In general, major sources are sources that could emit over a certain amount of a pollutant (the "major source threshold" for that pollutant); minor sources are sources that could emit less than that amount. The major source threshold can vary depending on the particular pollutant and the air quality status of the area. For example, in an area designated attainment or unclassifiable for a particular NAAQS, a major stationary source is defined as any source that emits, or has the potential to emit, 250 tons per year (or, for specific types of sources, 100 tons per year) of that NAAQS pollutant. For attainment and unclassified areas, the definitions of major source and major modification are given in 40 CFR 51.166(b)(1) and (2), respectively. However, when EPA administers the PSD program in Indian country, the relevant definitions of major source and major modification (which are unchanged) are found at 40 CFR 52.21(b)(1)(i) and 52.21(b)(2)(i). For nonattainment areas, the definitions of major source and major modification are found at 40 CFR 51.165(a)(1)(iv) and (v), respectively. For serious PM nonattainment areas, the definition of a major source is in the CAA section 188. For moderate, serious, severe, or extreme ozone nonattainment areas, the definition of major source is in the CAA section 182(b), (c), (d), and (e), respectively.

[29] A source's "potential to emit" estimate is based on its maximum capacity after taking into consideration enforceable permit conditions, such as required air pollution control equipment and restrictions on the type of materials combusted, the type of materials processed, and the annual hours of operation.

[30] Tribal New Source Review Rule: 76 FR 38748 (July 1, 2011).

[31] For more information on Regional Planning Organizations, refer to EPA's website Visibility - Regional Planning Organizations.

evaluate potential emission reduction strategies for meeting the goals of EPA's Regional Haze Program, and generally facilitate the exchange of information among all participating governments. As funding for the RPOs ended, the RPO activities have, to some extent, been continued by other organizations.

You may wish to include regional haze plans as part of your TIP if you are concerned about diminished visibility on your reservation, or if sources on your reservation contribute to haze in a federal Class I area. Regional haze plans are discussed in more detail in Chapter 4.

Developing a TIP

What technical information do you need to develop a TIP?

Information on existing emissions and ambient air quality in the area covered by your proposed TIP will help determine your air quality goals and which TIP elements to develop. Two mechanisms for obtaining such data, emissions inventory and air quality monitoring, are introduced below and discussed in greater detail in Chapter 3.

Emissions inventory

An emissions inventory is a quantitative list of the amounts and types of pollutants that are entering the air from each source on your reservation. Your inventory may be comprehensive, looking at all pollutants, or focused on selected pollutants of concern. The fundamental elements in an emissions inventory are the characteristics and locations of the sources, as well as the amounts and types of pollutants emitted. You may want to develop an emissions inventory to help identify air pollution concerns and determine the air quality goals you want to address in your TIP.

Air quality monitoring

The concentration of various air pollutants can be measured using devices called monitors. Monitoring data collected on or in the vicinity of your reservation can help determine if the existing air quality on your reservation meets the NAAQS and can assist in setting air quality goals. You may monitor the short-term and annual concentrations of pollutants that your tribe is concerned about to determine if those concentrations are above or below the NAAQS. Alternatively, if you decide not to develop an air quality monitoring network, you may be able to utilize air quality data from nearby monitors operated by other entities such as states, regional planning organizations, or the federal government. And, you can still develop a TIP without already having monitoring data because some TIP elements, such as regional haze plans, can be developed without knowing the exact current concentrations of pollutants on the reservation. In order to develop attainment and maintenance plans, it is important to have at least a good idea of where your reservation's air quality stands in relation to the NAAQS. Having emissions inventory and monitoring data will make the process of developing attainment and maintenance plans easier.

What documents must accompany a TIP?

There are three kinds of documents that must accompany a TIP when it is submitted to EPA for approval: 1) a request for a determination of eligibility; 2) administrative elements; and 3) a demonstration of enforcement authority. The request for a determination of eligibility (i.e., TAS eligibility) is outlined in Chapter 1. A discussion of the required administrative elements[32] can be found in Chapter 6, in the section entitled "Submitting Your TIP to EPA for Approval." A discussion of enforcement authority can be found in Chapter 5. A sample submission completeness checklist is provided as *Appendix I.*

How do TIPs compare to SIPs?

The CAA requires each state to adopt a SIP. Several sections of Title I of the CAA provide structured, mandatory requirements for SIP contents.[33] CAA requirements for SIPs are laid out in Title 40 of the Code of Federal Regulations (CFR) part 51. The SIP programs can reflect each state's particular needs and air quality issues, but they must meet certain federal standards. If a state fails to submit an approvable SIP within the schedules provided in the NAAQS rules, EPA must make a finding of failure to submit a SIP and begin a "FIP clock" giving the state 24 months to submit their SIP or any revisions. The EPA is required to develop and enforce a federal implementation plan (FIP) to implement the applicable CAA requirements for that state if the clock runs out.

Section 301(d) of the CAA as amended in 1990 and as implemented through the Tribal Authority Rule (TAR), provides for tribal implementation of CAA programs. Tribes can choose to implement certain CAA programs by developing a TIP. TIPs are different from SIPs in that TIPs:

- Are optional,
- Are modular,
- Have flexible submission schedules, and
- Allow for joint tribal and EPA management.

TIPs are optional

The CAA requires each state to adopt a SIP. Unlike states, tribes are not required to adopt an implementation plan. In the Tribal Authority Rule, EPA recognized that not all tribes will have the need or the desire for an air pollution control program. If you do elect to adopt rules to regulate sources of criteria air pollutants under your jurisdiction, these rules will form the core of a TIP. If you elect not to develop a TIP, EPA will adopt a FIP if necessary or appropriate to protect air quality.

[32] More information on the criteria the EPA uses to determine the administrative completeness of implementation plans can be found in 40 CFR 51 Appendix V.
[33] The SIP requirements are established in the CAA section 110(a), Part C (*Prevention of Significant Deterioration*), and Part D (*Plan Requirements for Nonattainment Areas*). The EPA's SIP regulations are codified in 40 CFR parts 51 and 52.

TIPs are modular

The TAR offers individual tribes the flexibility to include in a TIP only those TIP elements that address their specific air quality needs and that they have the capacity to manage. Under this modular approach, the TIP elements you adopt must be "reasonably severable" from the package of elements that can be included in a whole TIP. "Reasonably severable" means that the elements selected for the TIP are not integrally related to elements that are not included in the TIP and are consistent with applicable CAA and regulatory requirements.[34]

TIP elements are discussed in more detail in the next section of this chapter and in Chapter 4.

TIPs have flexible submission schedules

Neither the CAA nor the TAR requires tribes to develop TIPs. Therefore, unlike states, tribes are not required to meet the implementation plan submission deadlines or attainment dates specified in the CAA. You can establish your own schedules for developing TIP elements (e.g., regulations to limit emissions of a specific air pollutant) and submit them to EPA. You will also not face sanctions for failing to submit or for submitting incomplete or deficient TIPs.

Once TIP elements are approved, EPA will expect you to diligently implement them. Therefore, you should work with your EPA regional office to develop schedules to expeditiously implement the regulations and programs included in TIP elements. If you fail to implement an approved regulation or program, EPA may exercise its authority to enforce the TIP. The agency could also sanction you (e.g., withhold grant funds related to the regulation or program) for failing to implement an approved program.[35]

TIPs allow for joint tribal and EPA management

Joint management can be helpful because it allows you to concentrate on specific areas of interest or need. You can revise a TIP and take on or give back programs based on changes in tribal need or capacity. The EPA may regulate emission sources that you choose not to include in a TIP if it is necessary or appropriate to adequately protect air quality. The EPA may also issue federal regulations initially through a FIP, and later approve tribal rules covering particular types of sources or activities in a TIP. This type of joint management should result in a program fully protective of tribal air resources.

For example, you may initially want to adopt and implement rules for open burning and construction activities to address particulate matter concerns, but defer regulation of industrial sources of emissions to the EPA. At a later date, you may decide to adopt rules for industrial sources of emissions as well. This modular approach would allow for an easy transition from the federal industrial source rules to the tribal rules. When the tribal rules are approved, they become the federally enforceable requirements and replace the existing FIP requirements.

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[34] The requirement that program elements be "reasonably severable" is set forth in the Tribal Authority Rule (TAR) at 40 CFR 49.7(c).
[35] Once a TIP is approved, a tribe may be subject to sanctions if the EPA determines that a requirement of the approved TIP is not being implemented. CAA Section 179(a)(4)

It is important to remember that as part of your overall air program, you may develop requirements that are not part of your TIP. These requirements can support other environmental and cultural issues that are important for the tribe and do not have to be approved by EPA. For example, you may want to adopt regulations on residential wood combustion or open burning (as many tribes have already done).

Where are the statutory and regulatory requirements for approving a TIP?

If you decide to develop and submit a TIP, EPA will review it in light of the requirements in Title I of the CAA, the CAA as amended in 1990, the Tribal Authority Rule (TAR), and EPA guidance.[36] You should also review the TAR which has specific provisions regarding TIPs. In addition, the preamble notices accompanying the proposed and final TAR provide guidance regarding TIP requirements.[37] It is important to keep in mind that TIP requirements may vary depending on the specific TIP elements your tribe intends to adopt. For this reason, and considering the large body of potentially applicable requirements, EPA strongly encourages you to speak with your EPA regional contact to determine the requirements that may apply to your specific TIP. Your regional contact can also identify relevant guidance documents that may be useful for you to consult as you develop your TIP.

What tools are available to help develop an implementation plan?

To assist state, tribal, and local air quality agencies in developing implementation plans for the ozone standard in particular, EPA has provided a number of tools which are available at EPA's website State Implementation Plan (SIP) Checklist Guide. These "tools" identify guidance related to several implementation plan elements, including attainment demonstrations/modeling, applicable control measures, Control Techniques Guidelines (CTG) and Alternative Control Techniques (ACT) documents, relevant rules and policies, and related links, including:

- Attainment Demonstrations / Modeling - Guidance documents on how to prepare attainment demonstrations for National Ambient Air Quality Standards (NAAQS) in particular for 8-hour ozone nonattainment areas, using air quality modeling and other relevant technical analyses.[38]
- Applicable Control Measures - Links to list of potential measures for 8-hour ozone implementation, a relatively complete list of categories of sources that may offer emission reduction opportunities for 8-hour ozone SIPs. Please note: this is not a comprehensive list but merely examples of control technologies; EPA does not specifically endorse one over the other.
- CTG & ACT Documents - Control Techniques Guidelines (CTGs) are used to presumptively define VOC RACT while Alternative Control Techniques (ACTs) describe available control technologies and their respective cost effectiveness.

[36] See CAA Section 110, Sections 160-169, Sections 171-192, and 40 CFR Parts 51 and 52 for identifying requirements for the preparation, adoption, and submission of Implementation Plans.
[37] The Tribal Authority Rule notices can be found at 63 Federal Register 7254 (Final Rule), and 40 CFR Part 9, 35, 49, 50, and 81.
[38] For more information, refer to EPA's websites Guidance on the Use of Models and Other Analyses in Attainment Demonstrations for the 8-hour Ozone NAAQS, and State Implementation Plan (SIP) Attainment Demonstration Guidance.

- Relevant Rules & Policies - Links to relevant regulatory documents and actions. For example: Federal Register notices, additional links to fact sheets, and memos related to 8-hour ozone implementation.
- Examples of States' SIP Protocol - Selected State SIPs which demonstrate the type of elements that are included in a SIP.[39,40]
- Air Quality Implementation Plans - Further information and assistance on State Implementations Plans (SIPs), Federal Implementation Plans (FIPs), and Tribal Implementation Plans (TIPs).

This document provides many more helpful resources, examples, and links in later chapters.

Conclusion

TIPs can be flexible enough to meet tribal needs while ensuring the NAAQS are attained and maintained. You can choose to adopt only those TIP elements that best address your air quality needs and that you have the capability to administer.

Setting air quality goals and gathering data to inform those goals is described in Chapter 3. The potential elements of a TIP (attainment and maintenance strategies, provisions to prevent downwind air quality problems, source preconstruction permit programs, and regional haze plans) are described in Chapter 4. Compliance strategies and enforcement programs are described in Chapter 5.

[39] For more information, refer to EPA's website Indiana's Joint Protocol for Processing State Implementation Plan (SIP) Submittals. This protocol focuses on Indiana's state rulemaking process and EPA's procedures for state implementation plan (SIP) approval. It provides protocol for developing and approving rules, documents, and modeling required for a SIP. It also establishes goals and time frames for deliverables and responsibilities.

[40] For more information, refer to EPA's website Infrastructure SIP Requirements and Guidance.

Chapter 3: Goal Setting and Air Quality Assessments for a TIP

This chapter explains how EPA classifies air quality in relationship to the NAAQS and discusses what your tribe should consider when setting its air quality goals in relationship to the NAAQS. Setting air quality goals is sometimes the first step in developing a TIP, but a tribe's air quality goals will often depend on the results of its evaluation of its air quality. This chapter discusses two tools: emissions inventories and air quality monitoring systems, which you can use to evaluate the air quality on your reservation, set air quality goals, and determine the most appropriate control measures for meeting those goals.

Setting Air Quality Goals

What should be considered in setting air quality goals for your TIP?

The existing air quality on your reservation is the most important factor in determining the goals for your TIP. Every TIP's first and most important goal should be to attain or maintain the NAAQS. Information about your reservation's current air quality, geography, and meteorology, as well as your tribe's cultural and spiritual values, will help you decide how to design your TIP so that the NAAQS can be maintained or attained. Diverse factors can affect air quality on reservations. Some reservations are adjacent to urban areas and are affected by pollutants from the urban area as well as sources within their boundaries. Other reservations are more rural and may or may not have sources of pollutants within their boundaries. Because some pollutants can travel great distances, reservations may also be affected by emissions from sources far outside their boundaries.

If your reservation is attainment for some or all NAAQS, your basic goal would be to develop a TIP to specify the actions that will maintain good air quality and prevent deterioration of air quality. For those pollutants with concentrations above the NAAQS, you would develop a TIP to specify the actions you could take to reduce the emissions from sources on the reservation. You could decide to develop a TIP to bring your air quality into attainment and a separate TIP to maintain air quality, if your reservation is meeting the NAAQS for some but not all pollutants.

In addition to the existing air quality on your reservation, other factors to consider when setting air quality goals include: the importance or value of clean air and clear vistas to the members of your tribe and the tribal economy; the existing sources and types of air pollutants on or near your reservation; public health or environmental problems related to air quality; the potential for new air pollution sources to locate on your reservation; the cultural or spiritual values of your tribe; and the ways of life of your tribe members that could be affected by air quality issues. With these in mind, and an assessment of air quality completed, you may decide you want to develop air quality standards that are more stringent

than the NAAQS for criteria pollutants. You can also develop air quality goals for non-criteria pollutants to address your particular social, cultural, and environmental needs – these goals, and the strategies to meet them would not be included in a TIP.

It is important to remember that the TAR allows tribes to take a modular approach when developing a TIP so that you can develop your program in a stepwise fashion, as long as the pieces you are working on are "reasonably severable." If your air quality management capability changes, or if your goals change, you can add or change elements of your TIP as you see fit.

What if you want to set standards more stringent than the NAAQS?

If the air quality on your reservation is currently better than the NAAQS, your tribe may want to set air quality goals more protective than the NAAQS. You may remember that the CAA gives states and tribes the freedom to set standards as strict as they like, as long as they are below the NAAQS. One way to reduce pollution to levels below the NAAQS is through a source preconstruction permit program. The PSD program is a source preconstruction permitting program applicable to areas with air quality that meets the NAAQS. The primary purpose of the PSD program is to preserve good air quality in areas that meet the NAAQS while still allowing economic development to occur. The EPA currently administers the PSD program in Indian country, but a tribe can develop a more stringent permitting program if it chooses. For more information on this program, see Chapter 4.

What are some typical initial steps in setting air quality goals?

Your preliminary step may be to assess the current situation on your reservation by developing an emissions inventory and establishing an air quality monitoring network. An **emissions inventory** is a list of facilities and activities that cause air pollution, including the types and amounts of pollutants emitted from those activities. An **air quality monitoring network** is one or more sites where instruments are located to sample the air continuously, daily, or periodically. Meteorological stations often are part of air quality monitoring networks. Monitoring data can be used to determine the concentrations of pollutants in your communities, and which of the NAAQS, if any, are being violated. Information on emissions inventories and air quality monitoring is provided later in this chapter.

If data from your tribe's emissions inventory or monitors indicates that existing pollutant concentrations are at or below the NAAQS, or if you can be reasonably sure they are (e.g., there are no significant sources of air pollution on your reservation or in adjacent areas), the next step in your TIP process may be to develop maintenance strategies for one or more air pollutants. The goal of a maintenance strategy is to limit air pollutant emissions so as to maintain pollutant concentrations at levels at or below the NAAQS. If data indicates it, or if there are significant sources of air pollution on your reservation or in adjacent areas, the existing concentrations of some pollutants may violate the NAAQS. If this is the case, your goal may be to develop an attainment strategy to reduce the concentrations of those pollutants to levels below the NAAQS.

Even if EPA's designation (attainment, nonattainment, or unclassifiable) turns out to be different from what you had planned for, your strategy can be adapted to be used in another way. For example, if your reservation is nonattainment for a pollutant that you have developed a maintenance strategy for, you can use elements of the maintenance strategy once your reservation reaches attainment status. Also, in the opposite situation, your attainment strategy can be used as a contingency measure in case pollutant levels change unexpectedly and your reservation becomes nonattainment for a pollutant.

The following section outlines the designation process. Air quality monitoring and emissions inventories are discussed later in the chapter. For more information on attainment and maintenance strategies, see Chapter 4.

Air Quality Designations

The primary goal of most TIPs should be to either maintain pollutant concentrations at or below the NAAQS or to reduce pollutant levels below the NAAQS. Therefore, it is important to both understand NAAQS designations and to know where your reservation's pollution levels lie with respect to the NAAQS.

How are areas designated in relationship to the NAAQS?

The CAA requires EPA to designate all areas in the country based on the area's air quality. Designation is a term that describes the air quality status in a particular area for any of the six common "criteria" pollutants. After working with the states and tribes, and considering the information from air quality monitors and all other relevant information, EPA formally designates areas as "nonattainment" (not meeting the standards or contributing to air quality in a nearby area that is not meeting the standard); "attainment" (meeting the standard and not contributing to a nearby area that is not meeting the standard); or "unclassifiable" (insufficient data to determine whether the area is meeting or not meeting the standard). Each designation is for a specific air quality standard for a criteria pollutant. An area can be in attainment for one standard and nonattainment or unclassifiable for another.

Historically, for initial designations after EPA establishes a new or revised NAAQS, EPA has used a designation category of unclassifiable/attainment for areas that are monitoring attainment or that do not have monitors and that are not contributing to a nearby violation. The agency expects to continue to use the unclassifiable/attainment category for future designations.

As noted in Chapter 2, EPA periodically reviews the NAAQS and may, in that process, establish a new or revised standard. The EPA is required by the CAA to make final designations for the entire country within two years after each new or revised standard is adopted, unless the EPA Administrator has insufficient information to issue designations by that time.

A variety of tools are used to determine the designation and boundaries for an area, including nearby monitors, modeling, or other methods. Air pollutant modeling has proven that some pollutants can be transported great distances. Therefore, it is possible that even reservations in relatively rural areas with no nearby sources of air pollutant emissions may not meet the NAAQS.

Nonattainment areas

The CAA requires EPA to designate as nonattainment any area that is violating the NAAQS or contributing to a violation in a nearby area. Typically, EPA bases the designations on the most recent air quality data and an assessment of factors to determine contribution to a nearby area.

The CAA requires nonattainment areas to be classified for some pollutants, depending on the severity of the air pollution problem.[41] For example, ozone nonattainment areas are classified as marginal, moderate, serious, severe, or extreme, depending on the severity of their air quality problem.[42] The regulatory requirements increase for each classification of nonattainment area, with extreme ozone nonattainment areas having the most stringent set of requirements. Attainment deadlines also vary from three years for marginal areas to 20 years for extreme areas.

Nonattainment areas for carbon monoxide and PM_{10}[43] are classified as either moderate or serious, with different regulatory requirements for each.[44] For $PM_{2.5,}$ lead, sulfur dioxide, and nitrogen dioxide nonattainment areas there are no mandatory classifications.[45] Also, there are currently no carbon monoxide or nitrogen dioxide nonattainment areas. With all nonattainment areas, you have the flexibility to work with EPA to ensure that appropriate regulatory requirements are applied to Indian country sources.

Attainment areas

An attainment area is a geographic area in which the ambient level of the criteria pollutant meets the NAAQS for that pollutant and the area does not contribute to a violation in a nearby area. In an attainment area the goal is to maintain air quality that meets or is cleaner than the NAAQS.

Since all attainment areas meet the NAAQS, they are not classified based on air quality in the same way as non-attainment areas. However, they are classified based on other factors, such as the development status of the area (e.g., national wilderness areas). This is discussed in a later section.

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[41] For more information on the NAAQS, refer to EPA's website Review National Ambient Air Quality Standards (NAAQS): Scientific and Technical Information and Criteria Air Pollutants. For more information on nonattainment areas and a complete listing, refer to EPA's website Nonattainment Areas for Criteria Pollutants (Green Book).

[42] For more information on ozone nonattainment area requirements, see CAA sections 181 through 185.

[38] The NAAQS for particulate matter sets levels for particles that have a diameter of 10 micrograms or less (PM_{10}) and for particles that have a diameter of 2.5 micrograms or less ($PM_{2.5}$).

[44] For more information on carbon monoxide nonattainment area requirements, see the CAA sections 186 and 187. For more information on PM nonattainment area requirements, see CAA section 188 through 190.

[40] For more information on sulfur dioxide, lead, or nitrogen dioxide nonattainment area requirements, see CAA sections 191 and 192.

Unclassifiable areas

An unclassifiable area is a geographic area that cannot be classified, on the basis of available information, as meeting or not meeting a NAAQS for a particular pollutant.

Ozone Transport Region[46]

The Clean Air Act (CAA) sets out specific requirements for a group of Northeastern states that make up the Ozone Transport Region (OTR). States in this region are required to submit a SIP and install a certain level of controls for the pollutants that form ozone, even if they meet the ozone standards. The region is comprised of the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the consolidated metropolitan statistical area that includes the District of Columbia.

How can I find out if my tribe's reservation is in a nonattainment area?

To find out if your tribe's reservation is in or near a nonattainment area, you can consult EPA's Green Book, which identifies nonattainment areas by county. This information could be helpful in determining air quality if your tribe submits a designation recommendation to EPA (see below). The Green Book also contains pertinent Federal Register notices.[47]

In addition, at 40 CFR part 81, subpart C, you can learn the status of each air quality control region in each state with respect to the NAAQS and the official boundaries of areas designated in attainment, nonattainment, and unclassifiable.

How can my tribe influence the designation process for its reservation?

After the issuance of a new or revised NAAQS, the Governor of each state is required to submit to the EPA a list of recommendations for which areas of the state should be nonattainment, attainment, or unclassifiable with respect to the new or revised standards. Taking into consideration all submitted designation recommendations, EPA issues the official designations for all areas of the country. Section 107(d) of the CAA requires EPA to designate areas no later than two years from issuance of a new or revised standard, unless EPA has insufficient information to complete the designations in that time frame. In that case, EPA may take up to one additional year to complete the designations. When there is a new NAAQS, EPA will send you a "consultation letter" notifying you of the designation process. The EPA encourages tribes to submit designation recommendations for their reservations, or other areas under their jurisdiction, to the agency; however, **no tribe is required to do so**.

[46] For nonattainment and Ozone Transport Region (OTR) SIP requirement, refer to EPA's website Nonattainment and Ozone Transport Region (OTR) SIP Requirements.
[47] Area designations for all the NAAQS can be found at 40 CFR Part 81.

States face deadlines for submitting their recommendations, but since you have no obligation to submit one in the first place, you have no deadline. However, in order for your input to be taken into consideration, you must submit your recommendation in a timely manner so that EPA has adequate time to consider your recommendation before making a final decision on designations. You can make a designation recommendation regardless of whether EPA has determined your eligibility to be treated in the same manner as a state (TAS) for purposes of the CAA.

The EPA believes it is important to work with all federally-recognized tribes to provide the opportunity to participate in the designation process. The agency wants to ensure early, transparent, and effective communication in proposing area designations. Therefore, EPA intends to solicit relevant air quality information and designation recommendations from, and offer consultation to, all tribes, regardless of their TAS status. This approach is consistent with the federal government's trust responsibility to federally-recognized Indian tribes as well as various policies relating to tribes.

The topic of designation recommendations is discussed in detail in EPA's guidance document entitled, "*Developing Designation Recommendations for Areas of Indian Country*." A few of the major concepts in that document are summarized below.

Options for tribal participation in the designation process

Your participation in the designation process for your area of Indian country is encouraged and supported by EPA. You may choose not to be involved, or you may choose a level of involvement that matches your tribe's priorities and resources (see examples listed below). Regardless of your level of participation, EPA will promulgate a designation for the area. Examples of past tribal participation include:

- Tribe does nothing,
- Tribe only participates in the consultation process,
- Tribe submits a recommendation letter to EPA without multi-factor[48] (technical) analysis,
- Tribe submits a designation recommendation with a detailed multi-factor analysis, and
- Tribe submits a designation recommendation for a separately designated area of Indian country (separate from surrounding or adjacent areas) with the accompanying documentation of the Indian country boundary and the multi-factor analysis.[49]

A designation recommendation from a tribe is a formal submittal from the tribal official to EPA. A typical designation recommendation contains the following elements:

[44] A multi-factor analysis should address air quality data, emissions-related data, meteorology, geography/topography and jurisdictional boundaries.

[45]For guidance on the National Ambient Air Quality Standards (NAAQS) Designation Process, refer to EPA's website Tribal Policy Documents. This website includes information on submitting a designation recommendation for a separately designated area of Indian country *Policy for Establishing Separate Air Quality Designations for Areas of Indian Country*," (PDF) (16pp, 1MB, 12/20/2011) and *Guidance to Regions for Working with Tribes During the National Ambient Air Quality Standards (NAAQS) Designations Process*" (PDF) (10 pp, 713 K, 12/20/2011). For guidance specific to ozone designations, refer to EPA's websites Ozone Designations Guidance and Data and EPA Guidance on the Area Designations for the 2015 Ozone NAAQS. The site also contains links to documents related to the 2015 ozone standards, including "*EPA Guidance on the Area Designations for the 2015 Ozone NAAQS*," (PDF) (26 pp, 9 MB, 02/25/2015).

- A formal request from a tribal official authorized to act on behalf of the tribe,
- Documentation of the boundary of the area of Indian country to which the recommendation pertains, and
- A multi-factor analysis (see below) to support the recommendation.

Establishing a separate designation for Indian country

A state recommendation for designation of an area, including or adjoining an area of Indian country, does not necessarily determine the designation for that area of Indian country. However, the conditions that support the state's designation recommendation, such as air quality data and the location of sources, may indicate the likelihood that similar conditions exist in that area of Indian country.

When making designation recommendations, you must define one or more areas, which contain all or part of your reservation, and you should specify the designation for each area.

The EPA's *Policy for Establishing Separate Air Quality Designations for Areas of Indian Country*, released in December 2011, now informs EPA's decisions on these recommendations or requests on a case-by-case basis, which are made after consultation with the tribe and considering the weight of evidence from the multi-factor analyses and other relevant information. Listed below are examples of scenarios that EPA is now able to consider:

- The tribe recommends/requests a separate attainment area from an adjacent attainment area;
- The tribe recommends/requests a separate attainment area from the adjacent nonattainment area;
- The tribe recommends/requests a separate nonattainment area or different nonattainment classification from the adjacent nonattainment area; or
- The tribe recommends/requests a separate nonattainment area from the adjacent attainment area.

Multi-factor analysis

If you decide to submit a designation recommendation, EPA recommends that you conduct a multi-factor analysis to provide evidence supporting your recommendation. You may submit your designation recommendation as a simple letter of request without any supporting analysis if your tribe chooses not to do one or if you lack resources, but your recommendation will carry more weight if it is accompanied by a multi-factor analysis. A multi-factor analysis considers five different factors together to determine what the designation for a defined area should be.[50] The five factors are:

- **Air quality data**: Data from nearby regulatory or non-regulatory monitors;
- **Emission-related data**: Emissions inventory information on stationary sources that contribute to the air pollution in your area and information on non-point or mobile sources if such information is necessary;

[50] Refer to EPA's website Tribal Policy Documents for the guidance document entitled, "*Developing Designation Recommendations for Areas of Indian Country*". This document provides additional information/detail on what to include with respect to each factor, sources of information, and summaries of analyses submitted by tribes to support their recommendations.

- **Meteorology**: Prevailing weather patterns (e.g. winds, temperature, precipitation) that may affect air quality within your boundaries, bring in pollutants from other areas, or transport pollutants from your area to downwind nonattainment areas;
- **Geography/topography**: Physical features of land or water that might define the air shed and thus affect the formation and distribution of pollution; and
- **Jurisdictional boundaries**: The defined legal boundaries of the areas that pertain to the designation recommendation.

Air Quality Classification

The CAA includes special authorities and provisions to help protect air quality in areas that attain the NAAQS. Tribes can use these authorities and provisions to meet their air quality goals, particularly goals related to visibility.

The CAA establishes three classes of attainment/unclassifiable areas, Class I, II, and III.[51] Each class differs in terms of the amount of growth that is permitted.

Class I areas are held to the strictest air pollution standards and allow only a small degree of air quality deterioration. "Federal Class I" areas are the Class I areas that were created in the CAA. These areas include national wilderness areas and national memorial parks greater than 5,000 acres, national parks greater than 6,000 acres, and international parks.

Class II areas can accommodate normal, well-managed industrial growth. Except for areas that the CAA designated as Federal Class I areas, all areas of the country were initially classified as Class II areas.

Class III areas allow for more intensive development and greater emissions of criteria pollutants.

Procedures exist under the PSD regulations to reclassify the Class II areas to either Class I or Class III.

States and tribes may elect to have areas redesignated to Class I to receive greater air quality protection, or to Class III to allow for more intensive development. For guidance on the process of redesignating an area to Class I, refer to *Appendix H: Procedures for Area Redesignation to Class I* and the *Guidance for Indian Tribes Seeking Class I Redesignation of Indian Country Pursuant to Section 164(c) of the Clean Air Act* (August 2013). To date, five tribes have had all or part of their reservations redesignated to Class I. Additional information on the redesignation process is found later in this chapter and in Chapter 4.

[51] For more information on Class I, II, and III designations of attainment areas, refer to CAA section 162.

Developing an Emissions Inventory

What is an emissions inventory?

An emissions inventory identifies the activities on your reservation that cause air pollution and the types and amounts of pollutants emitted by those activities. A source of air pollution is any activity that causes pollutants to be emitted into the air. Examples of a source could be a large industrial facility, a gas station, motor vehicles, or fires. An emissions inventory is a quantitative list of the amounts and types of pollutants that are entering the air from all sources within a certain area. The fundamental elements in an emissions inventory are the characteristics and locations of the sources, as well as the amounts and types of pollutants emitted. An emissions inventory conducted for a reservation can range from a simple summary of sources of air pollution on or near the reservation to a comprehensive accounting of exactly where air pollution is coming from and how much of it there is. The amount of effort expended on creating an inventory depends on the purpose for which you conduct your inventory.

Why would you conduct an emissions inventory?

An emissions inventory is one of the most basic tools of air quality management. With an emissions inventory you can simulate air pollution formation and transport (e.g., ozone), estimate potential pollutant concentrations on your reservation, and estimate the effectiveness of potential emission reduction requirements. You may decide to conduct an inventory if tribal members discover that your reservation has an air quality problem. For example, an air quality problem may be discovered by finding that large numbers of reservation residents are experiencing respiratory problems or by noticing that haze seems to be blocking the view of a distant mountain range or butte more frequently than in the past. Establishing a baseline emissions inventory quantifies how much pollution is currently being released into the air and allows you to make decisions on how many new pollution sources should be allowed.

How can an emissions inventory be useful to your tribe?

Once you know how much air pollution is produced on your lands and how much is produced by nearby sources, you can make informed decisions about how new sources of air pollution will affect you. If a new business or development is being proposed on the reservation, you can ask for estimates of how much air pollution the new development would produce to determine how the new source will impact overall air quality. For new sources being proposed outside but near the reservation, you will be able to comment on how pollution from the new source will affect air quality on the reservation.

An emissions inventory can help you determine if you want to require that on-reservation sources control their emissions. You may decide that you wish to regulate these sources through developing tribal ordinances or tribal air quality permitting programs. If you find that unpaved roads on your reservation are producing pollution, you may decide to make paving a priority.

Are there any regulations governing the tracking and reporting of emissions?

For many years, EPA has maintained a number of requirements for emissions inventory reporting. The agency has revised and simplified the reporting requirements, added several new requirements related to particulate matter and regional haze, and moved them all to a single location in the Code of Federal Regulations — this action was called the Air Emissions Reporting Rule (AERR).[52] The notice accompanying the rule specifically states that tribes are not required, as a general matter, to develop emissions inventories or to comply with the requirements of the AERR. However, it does provide additional guidance to tribes on how to develop and perform quality assurance on emissions inventories. The AERR notice also discusses some of the benefits of reporting emissions from tribal lands into the National Emissions Inventory (NEI). Tribal data submitted to EPA is available on the Emissions Inventory System (EIS).[53] The EIS may be used to prepare reports on the data submitted by your tribe, as well as surrounding state and local agencies.

What types of emissions inventories are there?

There are three types of emissions inventories, depending on the intended use of the data:

- **Base-year inventories** provide information about the emission levels at the start of pollution-control efforts. These inventories provide a baseline against which progress in reducing or maintaining emissions can be measured. They also inform decision-makers about how much and what types of pollutants are being emitted, which can be used in future permitting decisions. The other types of inventories are derived from the base-year inventory, so it is important that it is as comprehensive, accurate, and current as possible.
- **Periodic inventories** are generally done every 1-3 years after the base-year inventory, depending on the needs of your program. Periodic inventories are used to track changes in emissions over time. They can be compared to the base-year inventory to identify the progress achieved in reducing emissions over the interim period.
- **Modeling inventories** are only prepared to support air quality modeling efforts. Air quality models are used to simulate the chemical reactions of pollutants and their dispersion in the atmosphere. Very specific information on emission sources is required for air quality models (e.g., stack height, emissions temperature, etc.). Modeling inventories are based on either allowable or actual emissions, depending on the purpose of the modeling. Allowable emissions are the type and quantity of emissions allowed by regulations. Allowable emissions for the base-year and projected for the attainment year are used to evaluate whether an attainment strategy will reduce emissions enough to meet the NAAQS. Actual emissions are the type and quantity of emissions actually emitted from sources during normal operation and may be more or less than the allowable emissions. Actual emissions data are used with air quality monitoring data to evaluate how well the model performs.

[52]For more information, refer to EPA's website Air Emissions Reporting Requirements (AERR).
[53]For more information, refer to EPA's website Emissions Inventory System (EIS) Gateway.

What is contained in your emissions inventory?

An emissions inventory may contain one or all of several types of data categories and the pollutants that are emitted from sources in each category. A **facility/point** data category would consist of large emitting facilities such as a mining operation or an electric generating facility. The **nonpoint** data category consists of small facilities such as gas stations, or residential wood burning, which is reported together in a single total. The **onroad** data category consists of cars, trucks, and buses. The **nonroad** data category consists of vehicles such as farm equipment, lawn mowers, and snowmobiles. The final data category is **events**. Events mainly consist of fires – either wildfires or prescribed (intentional). Agricultural burns are considered nonpoint sources.

What is an Inventory Preparation Plan?

Careful and thorough planning can greatly facilitate the inventory development process and prevent the need for costly revisions. Before an inventory is developed, an Inventory Preparation Plan (IPP) should be prepared.[54] An IPP is a concise, prescriptive document that includes inventory objectives and general procedures, and clearly describes how you will document and present the inventory to EPA and/or others.

As part of the IPP process, you should consider:

- Scope of the inventory,
- End uses of the data,
- Availability and usefulness of existing data,
- Strategy for data collection and management.

In general, most IPP's:

- Define the geographic inventory area;
- Define the attainment or nonattainment status of the area;
- Define the scope of the inventory (i.e., identify which types of sources and pollutants will be covered, and for which year);
- Specify who is responsible for preparing the inventory and each person's responsibilities;
- Identify plans for data collection, analysis, and emission estimation procedures; and
- Describe quality control and quality assurance procedures.[55]

[54] For more information on developing an Inventory Preparation Plan, refer to EPA's *Handbook for Criteria Pollutant Inventory Development: A Beginner's Guide for Point and Area Sources* or refer to *Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter NAAQS and Regional Haze Regulations*.

[55] Quality Control (QC) includes the system of technical activities your tribe implements to measure and control the quality of the inventory as it is being developed. Examples of QC measures include technical reviews, accuracy checks, and the use of approved emissions estimation procedures. Quality Assurance (QA) is an external review and audit conducted by personnel not working on the inventory's development to assess the effectiveness of the QC program and the completeness and accuracy of the inventory.

How do you start creating an emissions inventory?

The simplest kind of emissions inventory involves collecting existing data on significant sources of air pollution for a given area (e.g., a reservation) and for a given time period (e.g., a calendar year).[56] To begin creating an emissions inventory, you will need to identify potential sources of emissions on your reservation. The EPA maintains a database of emissions inventory information on many sources in Indian country and the surrounding states and counties. This tribal and surrounding state/county data may be obtained by registering for the Emissions Inventory System (EIS). Instructions for registration for EIS are located at EPA's website Emissions Inventory System (EIS) Gateway. A local business directory and phone book can also be a good starting point. Service and retail businesses can usually be ruled out (with some exceptions – such as sources that use a lot of solvent or gasoline distribution facilities). You should concentrate on manufacturing, treatment plants, assembly, extraction, storage, engines, and utilities. Other types of sources include burning and dust from construction and unpaved roads.

A more comprehensive emissions inventory done specifically on tribal lands can be a basis for regulatory and permitting programs. It can also serve as a valuable tool in your decision-making process whenever new sources of air pollution, on or off the reservation, are proposed. To do a more comprehensive emissions inventory, tribal staff members or a contractor collect more detailed information on businesses to estimate how much and what kind of pollution they produce. Information collected from the businesses include:

- What kinds of activities take place (e.g., excavation and screening of gravel, incineration of medical waste, average number of cars visiting casinos, the size and capacity of boilers used for heating large buildings),
- How much material is processed in each activity (e.g., how many tons of sand and gravel, how many tons of medical waste, how much fuel burned in a boiler), and
- The exact location of the business.

Technicians also collect information on reservation activities, such as how many miles of unpaved roads there are, what is the silt content of the road surface material, how many reservation homes use wood or propane to heat, and how much fuel they use. The EPA has recommended methods for creating estimates of how much air pollution is produced using the reservation-specific data that you have collected. Emissions factors have long been the fundamental tool in developing local emissions inventories. The EPA's Clearinghouse for Inventories and Emissions Factors (CHIEF) maintains a useful website that has additional information.

[56] For more information, refer to EPA's website Air Emissions Inventories.

To collect data, you may need to develop reporting forms. Your regional EPA office and the states surrounding your reservation may have a sample reporting form that you can use or modify. Below are examples of the type of information it would be useful to obtain from each source:

- The name and location of the source,
- The owner/operator's contact information,
- A description of the activities causing the emissions,
- The source's current compliance status with regulations,
- The source's operating parameters and schedules,
- The pollutants emitted (controlled and uncontrolled),
- The emission rates of each pollutant emitted,
- The control method used,
- Characteristics of the emissions (i.e., ground level, roof level, stack, gas temperature), and
- Activity data (e.g., tons per year of input used (such as gallons of paint) or output produced).

Before this step, you must ensure that your tribal laws contain provisions that compel sources to provide this information.

The Institute for Tribal Environmental Professionals (ITEP) provides a free software application to aid in creating emissions inventories. Known as the Tribal Emissions Inventory Software Solution (TEISS), it can provide guidance on what type of data to enter, conduct calculations and unit conversions, and create clear reports and maps that support the needs of tribal air quality activities related to emissions inventories. It can also help you prepare your Inventory Preparation Plan.

The following resources and guidance documents may assist you in planning and developing an emissions inventory.

- The Clearing House for Inventories and Emissions Factors (CHIEF) is an on-line resource with information on emissions factors, emissions inventories, and emissions estimate software.
- The *Handbook for Criteria Pollutant Inventory Development: A Beginner's Guide for Point and Area Sources* September 1999 (reference number EPA-454/R-99-037). This document contains information that will help state, local, and tribal air pollution control agency personnel compile an inventory of criteria pollutant emissions from stationary (point and area) sources.
- The *Air Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter NAAQS and Regional Haze Regulations*, July 2017 (reference number EPA-454/B-17-003). This document provides guidance on how to develop emissions inventories to meet state implementation (SIP) requirements for complying with the 8-hour ozone national ambient air quality standard (NAAQS), the 24-annual and annual fine particulate matter (PM2.5) NAAQS, and the regional haze regulations.
- The Air Emissions Inventory Improvement Program (EIIP). The guidance on inventory development is summarized in the *EIIP Technical Report Series, Volumes 1 - 10*, accessible through the EIIP website. These volumes contain information on planning an emissions

inventory, estimated emissions from different types of sources, data management, recordkeeping, quality control and quality assurance.[57,58]

- The Compilation of Air Pollutant Emission Factors (AP-42), contains information on over 200 stationary sources, including brief descriptions of processes used, potential sources of air emissions from the processes and, in many cases, common methods used to control these air emissions. EPA's Motor Vehicle Emission Simulator (MOVES) is a state-of-the-science emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics.[59]
- Additional information, including the types of sources and emissions to include in an emissions inventory, approaches to inventory development, and additional resources, are provided in *Appendix E, Emissions Inventories*.

In addition to the resources above, the Institute for Tribal Environmental Professionals (ITEP) is an important resource for training, templates, assistance in reviewing your emissions inventory for completeness, and loan equipment programs.

Developing an Air Quality Monitoring Program

What is an air quality monitoring program? Does your tribe need one?

An air quality monitoring program provides information on the ambient pollution levels for a given area. This information can be used to identify changes in air quality and to determine whether the area meets the NAAQS for the criteria pollutants. Air quality data are also important for determining the goals of your TIP and the actions necessary to obtain or sustain good quality air. However, your tribe does not need to have monitors to develop a TIP.

Currently, there are well over 100 tribal air quality programs in various stages of development across the United States — this is a dramatic increase from only nine programs in 1995.[60] Many of these tribes currently report data to EPA's Air Quality System from about 120 monitors on tribal lands for several types of pollutants, including $PM_{2.5}$, PM_{10}, Ozone, NO_x, and SO_2. Tribes also operate sites as part of national networks. (Refer to *Appendix F* for more details). These numbers may increase as tribes

[57] While these documents were developed to describe the latest emissions inventory approaches available at the time, they have not been able to be updated since original publication and in some cases, have become out of date. In many cases the approaches are still current and should be considered the equivalent to federal guidance. In other cases such as on-road mobile sources, biogenic sources, fires, and some nonpoint stationary source categories, newer approaches have been developed as part of the National Emissions Inventory (NEI) program. In these cases, the NEI approaches are more updated and should be considered the most current. Additionally, newer published guidance such as that developed specifically for State Implementation Plan (SIP) purposes or mobile sources supersedes the information provided in these documents.

[58] For additional guidance on developing emissions inventories to meet State Implementation Plan (SIP) requirements, refer to EPA's website Air Emissions Inventory Guidance Documents.

[59] For more information, refer to EPA's website MOVES and Other Mobile Source Emissions Models.

[60] This figure is based on data contained in EPA's December 2008 "Ambient Air Monitoring Strategy for State, Local, and Tribal Air Agencies."

continue to build the capacity to assess air quality on their respective lands. As sovereign governments, tribes set their own air program goals and determine how monitoring is to be used in achieving these goals.

Information on existing monitoring stations is available at EPA's website Air Data: Air Quality Data Collected at Outdoor Monitors Across the US. You can discuss with EPA what currently available ambient monitoring data may be representative of pollutant levels for your reservation. Based on this discussion, you may decide to accept the existing ambient monitoring networks as being adequate to provide data which are representative of your reservation. Or you may decide, in conjunction with EPA, that additional monitoring on your reservation – by either your tribe or the agency – is needed to establish and track ambient pollutant levels there. One of these two approaches will provide you with enough ambient air quality data to begin formulating your TIP.

You are not required to have an air quality monitoring network to adopt TIP measures. If you do decide to implement an air quality monitoring system, data from your emissions inventory can be useful in determining where to site or locate the monitors.

What should a monitoring program achieve?

Monitoring programs usually measure the concentrations of the criteria pollutants across an area at regular intervals; the concentrations of hazardous air pollutants can also be measured. Before designing a monitoring network, it is helpful to determine your purpose in monitoring. Do you want to determine:

- Whether pollutant concentrations violate the NAAQS?
- The highest levels of air pollution expected to occur in the area?
- The extent of regional pollutant transport?
- Representative levels of air pollution in areas of high population density?
- General background concentrations of pollutants?
- The impact of significant sources of air pollution on overall levels of air pollution?
- The economic, cultural and public welfare-related impacts of pollutants on visibility, vegetation, health, and other factors?

In order for your monitoring system to be able to provide solid evidence of whether the NAAQS are being met, the program must satisfy the technical requirements given in 40 CFR 58[61] to achieve the following goals:

- Acceptable quality assurance procedures, which are necessary to provide data that meet the basic objectives and to minimize loss of data;
- Proper equipment and methods;
- Proper location and number of monitoring stations;

[61] Regulations on ambient air quality monitoring can be found in 40 CFR 51 Appendix P and 40 CFR 58.

- Proper location of the equipment that collects air samples (after selection of the general location of a monitoring station); and
- Reporting data to AQS.

Consultation with EPA regional monitoring staff is highly recommended to ensure that all technical requirements are understood and can be met prior to implementation of any monitoring efforts.

How do you report and use the monitoring data?

Many tribal air pollution agencies submit their monitoring data to EPA's Air Quality System (AQS). This database provides easily-retrieved information on the levels of the criteria pollutants in all areas of the country. The EPA's procedures for reporting and using data ensure timely and widespread access to accurate information — anyone may browse and obtain reports from AQS.

The AQS contains ambient air pollution data collected by federal, state, local, and tribal air pollution control agencies from thousands of monitoring stations. State, local and tribal agencies collect the data and submit it to AQS on a periodic basis. AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and its operator), and data quality assurance/quality control information. The EPA and other AQS users rely upon the system data to assess air quality, assist in attainment/non-attainment designations, evaluate SIPs for nonattainment areas, perform modeling for permit review analysis, and other air quality management functions. The EPA also uses AQS information to prepare reports for Congress as mandated by the Clean Air Act. Data from AQS is also available via the AQS Data Mart.

If you are administering an air quality monitoring program, you should also prepare and submit an annual statistical report to EPA. This report should summarize information about the highest levels recorded for each criteria pollutant and monitoring station.

How do you start an air quality monitoring program?

You can use the data collected to determine whether your reservation's air quality is better or worse than the NAAQS. If you are collecting data to determine whether an area meets the NAAQS, EPA regulations require complete data from three consecutive calendar years. The requirement of complete data underscores the importance of following quality assurance procedures because they ensure minimal data loss. If you are collecting data to compare to air quality modeling results, it is also useful to collect meteorological data, such as temperature, wind speed, and wind direction.

No matter your goal for examining ambient air quality issues on your reservation or tribal lands, you should first develop a strategy. Initially, you will need to work with your EPA regional contacts to begin development of a work plan that will be required for EPA's operational grant funds and used to organize the direction of the program. The planning phase is especially important because many air monitoring development steps can be incorporated into work plan objectives and funded by EPA, which commits the agency to providing guidance and technical assistance through the whole process.

With assistance from tribal environmental professionals, EPA developed two documents to help tribes develop and implement monitoring programs.[62] The first document, *Technical Guidance for the Development of Tribal Air Monitoring Programs*, provides specifics on how to plan and implement ambient air monitoring programs and was completed in August 2007. The intent of this document is to help tribes gain a better understanding of the ambient air monitoring process and provide information on resources and tools that help build and sustain an air quality monitoring program. 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 you to those details. The intended audience for this document is tribal environmental professionals.

The second 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. 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.

In addition to the resources mentioned above, there are more resources available to assist you in developing an air quality monitoring program. Some of these resources are noted below, and *Appendix F* addresses them in more detail.

- 40 CFR Parts 50, 53 and 58.
- Available at EPA's website Quality Assurance Guidance Documents is *The Quality Assurance Handbook for Air Pollution Measurement Systems Volume II Ambient Air Quality Monitoring Program.*
- The EPA's website Air Pollutant Monitoring provides general monitoring information and information on existing monitoring systems.
- The EPA's website Ambient Monitoring Technology Information Center (AMTIC) provides information on monitoring programs and methods, quality assurance and control procedures, and federal regulations, along with monitoring guidance documents and articles.
- Another EPA/tribal connection is through the Tribal Air Monitoring Support (TAMS) Center, which is a unique partnership between tribes, the Northern Arizona University Institute for Tribal Environmental Professionals (NAU ITEP), and EPA. Together, tribal environmental professionals, ITEP, and EPA provide the full range of air monitoring technical support, including monitoring network design, monitor siting, quality assurance (QA) and quality control (QC), and data analysis and interpretation. The TAMS Center recognizes the sovereignty and diversity of tribal nations.

[62] A Tribal Monitoring Workgroup made up of staff from the EPA's Office of Air and Radiation (OAR), EPA Regional office tribal air coordinators, and tribal air professionals gathered in August 2005 to develop comprehensive guidance on tribal ambient monitoring.

Conclusion

The air quality goals you set for criteria pollutants can be addressed in a TIP. To set such goals, it is important to gather good data about the sources of air pollution and the ambient air quality on your reservation through an emissions inventory and an air quality monitoring program. If you develop a monitoring program, you should periodically review the program to determine whether it achieves the basic objectives. If the program does not achieve its objectives, it can be modified. You can use information from these data gathering techniques to guide your decision-making, determine which control strategies to use and, later, evaluate the effects of your efforts.

For Further Reading

NAAQS Designations

- The EPA Green Book provides detailed information about area NAAQS designations, classifications and nonattainment status. Information is current as of the Green Book posted date and is available in reports, maps and data downloads.
- Relevant CAA sections: 181-185 (ozone nonattainment area requirements); 188-190 (PM nonattainment area requirements); 191-192 (SO_2, NO_2, Pb nonattainment area requirements).[63]
- EPA's website Ozone Designations Guidance and Data.

Designation Recommendations

- Tribal guidance document: *Developing Designation Recommendations for Areas of Indian Country.*
- *Appendix N, Designations Recommendation.*

Redesignation of Class II Attainment Areas to Class I

- *Appendix H: Procedures for Area Redesignation to Class I.*

Emissions Inventories

- Air Emissions Reporting Rule (AERR).
- Inventory Preparation Plans: Guidance Materials – refer to EPA websites: Air Emissions Inventory Guidance Documents and Air Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter NAAQS and Regional Haze Regulations.
- *Appendix O, Emissions Inventory (Penobscot Indian Nation).*
- Other resources:
    - Clearinghouse for Inventories and Emissions Factors (CHIEF).
    - Air Emissions Inventory Improvement Program (EIIP).
    - AP-42: Compilation of Air Emissions Factors.
- *Appendix E, Emissions Inventories*.

[63] Clean Air Act – Table of Contents. Click on a specific section to see the text for that section.

Ambient Monitoring

- Information on existing monitors is located at EPA's website Ambient Monitoring Technology Information Center (AMTIC).
- Technical requirements for regulatory monitors is located at 40 CFR 58.
- Publicly available monitoring data is available at EPA's website Air Data: Air Quality Data Collected at Outdoor Monitors Across the US.
- EPA guidance to help tribes get started with air quality monitoring systems is available at *Technical Guidance for the Development of Tribal Air Monitoring Programs*.
- *Appendix F, Air Quality Monitoring*.

Chapter 4: Potential TIP Elements

As previously discussed, the TAR provides tribes with the flexibility to adopt partial TIPs, so long as the adopted program elements are "reasonably severable" from the program elements that are not included in the TIP.[64] Data from emissions inventories and air quality monitoring can help you determine the air quality goals and needs of your reservation and which TIP elements, if any, you may want to adopt. Or, you may choose to implement some TIP program elements without air quality monitoring data or an emission inventory in order to address gaps in regulations.

After a tribe has set its air quality goals and assessed its air quality, the next step is typically to determine what emissions reductions may be needed in order to meet the air quality goals and choose control strategies to achieve the needed emissions reductions. This chapter addresses those steps and focuses on the potential TIP elements that you can adopt to help reach your air quality goals, including:

- Attainment strategies,
- Maintenance strategies,
- Provisions for preventing downwind NAAQS violations,
- Source preconstruction permits, and
- Regional haze plans.

It also discusses options for responding to one of the limitations of a TIP; such as, TIPs cannot be used to directly impact upwind sources outside your jurisdiction.

Attainment Strategies

What is an attainment strategy?

If the EPA has designated your reservation as being nonattainment for one or more of the criteria pollutants, your goal may be to develop an attainment strategy to reduce the concentrations of those pollutants to levels below the NAAQS. You may also choose to develop an attainment strategy for a portion of your reservation (instead of the entire reservation) if it is appropriate.

You may decide to concentrate your efforts on regulating the existing sources of emissions and possibly on regulating new sources of air pollution as well. As you develop an attainment strategy you should consider how to best maintain a balance between your air quality regulations, your economy, and your culture. The appropriate balance will depend on the relationships between these and other factors, and the values, goals, and priorities of your tribe.

[64] "Reasonably severable" means that the TIP elements selected are not integrally related to the elements that are not included in the TIP and are consistent with applicable CAA and regulatory requirements. 40 CFR Part 49.7(c).

What are the basic steps for developing an attainment strategy?

To develop an attainment strategy, EPA recommends that you follow the steps in the air quality management diagram in chapter 1, figure 1-2. If your tribe has set its overall air quality goals considering, among other things, attainment status and data from an emissions inventory and/or ambient monitoring, the next steps would be to determine the necessary emissions reductions to achieve your goals and to choose emissions control strategies. Your analyses should be aimed at accomplishing the following objectives, as applicable:[65]

- Ascertain the effect of emissions from sources within and outside the TIP area;
- Determine emission reductions needed to attain the NAAQS for the pollutant(s) of concern;
- Identify which emissions limits and other control measures to use to bring your area into attainment and allow it to stay in attainment;
- Write enforceable regulations that require sources to implement emissions limits and other control measures that result in verifiable emissions reductions;
- Create a schedule that sources will follow to comply with the regulations, ensuring progress toward attainment; and
- Develop "contingency measures" for situations in which air quality improvements do not occur according to schedule.

The EPA has prepared policy memoranda related to attainment strategies which are available on the agency's website for NAAQS policy and guidance memos.[66] You can also consult literature in the fields of engineering, policy analysis, and economics to research emissions limits and other control measures for specific sources and how to package individual measures into a comprehensive plan. Since the Tribal Authority Rule (TAR) allows tribes to adopt severable TIP elements and to build a TIP in a modular fashion, you may select the requirements that meet your air quality objectives (provided such elements are not integrally related to program elements not included in the TIP). You should contact the regional EPA office before submitting your TIP. (See *Appendix A* for information on the EPA's regional offices.) The following discussion of attainment strategies presents a general framework for planning.

Ascertain the effect of emissions from sources within and outside the TIP area

The information in your emission inventory on the types and amounts of pollutants emitted by sources can be used to determine the impacts of those sources on pollutant concentrations on the reservation. Also, the air quality on your reservation may be worse than the NAAQS due to air pollution from nearby, non-reservation sources being transported across your reservation boundaries. Sources of pollutants outside the TIP area may be a concern if your reservation is adjacent to or surrounded by a state nonattainment area, or if your reservation is downwind of major sources of emissions that are not under your tribe's jurisdiction.

[65] Sections 171 through 193 of the CAA establish the requirements for attainment plans, refer to the Clean Air Act Title I – Air Pollution Prevention and Control, Part C – Prevention of Significant Deterioration of Air Quality.
[66] For NAAQS Policy and Guidance Memos, refer to EPA's website Tribal Policy Documents.

You may want to determine the potential effects that pollutants from sources outside the TIP area have on your reservation's air quality. Therefore, an appropriate air quality model, as recommended in the EPA's Guideline on Air Quality Models,[67] can be used to estimate the effects of emissions from those sources and activities, located both on and off the reservation, on the reservation's air quality. The modeled pollutant concentrations, when added to overall background (natural) pollutant levels on the reservation, give estimates of the total concentration of each pollutant. The effects of emissions from sources located off the reservation on total pollutant concentrations can be estimated by running the model with only those sources, and separately running the model with sources located on the reservation.

Some pollutants, such as ozone, are not emitted directly from a source, but rather are formed in the atmosphere through chemical reactions with emissions from many sources over a large area. These secondary pollutants are regional in nature and consequently are inappropriate for the type of analysis described above.

You can only regulate sources within your jurisdiction. However, if you determine that emissions from sources outside the TIP area are causing the reservation's air quality to exceed the NAAQS, or if you worry that such emissions may cause future air quality problems on the reservation, there are steps you can take. For more information, see the last two sections of this chapter. You can also approach your EPA regional office for assistance in making these assessments.

Determine the necessary emission reductions

To determine the emission reductions needed from sources on your reservation, the monitoring data you collect must be compared to the NAAQS. To make this comparison, you need to calculate the "design value" for each pollutant of concern. The design value is the monitoring data in the same form and over the same averaging period as the NAAQS. The method for calculating the design value depends upon the units and averaging time of the NAAQS.[68] You should follow EPA's data handling conventions and computational formulas when determining design values. More information on the data analysis requirements can be found in the Code of Federal Regulations (CFR) at 40 CFR Part 50.

If the design value for a pollutant is greater than the NAAQS, the area violates the NAAQS for that pollutant. For example, the NAAQS for carbon monoxide (CO) is 9 parts per million (ppm) for an 8-hour average concentration. If the design value for CO on your reservation is 10 ppm, it indicates that the concentration of CO in the ambient air exceeds the NAAQS and your design value must be reduced by at least 1 ppm or ten percent.

To reduce the ambient concentration of CO, you could: (1) reduce the CO emissions by a fixed amount (about 10 percent) from every source in your emissions inventory; or (2) reduce the CO emissions from different sources by different amounts (based on the cost effectiveness of control options or other factors

[67] For more information, refer to EPA websites Clean Air Act Permit Modeling Guidance and Support Center for Regulatory Atmospheric Modeling (SCRAM).
[68] For more information about design values, refer to EPA's website Air Quality Design Values.

important to your tribe). For the latter strategy, you could use air quality modeling to test different combinations of reductions before deciding which combination to use.

Some pollutants, such as ozone, are formed from more than one precursor pollutant through complicated atmospheric chemistry; these pollutants would require more complex strategies to determine which precursor pollutant emissions to reduce, by how much, and from which sources.

Identify appropriate control measures

The hurdle that proposed control measures must clear is whether, taken as a group, they can achieve the emissions reductions necessary to decrease pollutant concentrations by the amount indicated by the design value (see above).[69] A fundamental choice that you will make when selecting control measures is whether you will adopt a technology-based or a market-based strategy.

With a **technology-based strategy**, you would require a process change or an emission limitation for a piece of equipment or process. For example, you might set the maximum allowable sulfur dioxide emission rate from a process; set the maximum allowable volatile organic compound content allowed in coatings (such as those used in the manufacturing of wood products); require work practices such as wetting dry, dusty materials at construction sites to reduce particulate matter emissions; or require the installation of a certain pollution control device for reducing emissions. These measures are technology-based.

If you prescribe emissions limitations or emission-reducing actions for each source or category of sources, regulations must require the use of Reasonably Available Control Technologies (RACT) or Reasonably Available Control Measures (RACM).[70] The EPA officially defines RACT as "the lowest emission limitation that a source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility".[71] RACM involves best practices and processes to reduce emissions that do not involve installing a specific technology. RACT is typically for large point sources such as industrial facilities, while RACM is for area sources such as agricultural operations.

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[69] Resources for developing control measures include The Clean Air Technology Center (CATC), which is a resource on emerging and existing air pollution prevention and control technologies, and provides public access to information on their use, effectiveness, and cost. Another resource is the RACT/BACT/LAER Clearinghouse (RBLC). Also refer to EPA's website on Menu of Control Measures for NAAQS Implementation which provides information on existing emissions reduction measures, as well as relevant information concerning the efficiency and cost effectiveness of the measures; and another resource is the guidance document entitled, *Improving Air Quality with Economic Incentive Programs*, EPA-452/R-01-001, January 2001.

[70] RACT is defined as the "Devices, systems, process modifications, or other apparatus or techniques that are reasonably available taking into account: (1) The necessity of imposing such controls in order to attain and maintain a national ambient air quality standard; (2) The social, environmental, and economic impact of such controls; and (3) alternative means of providing for attainment and maintenance of such standard." RACT generally means a device or technological method such as a scrubber or baghouse or reformulation of coatings to reduce VOC content whereas RACM generally means a pollution prevention or other practice or measure – although the difference is not absolute. In general, the existing sources in nonattainment areas must meet emissions limits achievable by RACT. For more information, refer to the RACT/BACT/LAER Clearinghouse (RBLC), EPA's website Technology Transfer Network, Clean Air Technology Center – RACT/BACT/LAER Clearinghouse Basic Information, and *Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM10* (EPA 452/R-93-001), September 1992.

[71] 44 FR 53762; September 17, 1979.

The EPA has many resources to provide guidance for the selection of appropriate control measures. The Clean Air Technology Center (CATC) is a resource on all areas of emerging and existing air pollution prevention and control technologies, and provides public access to information on their use, effectiveness, and cost. In addition, the CATC will provide support, as resources allow, related to the technical and economic feasibility, operation, and maintenance of these technologies. The RACT/BACT/LAER Clearinghouse within the CATC contains information from state and local air pollution control agencies that can be used in determining what types of controls and pollution prevention measures have been applied to and/or are required for various sources, the effectiveness of these technologies, and the annualized cost of purchase, operation, and maintenance.[72]

A **market-based strategy**, or economic incentive program, achieves air quality objectives by providing market-based incentives or information to emission sources.[73] There are four main types of economic incentive programs:

- *Emissions trading programs* limit the total emissions from a certain type or group of sources and allow the sources to trade or buy emission credits to comply with their individual emission limits.
- *Financial mechanism programs* include fees paid by emitters for each unit of emissions or subsidies that promote pollution-reducing activities or products.
- *Clean air investment funds* allow sources with high costs for reducing emissions to pay into a fund; the funds are then used by the regulatory authority to procure emission reductions elsewhere.
- *Public information programs* include educational programs, product certifications, "ozone action days," and other information people can consider when making choices that affect air quality.

A market-based strategy is most successful when several large sources that continuously monitor emissions, participate. Guidance on developing an economic incentive program as available at EPA's website Improving Air Quality with Economic Incentive Programs. If there is an existing regional market-based trading program in your area, you may consider requiring certain sources to join it.

Which regulatory approach is best for you depends on the number and types of sources you are regulating, the pollutants to be reduced, the expertise, experience, and size of your air program staff, and other considerations. Your situation is likely to be different from that of other tribes. If you choose a technology-based approach it will restrict the flexibility that sources have in complying, but it will create

[72] BACT refers to the "best available control technology," an emission limitation based on the maximum degree of emission reduction (considering energy, environmental, and economic impacts) achievable through application of production processes and available methods, systems, and techniques. Use of the BACT concept is allowable on a case by case basis for major new or modified emission sources in attainment areas (used under the Prevention of Signification Deterioration program) and applies to each pollutant regulated by PSD. LAER refers to the "lowest achievable emission rate," which is the rate of emissions that reflects (a) the most stringent emission limitation in the implementation plan of any state for such source unless the owner or operator demonstrates such limitations are not achievable; or (b) the most stringent emissions limitation achieved in practice, whichever is more stringent. LAER is usually required in the non-attainment New Source Review program. The RBLC database contains case-specific information on the "Best Available" air pollution technologies that have been required to reduce the emission of air pollutants from stationary sources (e.g., power plants, steel mills, chemical plants, etc.). For more information, refer to EPA's website RACT/BACT/LAER Clearinghouse (RBLC).

[73] Regulations for economic incentive programs are in 40 CFR 51.490 through 51.494.

a program that is relatively easy to implement. If you choose a market-based approach it will provide maximum compliance flexibility (which may reduce the total cost of compliance for sources) but will create a more complicated system to implement.

Only careful investigation of the options for limiting emissions from the sources under your jurisdiction will tell which control measures are best for your tribe. Because "best" could mean several things, another important part of the air quality planning process is to explicitly state the criteria that your tribe will use to select control measures. Criteria may include effectiveness, cost, and fairness. Questions to ask when selecting control measures include:

- How well does the method reduce emissions?
- How certain are the reductions using the method?
- Are the reductions sufficient to ensure the source is not causing an air quality violation downwind?
- What is the total cost? Cost per ton of pollution reduced? Up-front capital cost? Annual operating and maintenance cost?

Write enforceable regulations

Regulations must be clear and specific, and the methods of determining compliance must be clear for both sources and your air program staff. Regulations need to be written in accordance with tribal law and administrative procedures (see Chapter 6 for more information). You must have the authority to enforce the regulations, which is discussed in Chapter 5.

For many types of sources, the states and/or EPA have regulations which can be used as models for your regulations. The EPA has also written many guidance documents to assist states and tribes in developing enforceable regulations. Resources that can help you write enforceable regulations include:

- The National Association of Clean Air Agencies' (NACAA) reference guides, which contain "menus of options" for controlling various sources of pollutants.
- The EPA Laws and Regulations website, which is designed to provide access to rules, policy, and guidance documents. This site provides easy access to both current and historical regulatory information. To view significant guidance documents issued by EPA's Office of Air and Radiation (OAR), refer to EPA's website Significant Guidance Documents – Air.
- The EPA's Advance Program Website, which contains descriptions of measures and programs (both voluntary and mandatory), which you can consider adopting to reduce ozone and/or fine particulate pollution. The Advance program is a collaborative effort by EPA, states, tribes, and local governments to encourage emissions reductions for ozone and/or fine particle pollution ($PM_{2.5}$) in attainment areas to help the areas continue to meet the NAAQS;
- The EPA's Air Quality Office in your region, which can help your tribe identify existing state and local regulations that can serve as models for your tribe's regulations;[74]

[74] For a listing of EPA Regional Offices, refer to EPA's website, Visiting a Regional Office.

- *Appendix G, TIP Regulation Development and Enforceability Checklist*, which provides general criteria that can be used to determine if regulations are clearly written and approvable; and
- *Appendix P, Tribal Implementation Plans (TIPs).*

Create an appropriate schedule for emission reductions

Your attainment strategy should include a schedule by which sources must comply with regulations. The compliance date should allow the sources to comply without great economic difficulty and ensure attainment of the NAAQS as soon as possible. The CAA generally requires states to implement attainment strategies within five years or less. As mentioned before, the TAR allows tribes flexibilities in the CAA schedules, but since the goal is to reduce air pollutants to healthy levels, tribes should consider similar timeframes.

You may want your schedule to ensure that Reasonable Further Progress (RFP) is made in annual emission reductions. RFP is required for state nonattainment areas. To make RFP, some emission reductions should be achieved each year (i.e., new regulations take effect or new sources must comply each year) until the attainment strategy is fully implemented.

You may or may not decide to demonstrate RFP through the schedule you develop. However, when tribal lands are part of a multi-jurisdictional area, if you do not show that the emission limits and other controls in your TIP are adequate to prevent NAAQS violations and make RFP, EPA will review the emission limits and other controls and compliance schedules to assure that they will not interfere with the overall plan to attain the NAAQS in the area. In cases where sources on your lands would interfere with an area meeting its attainment date, EPA will develop a FIP to reduce emissions from those sources, where necessary and appropriate, since tribes are not required to meet the attainment date.

Develop appropriate contingency measures

You should discuss with the EPA regional office the need for including contingency measures in your TIP.[75] Your tribe should also establish criteria for determining when and if the contingency measures have to be implemented, and set a schedule for implementing them, if needed. Contingency measures are adopted rules or control measures that are ready to be implemented quickly upon failure to meet RFP or failure of the area to meet the standard by its attainment date.

The CAA does not include the specific level of emission reductions that must be adopted to meet the contingency measures requirements. However, in the context of the $PM_{2.5}$ NAAQS, contingency measures should provide for emission reductions equivalent to about one year of reductions needed for RFP.[76] If you do not include contingency measures in your TIP, EPA may adopt additional measures to fill the gap, where necessary and appropriate.

[75] The requirement for contingency measures is established in the CAA section 172(c)(9) and codified in 40 CFR 51.152.
[76] For more information, see 72 FR 20586 (April 25, 2007).

How do you start creating an attainment strategy?

To start developing an attainment strategy, you will need to determine the emission reductions necessary to attain and maintain the NAAQS for the pollutant(s) of concern. You will also need to identify the sources of air pollution that need to be controlled and the emission control measures you want to require in order to achieve these emission reductions. Your attainment strategy may include adopting a source preconstruction permitting program and creating a mandatory schedule for sources to implement emission control measures. Contingency measures for situations in which emission reductions do not occur according to schedule are another element your tribe can include in an attainment strategy. In addition to the references provided in this document, the Air Quality Program of your regional EPA office can also provide guidance as your tribe creates an attainment strategy.

What can be done about new sources of emissions?

Construction of new sources or modifications to existing sources on the reservation could add enough emissions that the goal of the TIP to attain and maintain the NAAQS would not be met. Therefore, you may also want to include source preconstruction permit programs as a separate element in your TIP. The programs that are applicable to areas with air quality that is worse than the NAAQS are the nonattainment New Source Review (NSR) program and the minor NSR program. You can limit the impacts of emissions from new sources, and modifications to existing sources, with these programs. For more information, see the section in this chapter, *Source Preconstruction Permits*.

What happens if your attainment plan results in your area coming into attainment?

If your attainment plan is successful, pollutant levels will eventually drop below the NAAQS, and a change in the area's designation will be warranted. A nonattainment area can be redesignated to attainment if the following conditions are met:

- EPA must determine that the NAAQS are attained based on an appropriate demonstration; and
- The applicable implementation plan must be fully approved by EPA as meeting all applicable requirements.

If your tribe asks for redesignation, EPA will review your maintenance plan to determine if it is approvable under CAA section 175A.[77] Maintenance planning is discussed further in the next section.

[77] You can submit your maintenance plan prior to or at the same time as the redesignation request. CAA Section 175A defines the general framework of a maintenance plan, which must provide for maintenance of the relevant NAAQS in the area for at least 10 years after redesignation. The core provisions that should be included to ensure maintenance of the relevant NAAQS are: (1) an attainment emissions inventory; (2) a maintenance demonstration showing future emissions will not cause a violation of the NAAQS; and (3) contingency measures to promptly correct any violation of the NAAQS that may occur after redesignation, including all measures that were contained in the attainment strategy prior to redesignation.

The EPA encourages you to work closely with states and your regional EPA office early in the redesignation process to help ensure that a redesignation request has a high likelihood of being approved.

Maintenance Strategies

What is a maintenance strategy?

A maintenance strategy is a plan to keep your air quality at a level that meets, or is better than, the NAAQS.

If your area is designated attainment or unclassifiable for one or more of the NAAQS, you could choose to develop a maintenance strategy for one or more air pollutants.[78] You may also choose to develop a maintenance strategy for only a portion of your reservation (instead of the entire area) if another portion has been designated nonattainment. The goal of a maintenance strategy is to manage air pollutant emissions so as to maintain pollutant concentrations at levels below the NAAQS.

States typically do not develop maintenance plans unless their air quality has improved to the extent that they are moving from nonattainment to attainment. In that case, before an area can be officially designated as attainment, there must be an approved maintenance plan to replace the old attainment plan. However, tribes can develop maintenance plans even if their land has never been designated nonattainment, should they choose to do so.

What are the basic steps for developing a maintenance strategy?

To develop a maintenance strategy, EPA recommends that you follow the steps outlined in the air quality management diagram found in Chapter 1, figure 1-2. First, set overall goals based on existing air quality, designations, and your particular tribe's needs. Then, determine the necessary emissions reductions to achieve your goals and choose emissions control strategies, including maintenance strategies.

Maintenance plans do not need to include any contingency measures. When choosing control strategies, you should make sure that you accomplish the following objectives (which are discussed in the previous section on attainment strategies):

- Establish enforceable emission limits and other controls (in light of the amount of emissions that would still allow your area to meet the NAAQS and your tribe's air quality goals),
- Write enforceable regulations,

[78]The CAA section dealing with maintenance plans is Section 110(a)(1). Maintenance strategies for areas previously in nonattainment are established in the CAA section 175A.

- Prevent downwind NAAQS violations and visibility problems, and
- Create an appropriate compliance schedule for sources to comply with your regulations.

The Air Quality Program of your regional EPA office can assist your tribe in this effort.

What can be done about new sources of emissions?

Construction of new sources or modifications to existing sources on your reservation could add enough emissions so that your goal of maintaining the NAAQS would not be met. Therefore, you may also want to adopt, a preconstruction permit program for new or modified sources of emissions and issue permits. The Prevention of Significant Deterioration program (PSD) is a preconstruction permit program for areas with air quality that meets the NAAQS. The federal PSD program, which EPA administers, applies in Indian country unless you create your own in a TIP, or unless you take delegation of the federal PSD program. Once the elements of your TIP are approved and take effect, they replace their respective federal regulations. The PSD program can help you preserve good air quality while still allowing economic development to occur. You should note that running a PSD program is a significant undertaking.

Under a PSD program you can require major sources wanting to locate on your reservation to model their projected air quality impacts at various distances from their proposed locations (i.e., 20 km, 30 km, 40 km, 50 km). If modeling shows an impact on air quality, you can then limit emissions from the sources to reduce the impact on the air quality.

If you choose to adopt and administer a PSD program, it will help you develop communications with jurisdictions that border your reservation. By alerting your neighbors of any emission increases on your reservation, they can account for those emissions in their air quality planning. Furthermore, by increasing communication with surrounding jurisdictions, you will be more informed of emission changes outside your reservation that may affect your air quality.

In Indian country the nonattainment NSR (NA NSR) program and a similar program to issue permits for smaller sources, called minor New Source Review (NSR), are covered by Federal Implementation Plans. You can administer these programs if you develop approvable permit programs or take delegation of the federal permit programs. Your program(s) would then replace the federal program(s). More information can be found later in this chapter under *Source Preconstruction Permits*.

Voluntary Activities to Maintain Air Quality under the NAAQS

Outside of a TIP, another non-regulatory tool that you can use to keep you air quality equal to or better than the NAAQS is to participate in EPA's Advance program.[79] Advance is a voluntary program that promotes local actions in attainment areas to reduce ozone and/or fine particle pollution ($PM_{2.5}$) to help these areas continue to maintain the NAAQS. Through the Advance program, states, tribes, and local governments work with EPA to take near-term steps to improve local air quality and ensure continued health protection over the long term. These efforts will reduce air pollution and could provide an improved buffer against future air quality violations. Advance is flexible in the sense that participants determine their own goals and the measures they want to implement in order to reach them. Although there are no guarantees that participation will prevent a nonattainment designation from ever occurring, the actions taken as part of Advance could better position an area to handle nonattainment requirements if they ever do apply.

Provisions to Prevent Downwind Air Quality Problems

CAA Section 126 and Section 110(a)(2)(D) require that SIPs contain measures that prohibit emissions from one area from contributing significantly to nonattainment in another jurisdiction, from interfering with maintenance of the NAAQS, and from interfering with measures required to prevent significant deterioration of air quality or to protect visibility in Class I areas. If your TIP does not demonstrate that it would comply with these requirements, EPA can approve your TIP as you progress toward developing a more complete implementation plan. In such a case, if necessary and appropriate, EPA will determine if your emission limits will prevent the downwind air quality problems identified in Section 110(a)(2)(D). If these pollution transport problems are not prevented by your TIP, EPA may develop a FIP to supplement your TIP, as necessary and appropriate. The modular approach to program approval outlined in the TAR provides that EPA may regulate emission sources not covered by the TIP if the agency determines that doing so is necessary or appropriate to adequately protect air quality. For example, you could include rules in a TIP for limiting fugitive PM emissions and rules for forestry burning permits. In such a case, EPA could take responsibility for regulations needed to limit adverse air quality impacts from industrial source emissions of PM that were negatively impacting air quality in another jurisdiction.

[79] For more information on the Advance program, refer to EPA's website Basic Information about Advance.

Preconstruction Permits

What is New Source Review?

The New Source Review (NSR) program requires industrial facilities to install modern pollution control equipment when they are built or when making a change that increases emissions significantly. The purpose of the program is to ensure that air quality does not worsen where the air is currently unhealthy to breathe (i.e., nonattainment areas) and is not significantly degraded where air is currently clean (i.e., attainment areas). The program requires owners and operators to obtain permits before they begin construction. The overall New Source Review program includes three separate programs: the Prevention of Significant Deterioration (PSD) program for major sources and major modifications in attainment and unclassifiable areas, the nonattainment NSR program for major sources and major modifications in nonattainment areas, and the minor NSR program for minor sources and minor modifications at major sources.

Each of the NSR programs focuses primarily on the criteria pollutants (ozone, nitrogen dioxide, lead, carbon monoxide, sulfur dioxide, and particulate matter) regulated by the NAAQS, but the PSD program covers additional pollutants such as greenhouse gases (GHG), sulfuric acid mist, and hydrogen sulfide. The minor NSR program may cover non-toxic air pollutants beyond the NAAQS at the discretion of each permitting authority. EPA rules have set thresholds for determining which pollution sources are major and which ones are minor sources. These may vary by the severity of an area's nonattainment designation when applicable. For example, in attainment and unclassifiable areas, a major stationary source is defined as any source that emits, or has the potential to emit (PTE), 250 tons per year (or, for specific types of sources, 100 tons per year) of any pollutant subject to regulation under the CAA.[80] Serious particulate matter nonattainment areas and moderate, serious, severe, and extreme ozone nonattainment areas have lower thresholds for determining what constitutes a major source.

The core procedures in the major NSR programs are: (1) determining the potential source's PTE per pollutant; (2) requiring the most effective emissions control measures for these facilities; and (3) including informed public participation in the evaluation of consequences and selection of emissions control measures. These procedures must occur before the construction or expansion of the source. If emissions from a new major source or major modification could affect a national park or wilderness area, the evaluation may also include the impact of emissions on visibility and natural and cultural resources in the park or wilderness area. Federal land managers can assist with this effort. For lands owned by the government of the United States, a federal land manager is the representative of the department or agency with authority over such land, such as a Regional Forester or individual Forest Supervisor for U.S. Forest Service lands.

[80] A source's "potential to emit" is its emission estimate based on the maximum capacity of that source, taking into consideration enforceable permit conditions, such as the type of materials combusted, the type of materials processed, and the annual hours of operation.

The NSR permit requirements are determined on a case-by-case basis. The permits specify emission limits and control requirements for each emission point at a source, as well as monitoring, recordkeeping, and reporting requirements. As the severity of a nonattainment area increases, the required emissions controls for a permit applicant increase. The CAA created three separate NSR programs to address different situations involving new and modified facilities (see Figure 4-1).

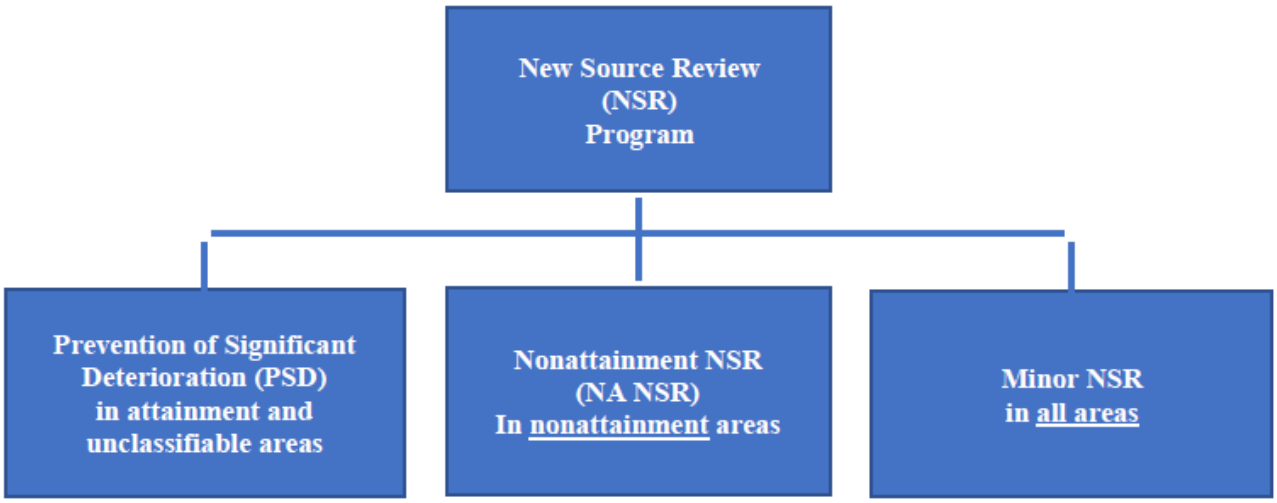


Figure 4.1. New Source (NSR) Program

Additional information on NSR is available at EPA's website New Source Review (NSR) Permitting and EPA's *Tribal New Source Review Implementation Manual*.[81]

What is the Nonattainment NSR Program?

The nonattainment NSR program requires all new major stationary sources, or existing sources planning major modifications in areas not attaining the NAAQS, to obtain preconstruction permits. The definitions of major stationary source and major modification vary with the air quality status of the area and the type of pollutant.[82] In general, major sources are sources that emit over a certain amount of a pollutant (the "major source threshold" for that pollutant); minor sources are sources that emit less than that amount. A major modification means any physical change in or change in the method of operation

[81]The EPA developed the Tribal New Source Review Implementation Manual as a resource tool to support understanding and implementation of the Federal Indian Country Minor NSR rule. It is a comprehensive, informational and instructional document developed to guide tribes and the EPA regions in working collaboratively and in facilitating a transparent process.

[82]For nonattainment areas, the definition of major source is given in 40 CFR 51.165(a)(1)(iv). For serious PM nonattainment areas, the definition of a major source is in the CAA section 188. For moderate, serious, severe, and extreme ozone nonattainment areas, the definition of major source is in the CAA section 182(b), (c), (d), and (e), respectively. The definitions for major modifications in the NSR program can be found in 40 CFR 51.165(a)(1)(v). The term "significant" is defined for this program in 40 CFR 51.165(a)(1)(x). For attainment and unclassified areas, the definitions of major source and major modification are given in 40 CFR 51.166(b)(1) and (2), respectively. The term "significant" is defined for this program in 40 CFR 51.166(b)(23). However, when EPA administers the PSD program in Indian country, the relevant definitions (which remain identical to those in 40 CFR 51.166) are found in 40 CFR 52.21 (i.e., definition of "major source" in 52.21(b)(1)(i), definition of "major modification" in 52.21(b)(2)(i), definition of "significant" in 52.21(b)(23)(i)).

of a major stationary source that would result in a significant emission, and a significant net emission, increase of a regulated NSR pollutant.[83]

Numerous requirements in the CAA apply to new major sources and major modifications at existing sources in nonattainment areas. For example, a facility covered by nonattainment NSR must install control equipment ensuring the Lowest Achievable Emission Rate (LAER). The economic costs are not considered when defining the applicable control technology to obtain the LAER. The LAER is defined as the more stringent of the following limitations:

- The most stringent emission limitation contained in a SIP of any state for the same class or category of source (unless it is demonstrated that this limitation is unachievable); or
- The most stringent emission limitation achieved in practice.

Another requirement of the nonattainment NSR program is that increases in emissions from new major sources and major modifications must be matched or offset by equal to or greater emissions reductions from other sources (called "offsets") in the same nonattainment area or in a nearby area with a higher nonattainment classification. This ensures that progress is made toward decreasing the total emissions and meeting the NAAQS.[84] Some states have created "offset banks" to assist sources in identifying needed offsets. The EPA can provide assistance to tribes that wish to establish their own offset banks.

Sources must also complete an Alternative Sites Analysis, which evaluates alternative sites, sizes, production processes, and environmental control techniques for the selected project. The analysis must demonstrate that the new source's benefits will outweigh its environmental impacts and social costs.

Nonattainment NSR programs must meet all the requirements established in the Code of Federal Regulations (CFR) at 40 CFR 51.160-165, and Part D of the CAA. State air regulators have developed nonattainment NSR programs which tribes can use as models when developing their own programs. The regulations that established the nonattainment NSR program for Indian country and the other parts of the Tribal NSR program are found at 40 CFR 49.166-173. Your regional EPA office can also provide assistance and guidance (refer to *Appendix A, Tribal Contacts at EPA*). The Tribal New Source Review Implementation Manual is also a valuable resource as referenced above.

What is the Prevention of Significant Deterioration Program?

The purpose of the Prevention of Significant Deterioration (PSD) permitting program is to prevent air quality that is below the NAAQS from deteriorating more than an incremental amount. If the air quality on your reservation is currently better than the NAAQS, you may want to adopt a PSD permitting

[83] New major sources of hazardous air pollutants (HAPs), defined in section 112 of the CAA, are not subject to the nonattainment or attainment major New Source Review programs discussed here.

[84] "Offsets" are emissions reductions obtained from existing source(s) by a prospective major new stations source, or a source planning major modification, in order to offset the increase in pollutant emissions caused by the new or modified source (thereby creating no net increase in emissions). Offsets must always be greater than the amount of the new emissions, depending on the area's air quality designation. Offsets are generally secured from other sources in the vicinity of the new source or modification. However, in the case of modifications, offsets can also be obtained, with limitations, from within the source itself.

program which would prevent or reduce air quality degradation. The PSD permitting program applies to all new major sources or major modifications of existing major sources in attainment and unclassifiable areas. With a PSD program, your tribal permitting authority can require the best available air pollution control technology (BACT) to be installed when large new sources are constructed or expanded. BACT is defined as an emission limitation based on the maximum degree of reduction of each pollutant (subject to regulation under the PSD program) which your permitting authority determines is achievable through application of production processes and available methods, systems, and techniques. BACT is to be determined for each source on a case-by-case basis, taking into account energy, environmental, and economic impacts, and other costs (Refer to section 169(3) of the Clean Air Act).

PSD addresses resource protection in two significant ways. First, it establishes limits on allowable additional amounts of air pollution, called PSD increments, over baseline levels in "clean" air areas (i.e., Class I and II). Second, it protects against adverse effects on Air Quality Related Values (AQRVs), such as healthy vegetation, soils and surface waters; cultural practices; and visibility values.

The PSD permitting process typically takes a year from the date the permit application is deemed complete. However, complicated or controversial permits can take longer. In order to obtain a permit, a source and the permitting authority must do the following:

- Evaluate the BACT, which is based on the most stringent control available for a similar type of source that is technically and economically feasible;
- Perform an ambient air quality impact analysis; and
- Conduct additional impact studies including visibility, soils, and vegetation.

For example, to perform the air quality impact analysis, the "baseline" concentration of regulated pollutants must be determined. The baseline is the ambient concentration level of a pollutant that exists at the time of the first major NSR permit application in the baseline area. The baseline concentration can be determined using existing data representative of air quality in the area where the new source will be located. If representative data do not exist, you can require the permit applicant to establish a site-specific monitoring network and monitor the air quality for a period of at least one year immediately before applying for a permit to construct. Your permitting authority can also require the permit application to monitor the meteorological parameters of the area to facilitate modeling the potential impacts of emissions from the new source.

The ambient concentration resulting from total emissions from all sources (both permitted and non-permitted sources) is not allowed to exceed the baseline plus an increment set in the CAA and in EPA's regulations.[85] Owners of new and modified facilities must show how much the increase in emissions from their facilities will increase the concentrations of air pollutants in Indian country. The total effect of the increased emissions from new and modified sources on pollutant concentrations may not exceed

[85] Emissions data is fed into a model to determine the amount of PSD increment consumed. PSD increments for NO_2, PM, and SO_2 Class I, II, and III areas are specified in the CAA section 162, in 40 CFR 51.166(c), and in 40CFR 52.21(c), which applies when EPA administers the PSD program in Indian country. Currently there are no increments for CO, O_3, or Pb.

the baseline plus the increment, nor exceed the NAAQS. In most cases, the baseline plus the increment will result in an emissions ceiling more stringent than the NAAQS (refer to Figure 4-2).

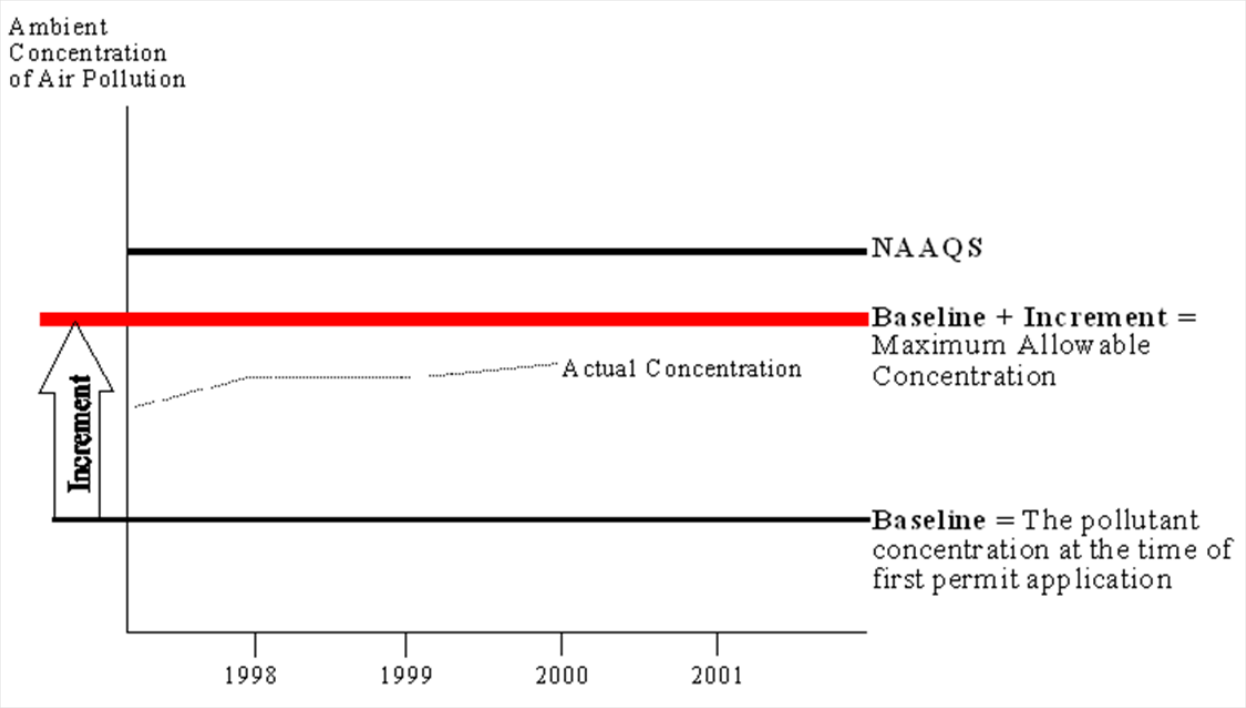


Figure 4-2. PSD Program: Baseline + Increment = Maximum Allowable Concentration More Stringent Than NAAQS

The increments are smallest for Class I areas and largest for Class III areas (attainment area classifications are discussed in Chapter 3). Therefore, Class I areas (which include national parks, national wilderness areas, national monuments, national seashores, other areas of special natural, recreational, scenic, or historic value, and areas reclassified as Class I) receive the greatest protection.

Only minimal degradation of air quality is allowed in Class I areas. To permit a major new facility or major modification of an existing facility in a Class I area, an offset from another facility in the area may be necessary.

What is required to redesignate a reservation to Class I?

Apart from your decision whether to adopt your own PSD program, you have some freedom to change the classification of your reservation and thus limit the amount of emissions growth from new and modified facilities. The CAA automatically classifies most attainment areas as Class II, but a federally recognized Indian tribe may apply to change the classification of its reservation to Class I or Class III.[86] Reservations that have been reclassified from Class II to Class I include those of the Northern Cheyenne, Confederated Salish and Kootenai Tribes - Flathead, Assiniboine and Sioux Tribes - Fort Peck, Spokane Tribe, and the Forest County Potawatomi.

[86] For more information on area redesignation under the PSD program, see the CAA section 164 and Appendix H, *Procedures for Area Redesignation to Class I.*

You can request reclassification by submitting a proposal to EPA, notifying the appropriate state(s), and holding a public hearing. See *Appendix H, Procedures for Area Reclassification to Class I*, and the CAA section 164 for more information on the statutory and regulatory requirements for redesignation. You may also find it helpful to review the guidance for *Indian Tribes Seeking Class I Redesignation of Indian Country Pursuant to Section 164(c) of the Clean Air Act (August 29, 2013)*.

Tribes have chosen to have their land redesignated to Class I to exercise more control over their air resources, assert tribal sovereignty, provide additional protection against impacts from off-reservation sources, and build tribal capacity in the implementation of their air programs.

What is minor NSR?

Minor NSR programs can be developed in both attainment and nonattainment areas and apply to smaller new facilities and facility expansions that are not large enough to qualify as major new sources or major modifications. Examples of common minor sources include gasoline stations, automobile refinishing shops, and dry cleaners. A minor NSR program allows EPA, a state, or a tribe to exercise oversight over the growth of pollution from minor sources to ensure such sources will not cause or contribute to a violation of the NAAQS, while still allowing growth to occur.

A minor NSR program can also provide permitting flexibility. In minor NSR, a source with a potential to emit above the major source threshold can agree to enforceable emissions limits below the major source threshold. The source would not be required to undergo the more complex major NSR and lower emissions would be ensured – such a source is called a "synthetic minor" source.[87]

Tribes have flexibility in designing minor NSR programs. There are examples of minor NSR programs to help you design a program that meets your needs. The Gila River Indian Community and the St. Regis Mohawk Tribe have developed TIPs for minor NSR programs. The programs vary greatly and can differ in attainment and nonattainment areas. In addition, EPA issued the tribal NSR rule in 2011 to provide federal regulations for minor source permitting in the absence of tribal regulations, and to provide tribes the ability to receive delegation of the program, or institute their own at the tribe's discretion.

NSR in Indian country

The EPA has developed a federal PSD permitting program that is administered in any state or reservation that has not developed its own PSD permitting program or received a delegation of authority from the EPA to implement the federal program. You may request delegation of PSD administration if you have the technical knowledge and legal authority to implement and enforce the requirements. Alternatively, you can develop your own PSD permitting program and submit it as part of your TIP. One

[87] Synthetic minor sources are sources that otherwise have the potential to emit regulated NSR pollutants in amounts that are at or above those for major sources in 40 CFR 49.167, 40 CFR 52.21, or 40 CFR 71.2, as applicable, but that have taken a restriction so that their potential to emit is less than such amounts for major sources. Such restrictions must be enforceable as a practical matter. See 40 CFR 49.152.

way you can establish a PSD permitting program is to incorporate the federal PSD permitting program by reference into your TIP (this process is different than delegation).[88] The federal PSD permitting requirements and the requirements that state and tribal PSD permitting programs must meet are found at 40 CFR 51.165(b), 51.166 and 52.21.

In Indian country the nonattainment major NSR and minor NSR permitting programs exist as a FIP that was created under the tribal NSR rule.[89] This means that there is one federal program that applies to all areas of Indian country **unless a TIP replaces it**. In your TIP you can either request delegation of authority to administer all or certain elements of the FIP, or you can develop your own programs. Once approved, your TIP replaces the FIP and becomes the federally enforceable standard.

If a major source wants to locate in Indian country, and you have not or do not want to adopt a major NSR program, EPA would issue the source a permit.

Under the minor NSR permitting program EPA simplified the CAA permitting process for certain minor sources[90] by developing general permits and permits-by-rule for 11 categories of emission sources. General permits streamline the minor source NSR permitting requirement and minimize the burden on reviewing authorities and sources by standardizing requirements that apply to multiple stationary sources with similar emissions characteristics in one document. The owner of one of these types of facilities in Indian country would need to apply to EPA to be covered by the applicable general permit. General permits are available for the following source categories:

1. Concrete batch plants,
2. Boilers and emergency engines,
3. Stationary spark ignition engines,
4. Stationary compression ignition engines,
5. Graphic arts and printing operations,
6. Sawmill facilities,
7. Hot mix asphalt plants, and
8. Stone quarrying, crushing, and screening facilities.

A permit-by-rule is similar to a general permit in that it contains a standard set of requirements that can apply to multiple stationary sources with similar emissions characteristics. It differs from a general permit in that the control and other requirements are codified in a source category permit-by-rule rather than in a general permit document. The permit-by-rule program allows an individual source to notify the reviewing authority that it meets the eligibility criteria for the permit and permit conditions without

[88] If your tribe adopts federal PSD regulations by reference in an approved TIP, when reading 40 CFR 52.21 substitute the appropriate tribal authority for references to the EPA "Administrator."
[89]The FIP, Review of New Sources and Modifications in Indian Country (EPA-HQ-OAR-2003-0076; FRL-9320-2), includes two NSR regulations - the 1st rule (minor NSR rule) applies to new and modified minor stationary sources and to minor modifications at existing major stationary sources, and the 2nd rule (nonattainment major NSR rule) applies to new and modified major sources in Indian country that are designated as not attaining the NAAQS.
[90] New or modified true and synthetic minor sources with a potential to emit equal to or more than the minor NSR thresholds but less than the major NSR thresholds, generally 100 to 250 tons per year.

having to submit a completed application for review and approval. Source categories covered under the permit-by-rule include:

- Auto body repair and miscellaneous surface coating operations;
- Gasoline dispensing facilities (GDFs), except for Indian country within the borders of California,[91] and
- Petroleum dry cleaning facilities.

Along with the permits themselves, EPA has made available several implementation documents and tools to assist applicants in completing the permit application forms. This information can be found at EPA's website Tribal Minor New Source Review.

For more information on the NSR program in Indian country, contact your EPA regional office and refer to EPA's *Tribal New Source Review Implementation Manual*.

How do you start creating a preconstruction permit program?

Your emissions inventory will help you identify the types of sources a preconstruction permit program on your reservation will need to regulate. Information on permitting can be found in the references provided in this document. In addition, EPA's tribal air coordinator for your region can help you determine which, if any, existing NSR or minor NSR programs may be useful models for you to use and assist you in the development of your preconstruction permit program. (See *Appendix A* for information on EPA's regional offices.)

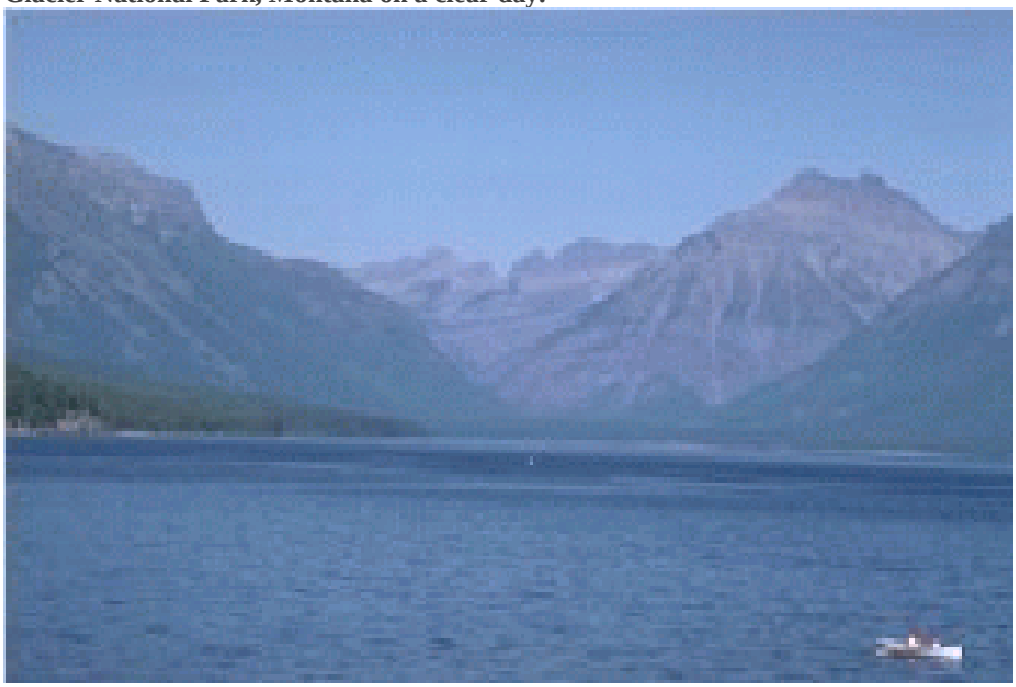
[91] The Gasoline Dispensing Facilities (GDF) Permit by Rule will not be available for use in Indian country within the Borders of California because EPA Region 9 will have a separate general permit or permit by rule for GDFs in the state that is tailored to address its unique air quality concerns. For additional information, refer to EPA's websites California Tribal Gasoline Permits and Tribal Minor New Source Review Permitting in Region 9.

Regional Haze

What is Haze?

Regional haze affects public welfare, such as the quality of life in the places where we live, work, and play. Haze obscures the clarity, color, texture, and form of what we see. Regional haze plans can be included as elements of TIPs.

Glacier National Park, Montana on a clear day.



Glacier National Park, Montana on a hazy day.

Haze is caused when light encounters tiny pollution particles (e.g., sulfates, nitrates, organic carbon, soot, and soil dust) and some gases (e.g., nitrogen dioxide) in the air. Some light is absorbed by the particles and gases and other light is scattered away before it reaches an observer. More pollutants mean more absorption and scattering of light, resulting in more haze. Humidity (especially prevalent in the East) magnifies the haze problem because some particles, such as sulfates, attract water and grow in size causing more light to be scattered.

Some of the same pollutants for which NAAQS have been established because of their serious health and environmental effects, also contribute to regional haze. Some haze-causing pollutants (mostly fine particles) are directly emitted to the atmosphere by a number of activities, such as electric power generation, various industrial and manufacturing processes, truck and auto emissions, burning related to forestry and agriculture, and construction activities. Others are formed when gases are emitted to the air and form particles as they are carried downwind (such as sulfates formed from sulfur dioxide, and nitrates formed from NO_X). Natural sources, such as forest fires, windblown dust, and organic emissions from biogenic sources, also contribute to haze.[92] Particles in the air can travel hundreds or thousands of miles, contributing to the haze that causes visibility impairment over broad regions of the United States. This distribution makes regional efforts for addressing haze a necessity.

What has the EPA done to improve and protect visibility?

Section 169A[93] of the CAA sets as a national goal the "prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I Federal areas which impairment of visibility results from manmade air pollution." In 1999, EPA developed the Regional Haze Rule, which is a set of regulations that call for states and tribes, in partnership, to establish goals for improving visibility and to develop long-term strategies to return visibility to natural conditions in federal Class I areas (primarily national parks and wilderness areas).[94] The EPA's Regional Haze Program applies to all states and to tribes that are eligible to implement CAA programs (i.e., have applied for and received Treatment as a State for regional haze planning purposes). The participants are to address their contributions to visibility problems in national parks and wilderness areas both within and outside their borders. In SIPs, and your TIP if you choose to include a regional haze plan, states and tribes must demonstrate that they are achieving reasonable progress toward reducing haze every year.

Progress reviews are due every five years, and comprehensive plan revisions are due in 2018 and every ten years thereafter. If you have not previously participated in regional haze planning, the 2018 revision is a good opportunity to start participating and contribute to the plan for your region

In order to develop a regional haze plan, an emissions inventory must be conducted to determine the source of your area's haze problem. Modeling can also help determine the cause of the problem and possible solutions. The Regional Haze Rule requires parties to consider emissions from all sources: from large point sources to mobile vehicles to area sources such as fires. Plans must set interim goals toward

[92] Biogenic sources are non-manmade or natural emitters of air pollutants. For example, conifer trees emit terpenes which are volatile organic compounds, a precursor to ozone.
[93] CAA § 169A: Visibility protection for Federal class I areas.
[94] For more information on the Regional Haze Rule, refer to EPA's website Visibility - Regulatory Actions.

eventually reducing haze to "natural" levels. These goals should show reasonable progress based on improving visibility in the Class I affected area on the haziest days, as well as not allowing degradation of visibility on clear days.

The initial regional haze plans required the use of Best Available Retrofit Technology (BART) for certain sources that were found to contribute to haze in a Class I area. BART applies to large sources built between 1962 and 1977 that can reasonably be expected to contribute to regional air pollution. Regional haze plans were required to provide a list of all BART-eligible sources in the state or tribe's jurisdiction. The plans analyze the regional pollution reductions that will result from applying BART controls on these sources and set in place the actual emissions limits for the sources.

For more information on the Regional Haze Rule and BART, refer to the links in the "For Further Reading" section at the end of this chapter.

How can you improve and protect visibility?

You can improve and protect visibility by developing a regional haze plan that implements the Regional Haze Rule. Because these plans are regional in scope, EPA encourages states and tribes to work in regional groups to develop and implement their air quality plans. Five regional planning organizations (RPOs)[95] covering the 48 contiguous states were established to analyze the nature and causes of regional haze in each federal Class I area. These organizations worked together to evaluate potential emission reduction strategies for meeting the goals of EPA's Regional Haze Program.[96] The RPOs explored ideas for meeting regional haze program goals, perform technical analyses, and generally facilitate the exchange of information among all participating governments. The EPA encouraged the RPOs to develop recommended strategies and agree on acceptable methodologies for apportioning emission reduction responsibilities to state and tribal governments. States and tribes could then implement these strategies through individual state or tribal regulations. The regional haze rule provides flexibility for states and tribes to develop a range of strategies addressing stationary, mobile, and area sources.

Regional haze plans can be implemented in a flexible way under the TAR. You are not subject to any deadlines established by the Regional Haze Rule, so you can adopt regulations as you see fit and as your air program develops. In other words, the Regional Haze Rule does not require you to take any action until you are ready.

Regional Planning Organizations

As EPA funding for the RPOs ended, the RPO activities have, to some extent, been continued by other organizations. Although there are challenges in re-invigorating the RPOs, there is value in understanding their role.

[95] For more information on RPOs, refer to EPA's website Visibility – Regional Planning Organizations.
[96] For more information on Regional Haze, refer to EPA's Visibility and Regional Haze Website.

The RPOs are primarily partnerships between state and tribal governments as air quality regulators in various geographic areas of the country, although these organizations want participation from all interested parties. The discussion below highlights some of the benefits and history of the RPOs.

There are a number of benefits for tribes in participating in the RPOs: (1) participation helps build your capability to manage your air quality; (2) participation helps build working relationships with other air quality professionals; (3) participation can help you leverage monitoring, modeling, and other technical resources; (4) in the future, the RPOs may address other long-range transport issues such as transport of ozone, fine particulate matter and toxic air pollutants; and (5) you can contribute to the RPOs by providing fresh ideas, monitoring visibility on your reservation, and filling gaps in emissions regulations (even small quantities of emissions can affect regional haze).

When participating in a regional planning effort, you may wish to advocate for your interests in air quality on your reservation. You may wish to articulate your positions on issues, and ensure that studies of the potential impacts of new regulations assess the air quality benefits and economic costs for your tribe, as well as other implications, such as effects on the quality of life on your reservation.

When identifying problems and developing solutions, it is important that every participant in the regional planning effort use consistent methods for counting sources, developing emissions inventories, and considering other factors, such as environmental costs and benefits. With this information, the group should develop a plan for implementing the recommendations it develops.

An example of collaboration to address regional haze

One regional planning group that developed a regional haze strategy is the Grand Canyon Visibility Transport Commission (GCVTC). The GCVTC was established by Congress through the 1990 CAA Amendments to address visual air quality in the national parks and wilderness areas on the Colorado Plateau. The GCVTC was comprised of tribal, state, and federal representatives. Many of the GCVTC recommendations were incorporated into section 51.309 of the regional haze rule. Section 51.309 outlined an optional approach for the states and tribes in a nine-state western region to submit regional haze plans in 2003. Three of those nine states (New Mexico, Utah, and Wyoming) chose to submit plans under that option. Examples of some of the emission reduction strategies included in section 51.309 are:

- Regional sulfur dioxide emissions milestones for each year in the 2003-2018 period, and a backstop market trading program to be implemented if any milestone is exceeded;
- Mobile source emissions cap for areas contributing significantly to visibility impairment;
- Smoke management plans and annual fire emissions goals for prescribed fire programs;
- Comprehensive emissions tracking strategies for clean air corridors to ensure that visibility does not degrade on the cleanest “least impaired” days; and
- Programs to expand energy conservation and to provide incentives for early emissions reductions.

Once the GCVTC made its recommendations, the Western Regional Air Partnership (WRAP) was formed to implement GCVTC's recommendations.[97] The WRAP's goals are to "promote and monitor the implementation of the recommendations from the GCVTC and, with the concurrence of its members, engage in other common regional air quality issues."

The members of WRAP include governors from Western states, Western tribal leaders, and representatives of the Departments of Agriculture and Interior, and the EPA. Tribal air professionals are in many of the workgroups and committees. For more information on the WRAP and a list of tribal representatives, visit their web site at Western Regional Air Partnership.

How can a tribe respond to air quality problems caused by upwind sources?

Air quality problems caused by upwind sources cannot be directly addressed in your TIP since those sources are outside your jurisdiction. However, there are steps you can take to address this issue.

According to the CAA sections 126 and 110(a)(2)(D), emissions from one area should not negatively impact another area's air quality. Sources are not permitted to:

- Contribute significantly to nonattainment in other areas,
- Interfere with maintenance of the NAAQS in another area,
- Interfere with measures implementing prevention of significant deterioration in other areas,
- Interfere with measures protecting visibility in other areas.

However, pollutants such as sulfur dioxide, nitrogen oxides, ozone, and fine particulate matter can travel great distances from the source. Therefore, urban and rural areas working to reduce ozone may be fighting a losing battle if upwind sources release pollutants that travel in their direction. Regionally, tribal and state governments, businesses, citizens, and EPA and other federal agencies, need to work together to help overcome this problem. In fact, it may be less expensive and fairer to control emissions throughout a region rather than just in the nonattainment areas.

Sophisticated computer modeling of a region, including your reservation – and possibly multiple surrounding states – can be used to evaluate the impacts upwind sources have on the reservation, and the impacts sources on the reservation have on downwind areas. Atmospheric transformation and photochemical air quality models that are used regularly for these investigations include the Regional Modeling System for Aerosols and Deposition (REMSAD) and the Urban Airshed Model Variable Grid (UAM-V®).[98] REMSAD calculates concentrations of particulate matter and UAM-V® calculates concentrations of ground-level ozone. Photochemical air quality models are helpful when developing emission control strategies because they relate changes in emissions to changes in air pollutant concentrations.

[97] A copy of The Grand Canyon Visibility Transport Commission's report to the US EPA is available at The Grand Canyon Visibility Transport Commission Recommendations for Improving Western Vistas (dated June 10, 1996).
[98] For more information, refer to EPA's website on Photochemical Air Quality Modeling.

Two options you have for addressing regional air quality are: (1) participating in regional planning to develop a regional haze plan, and (2) petitioning EPA for intervention if you believe upwind sources are contributing to nonattainment on your reservation.

Section 126 of the CAA[99] requires certain new major sources and major modifications to provide written notice to all nearby states and eligible tribes that may be affected by their emissions before they can be built. Sources that must comply with this requirement are those either subject to a PSD program, or that may significantly contribute to levels of air pollution above the NAAQS in another region. This section of the CAA also authorizes a downwind jurisdiction to petition EPA to impose emission limits directly on upwind sources if emissions from those sources are found to adversely affect that jurisdiction.[100] (A tribe must be eligible for treatment in a similar manner as a state in order to file a petition under section 126.) In 1997, eight northeastern states filed petitions requesting EPA to make a finding that nitrogen oxide (NO_X) emissions from certain major stationary sources significantly contribute to ozone nonattainment problems in the petitioning states. The eight petitioning states were Connecticut, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island, and Vermont.

Conclusion

There are several potential TIP elements that you can adopt to help you reach your air quality goals: attainment strategies, maintenance strategies, source preconstruction permits, and regional haze plans. Once you have decided which TIP elements, if any, to adopt, you can begin developing your TIP. Chapter 5 addresses two important aspects of TIP development: source compliance and enforcement of regulations.

For Further Reading

Maintenance Strategies

- Relevant CAA sections: 110(a)(1) and 175A.
- Regional Haze Rule, 64 FR 35714 (July 1, 1999).
- Amendments to Regulatory Requirements for State Regional Haze Plans (December 14, 2016).
- Guidance materials are available from the National Association of Clean Air Agencies (NACAA) and from EPA's websites Visibility – Guidance Documents; Technical Air Pollution Resources; and Tribal Air and Climate Resources.
- *Appendices G, TIP Regulation Development and Enforceability Checklist, and Q, Maintenance Plans and Attainment Demonstrations.*
- CAA requirements for maintenance plans: Section 175A.

[99] Title 42, section 7436 - Interstate Pollution Abatement.
[100] For more information on petitioning EPA for a finding that upwind sources are contributing significantly to NAAQS violations on your reservation, refer to CAA section 126 and EPA's website on the Cross-State Air Pollution Rule (CSAPR).

Attainment Strategies

- *Appendix R, Attainment Plans*.
- *Appendix G, TIP Regulation Development and Enforceability Checklist*.
- Clean Air Technology Center (information on control standards).
- For information on market-based control strategies refer to EPA's websites Technical Air Pollution Resources and Managing Air Quality – Control Strategies to Achieve Air Pollution Reduction.

Source Preconstruction Permits

- *Appendix P, Tribal Implementation Plans (TIP) (Gila River Indian Community Minor NSR Program).*

Chapter 5: Compliance and Enforcement

If you develop a TIP, it must include regulations that require the facilities you regulate to comply with emission limits and control measures. In order to determine compliance, the regulations must have adequate monitoring, recordkeeping, and reporting requirements. Facilities will need to measure or monitor their emissions and operations, record the data, and report to you the emissions or operational data or other information that will prove they are in compliance. This chapter provides information on (1) establishing requirements for facilities to measure, record, and report their emissions to demonstrate compliance, and (2) designing programs to enforce the regulations in your TIP through inspections, notices of violation, orders, and fines.

Compliance Demonstration Methods

Compliance demonstration methods must be included in your TIP so that source owners or operators have specific rules that they must follow when collecting and submitting data to you about their operations and emissions. Facilities demonstrate compliance through monitoring their operations, recording the monitoring data, and reporting the data to you. Generally, federal standards such as New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP)[101] will establish monitoring, record keeping, and reporting (MRR) requirements that establish how facilities will demonstrate compliance. On the other hand, for limits and standards that are created in your TIP or through a permit that you issue, you will need to create MRR requirements.[102]

The discussion in this section is designed to help you understand the MRR requirements found in federal regulations that apply to facilities that may be subject to your TIP, and to briefly discuss some of the issues you would need to consider if you develop a TIP or permit program that creates emission limitations or standards.

What kind of monitoring is required?

For compliance purposes, "monitoring" includes, but is not limited to, the collection and use of emissions or measurement data or other information to control the operation of a process or pollution control device, or to verify a work practice standard relative to assuring compliance with applicable requirements for an individual facility.[103]

[101]Section 112 of the CAA requires EPA to establish standards for emissions of hazardous air pollutants (HAP) for specific source categories. These standards require the maximum degree of reduction of HAPs at the time the standard is established, referred to as "maximum achievable control technology" or "MACT." The National Emission Standards for Hazardous Air Pollutants (NESHAPs) are found in 40 CFR Parts 61 and 63. The NESHAPs apply to both new and existing sources at the time that EPA establishes the standards.
[102] For help with writing enforceable regulations, refer to Appendix G, TIP Regulation Development and Enforceability Checklist.
[103]For information and definitions with regard to compliance monitoring, refer to EPA's website CAA Stationary Source Compliance Monitoring Strategy and EPA's website Clean Air Act (CAA) Compliance Monitoring.

In general, stationary source emissions monitoring is composed of four elements, including: 1) indicator(s) of performance; 2) measurement technique; 3) monitoring frequency, and (4) averaging time.

An indicator of performance is the item you measure or observe for demonstrating proper operation of the air pollution control measures of compliance with the applicable emissions limitation or standard. Indicators of performance may include:

- direct emissions measurements,
- surrogate emissions measurements (including opacity),
- operational parametric measurements that correspond to process or control device (and capture system) efficiencies or emission rates, and
- recorded findings of inspections of work practice activities, material tracking or design characteristics.

The measurement technique refers to the means by which you gather and record information of (or about) the indicators of performance. The components of the measurement technique include the:

- detector type,
- location and installation specifications,
- inspection procedures, and
- quality assurance and quality control measures.

Examples of measurement techniques include:

- continuous emission monitoring systems (CEMS),
- continuous opacity monitoring systems (COMS),
- continuous parametric monitoring systems (CPMS),[104] and
- manual inspections that include making records of process conditions or work practices.

The monitoring frequency refers to the number of times you obtain and record monitoring data over a specified time interval. Examples of monitoring frequencies include at least four points equally spaced for each hour for CEMS or CPMS, at last every 10 seconds for COMS, or at least once per day (or week, month, etc.) that the facility operates for some CPMS, work practice or design inspections.

In general, you should have a monitoring frequency that obtains at least one measurement during the specified time interval – whether emissions, parametric, or work practice related – so that the facility can use that value, (perhaps by itself or in combination with other data values) to demonstrate continuous compliance. This approach is taken in EPA's Compliance Assurance Monitoring (CAM) rule,[105] which applies to certain facilities that use control equipment to reduce emissions. Under that rule, facilities whose pre-control emissions exceed or are equivalent with the major source threshold are required to

[104] For a description of the different types of continuous monitoring systems (CMS), refer to EPA's website Continuous Monitoring Systems.
[105] For more information, refer to EPA's website Compliance Assurance Monitoring.

provide a measurement frequency of four or more values equally spaced over an hour. Facilities whose pre-control emissions do not exceed the major source threshold are required to provide a measurement frequency of one or more values per day.

The averaging period refers to the period over which you average and use data to verify proper operation of the pollution control approach or compliance with the emissions limitation or standard. Examples of averaging time include a 3-hour average in units of the emissions limit, a 30-day rolling average emissions value, a daily average of control device operational parametric range (e.g., operating temperature of a condenser), and an instantaneous alarm.

The appropriate monitoring technique depends on the type of facility, the pollutant to be measured, the type of process, and/or the nature of the facility's emission limitation. The quantity of emissions or size of facility should also be considered when setting these requirements because small facilities may have a compelling need for the most economical measurement and reporting requirements.

There are several types of monitoring techniques.[106] These can include:

- Continuous, direct emission measurement,
- Initial and periodic emissions testing,
- Surrogate or indirect parameter monitoring,
- Equipment and Work Practice Standards, and
- Emission factors with periodic calculation.

Continuous, direct emission measurement

Continuous, direct measurement of emissions is one of the ways to monitor compliance. You may require emissions to be measured in real time and at all times depending on the characteristics of the emission unit. Continuous direct measurement utilizes specialized equipment located either directly in, or in close proximity to, a facility's emission release point(s) to measure the facility's emission rates at any given time.

Continuous direct measurement can be accomplished using a continuous emission monitoring system (CEMS)[107]. A CEMS uses a probe placed in the path of exhaust gases to continuously direct a sample to a location where the sample can be collected and analyzed. Pollutant analyzer measurements and a conversion equation, graph, or computer program produce results in units of the applicable emission limitation or standard.

Stationary sources such as electric power plants, pulp and paper mills, and smelters usually exhaust large volumes of combustion or process gases through stacks. CEMS are most useful at these types of facilities because they create timely and accurate records of compliance with emissions limits. The EPA

[106]For more information, refer to EPA's website on CAA Compliance Monitoring. For resources and guidance documents, refer to EPA's website Resources and Guidance Documents for Compliance Monitoring.
[107] A CEMS is an instrument that continuously measures actual emissions levels from a stationary source. For more information, refer to EPA's website on EMC: Continuous Emissions Monitoring Systems.

requires some facilities within these broad categories of fossil fuel-fired electric power plants, sulfuric acid plants, nitric acid plants, and fluid bed catalytic cracking unit catalyst regenerators at petroleum refineries, to use CEMS; other facilities are also required to use CEMS.

Initial and periodic emissions testing

Another monitoring option is to directly test emissions from a facility to determine if the facility is in compliance with its emissions limits and or control requirements. Source testing should be conducted under the conditions that can be reasonably expected to produce the greatest emissions at the facility, such as maximum and minimum production capacities. The TIP may require periodic retesting — for example, every one-to-five year — to ensure that the facility is continuing to comply with its emissions limits. The topic of the frequency of monitoring is discussed above. In general, annual testing combined with other, more frequent measurement is often sufficient to provide appropriate monitoring.

The EPA publishes approved emissions test methods for regulated pollutants in Title 40 of the Code of Federal Regulations (CFR), part 60 Appendix A and part 40 Appendix M.[108] Links to these test methods can also be found at EPA's Air Emission Measurement Center (EMC) website.

Surrogate or indirect parameter monitoring

Indirect measurement of emissions may be a suitable requirement for facilities that have many small sources of emissions rather than a few large ones. For example, the wood furniture industry includes facilities that are sources of volatile organic compounds (VOC) emissions. These facilities' sources of emissions tend to be very numerous or scattered over the entire facility and hence are difficult to connect to an exhaust vent or control device. A large wood furniture factory may have multiple production lines, dozens of spray booths and other applicators, and several drying areas. A common method for reducing emissions from wood furniture manufacturers is requiring limitations on the VOC content of primers, paints, and other coatings used at the facility. For example, EPA's emission limitation for topcoats (the final coating on a piece of wood furniture) is 0.8 lb VOC/lb solids (as applied).[109]

A furniture manufacturer may demonstrate compliance by using only "compliant coatings" (coatings that meet the emission limitations), maintaining records on the VOC content of coatings, and documenting the calculations of the as-applied VOC content of the coatings used. The manufacturer would need to keep accurate records of all the specific coatings and thinners it uses and the volume of coatings and thinners used. It would also need to obtain the VOC content of the coatings and thinners from the product data sheets that are prepared and certified by coating and thinner manufacturers. Thus, the furniture manufacturer would certify emission rates with records and calculations, but without

[108] The EPA also has approved test methods for other pollutants in 40 CFR 60 Appendix A, 40 CFR 51 Appendix B, and 40 CFR 63 Appendix A.

[109] More precisely, this limitation is one component of the presumptive norm for RACT for wood furniture manufacturing operations. "As applied" is the actual VOC concentration of the coating after any thinners have been added. "As purchased" is the VOC content of the coating before any thinner is added. For more information refer to EPA's website Wood Furniture Manufacturing Operations: National Emission Standards for Hazardous Air Pollutants (NESHAP).

directly measuring emissions. In many cases, this option is the least costly approach to meeting and demonstrating compliance with VOC emission limits.

Equipment and work practice standards

If it is not feasible to enforce an emission standard, then the applicable requirement may instead establish a design, equipment, work practice or operational standard that is designed to limit emissions. It may be difficult to establish an emission standard where the pollutant cannot be emitted through a stack, duct, pipe or other structures designed and constructed to emit or capture the pollutant or where the application of measurement technology to a particular class of sources is not practicable due to technological and economic limitations.

An example of a work practice would be a requirement that facilities that operate reciprocating internal combustion engines change the oil and oil filter and inspect hoses and belts every 500 hours or annually. Another example would be to require that facilities that have large basins of chemicals used to remove grease from parts (degreasers) use lids to cover the basins.

Emission factors with periodic calculation

If emissions monitoring or parametric monitoring is not feasible, emissions factors may in some cases be used to demonstrate compliance with applicable requirements, but only as a last resort. Data from source-specific emissions tests is preferred for estimating a source's emissions. Or, a material balance approach may provide reliable average emission estimates for specific sources. Emissions information from equipment vendors, particularly emission performance guarantees or actual test data from similar equipment is a better source of information for permitting decisions than an emissions factor. However, test data from individual sources are not always available and may not reflect the variability of actual emissions over time. Thus, in some cases, emissions factors may be useful for estimating emissions in spite of their limitations. Whenever factors are used you should be aware of their limitations in accurately representing a particular facility and supplement the initial estimate of emissions with source-specific data as soon as practicable.

The emissions factors developed by EPA are contained in an online document known as AP-42: Compilation of Air Emissions Factors.

An AP-42 emissions factor is a representative value that attempts to relate the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant.[110] These factors are usually expressed as the weight of pollutant divided by a unit weight, volume, distance, or duration of the activity emitting the pollutant (e.g., kilograms of particulate emitted per megagram of coal burned). Emissions factors help estimate the emissions from various sources of air pollution. Emissions factors were originally established only for use in estimating emissions for developing national emissions inventories.

[110] For more information, refer to EPA's website Air Emissions Factors and Quantification.

It is important to note that in most cases, these factors are simply averages of all available data of acceptable quality. Emissions factors are generally assumed to be representative of long-term averages for the source category as a whole but are not reliable estimates of emissions from any one source. Because emissions factors essentially represent an average of a range of emission rates from various sources within a source category, approximately half of the sources in the source category will have emission rates greater than the emission factor and the other half will have emission rates less than the factor.

Each AP-42 emission factor is given a rating from A through E, with A being believed to be the most representative of emissions from that facility category. A factor's rating is a general indication of the reliability of that factor.

You may want to require facilities that employ one or more emissions factors to bear the burden of proving to you that the emissions factors are appropriate and adjusted for any uncertainty in the factor's development, just as is required of the plant-wide applicability limitation (PAL) program of NSR.[111] Also, you may want to require major facilities to determine a site-specific emissions factor within six months of your approval to use a generic (AP-42) emissions factor, which is the approach taken in the PAL program of NSR.

Which procedures for recordkeeping and reporting must you require?

Your TIP must require the regulated facilities to keep records and report the information you need to determine compliance with and enforce the emissions limitations and other requirements that apply to the facility. The TIP must identify the regulated sources, the pollutants that must be measured or monitored, acceptable measurement and monitoring techniques, the data to be reported, and the frequency of measurement and reporting. You must also explain how you will use the reported data, such as for compliance assurance, and for an emissions inventory.[112]

The specific information required from a facility depends on its means of demonstrating compliance with the emissions limits and other requirements, and how your tribe plans on using the data once they are submitted. Different test methods, performance standards, and regulations will have different data reporting requirements. For example, if you restrict VOC emissions through use of compliant coatings, you should require coatings users to keep records on coating usage and to submit semiannual compliance certifications. The coatings users should possess certified product data sheets for all regulated coatings. Their records should document the VOC content (as applied) of each coating and the procedures for calculating the as-applied values. The compliance certifications should state that the coatings documented in the product data sheets are the coatings actually used at the facility.

If the federal standard does not contain a schedule for submitting reports that meets the needs of the tribe or if you are creating a limit or standard in your TIP or permit, you should set a schedule for submitting

[111] For more information, refer to 67 FR 80213 (December 31, 2002), page 80189.
[112] For more information on measuring and reporting emissions, refer to EPA's Air Emission Measurement Center (EMC).

reports to ensure that you receive the information in a timely manner. For example, data from CEMS must be reported periodically (e.g., quarterly) to demonstrate compliance with emission limits.

Electronic Reporting. EPA regulations codified in 40 CFR Part 60, 62, and 63 require affected sources to electronically submit performance test reports, notification reports, and periodic reports to EPA. As a result, EPA has developed the Compliance and Emissions Data Reporting Interface (CEDRI), which is located on EPA's Central Data Exchange (CDX)[113]. To get started with CEDRI and CDX, refer to the document, *What Will I Need to Get Started?*.

How can visible emissions (opacity) be monitored?

Many stationary sources discharge visible emissions in the form of plumes. Opacity refers to the degree to which a plume reduces the transmission of light, obscuring the view of an object in the background. Higher opacity means greater visibility impairment.

If you regulate PM in your TIP, you should consider visible emissions limits for particulate matter.[114] These regulations can limit opacity from agricultural and wood waste burners, char broilers, and other stationary sources. Compliance can be determined by a continuous opacity monitoring system (COMS) or by observers following the appropriate EPA reference methods, such as Method 9 - Visual Determination of the Opacity of Emissions from Stationary Sources, which can be found at the Emission Measurement Center website mentioned above.[115] You can require that qualified employees of the facility perform these visual determinations on a regular basis, document the results, and report the results to you. You can also train your staff to make these determinations.[116]

Developing a Compliance and Assurance and Enforcement Program

Why is an enforcement program needed?

It is necessary that tribes establish the legal authority and procedures needed to ensure compliance with the emissions limitations, control technology requirements, and other requirements in their TIPs. The purpose of the TIP is to list the actions that the owners and operators of sources must take to help achieve your air quality goals. Your regulated community must also understand the penalties that sources will incur for failing to comply with the regulations. For help with writing enforceable regulations, see *Appendix G, TIP Regulation Development and Enforceability Checklist*.

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[113] CDX is the application used by EPA programs and various stakeholders to manage environmental data transmitted to EPA in order to meet EPA's electronic reporting requirements.
[114] The requirement for states to establish opacity limits in SIPs is given in 40 CFR 51.212(b).
[115] Visible emission limits can be determined by following EPA Methods 9 and 22, available at 40 CFR 60 Appendix A and at EPA's website EMC Promulgated Test Methods.
[116] EPA trains and certifies observers in the use of these methods. You do not need a TIP to participate in training.

What are the elements of a compliance assurance and enforcement program?

Your TIP should include a regulatory compliance monitoring (inspection) and enforcement program. For example, you program must be based on the tribe's authority to inspect regulated facilities and enforce any regulation included in the attainment or maintenance strategy or preconstruction permit program to assure compliance. Such a program should include all of the following elements:

- Resolutions and laws passed by your tribal government to establish authority to conduct on-site inspections (compliance evaluations), off-site record reviews, and enforce laws and regulations similar to EPA's authorities under CAA sections 113 and 114;
- Regulations to require owners and operators of emission sources subject to tribal regulations to monitor processes, measure emissions, keep records, make reports, etc., similar to EPA's authorities under CAA section 114;
- Procedures for conducting on-site compliance evaluations (inspections of sources to verify that emission limits are met, issuing notices of violations and compliance orders, and assessing fines); and
- Evidence that properly trained staff are available to perform inspections and undertake enforcement actions (described below).

It is important to remember that there are some limitations on tribal criminal enforcement authority; however, this will not prevent TIP approval. In some cases, it may be appropriate for you to enter into a Memorandum of Agreement with EPA to cover certain elements of your enforcement program.[117] The Memorandum of Agreement is discussed in a later section of this document.

How is tribal enforcement authority established for a TIP?

Your tribe must demonstrate that you have adequate authority under tribal law to carry out the TIP.[118] Acting pursuant to tribal law, your tribe's governing body must provide a tribal agency, such as the environmental agency, with the authority to develop and enforce the requirements in its TIP. To demonstrate enforcement authority to EPA, your tribe may need to adopt rules providing for the authority to enter a regulated facility and inspect it; conduct or require stack tests and opacity tests; issue violation notices, compliance orders, and fines; and pursue other enforcement actions described below. These rules support the TIP but would be separate from it. Of course, you already have your own authority to adopt tribal law.

In order for your TIP to be approved, your government must request formal approval from EPA for enforcement authority as one part of the overall approval of authority to administer the program.

[117] Memoranda of Understanding are discussed in 40 CFR 49.7(a) and 49.8.
[118] For more information on tribal enforcement authority, refer to CAA section 110(a)(2)(E).

What enforcement actions must your tribe be prepared to take?

The CAA section 110(a)(2) requires that implementation plans include a program to provide for the enforcement of the measures contained in the plan. Your tribe may structure your enforcement program in the way that you think is most appropriate so long as it meets this requirement. States typically have authority to take the following actions as part of their enforcement programs:

- Performing compliance evaluations,
- Issuing administrative sanctions, such as compliance orders and fines,
- Taking civil actions,
- Issuing sanctions,
- Assessing and collecting noncompliance penalties,[119]
- Issuing field citations,
- Taking emergency actions.

Compliance evaluations can be full evaluations, partial evaluations, or investigations at a facility by members of your tribal environmental staff.[120, 121] A full compliance evaluation would determine the current compliance status of all regulated pollutants from all regulated emission units within a facility. It would also assess the facility's ability to maintain compliance at each regulated emission unit. A full compliance evaluation should include a review of all required reports (e.g., periodic monitoring and excess emissions reports, malfunction reports), a review of facility records and operating logs, assessments of control device operating conditions and performance, assessments of process parameters and operating conditions, visible emissions observations, and emissions measurements where necessary or appropriate. A partial compliance evaluation would focus on a subset of regulated pollutants, regulatory requirements, or regulated emission units at the facility. An investigation is a more in-depth assessment of a particular issue at a facility that is usually undertaken based on information discovered during a full or partial compliance evaluation.

You should have both announced and unannounced inspections. If sources know you will be inspecting regularly for excess emissions, they have a greater incentive not to emit illegally. You should also have the ability to follow up on complaints by the public regarding possible violations at an emission source.

As a TIP is under development, your environmental agency may want to begin the process of training compliance monitoring and enforcement personnel. For example, your inspectors may want to begin taking the training necessary to conduct compliance evaluations under the CAA. One approach is to ensure your inspector is trained to conduct compliance evaluations under the CAA and your (anticipated) TIP and able to conduct inspections under the TAR's authority. Another approach is to discuss with your EPA regional contacts whether it is appropriate for a tribal inspector to obtain a federal credential to conduct compliance evaluations under the CAA on EPA's behalf. Such inspections are conducted under the EPA's authority – and not under tribal authority – with the inspector's written

[119] Refer to CAA section 120 for more information on noncompliance penalties.
[120] Refer to EPA's website Clean Air Act Stationary Source Compliance Monitoring Strategy.
[121] Refer to EPA's website How We Monitor Compliance.

report being reviewed by EPA which also makes all compliance and enforcement decisions.[122] Obtaining such a credential would enable your tribe's inspector to develop the skills necessary to conduct compliance evaluations under your TIP. Prior to obtaining authorization and a federal credential, your tribe must enter into a written agreement with EPA and the inspector must complete both generic and CAA specific classroom and on-the-job training.

A **civil action** is the process by which the enforcement authority asks a court to order a source to comply with the requirements of the TIP or an administrative order, and to assesses a civil penalty. Civil penalties may be up to $97,229 per day.[123, 124]

Sanctions. There are number of administrative sanctions that can take the form of written letters to a source indicating that it is violating a regulation. These sanctions could take the form of warning letters, violation notices, orders requiring the source to come into compliance, and penalty assessments. These sanctions should include what the source must do to come into compliance and the schedule by which it must do so. The source can discuss the violation and sanction with the enforcement authority; however, if the order is disregarded, it may be followed by an administrative penalty action or a civil action to enforce the order. Sanctions could also include restraining orders or orders prohibiting businesses from functioning normally until they comply with regulations.

Field citations are issued when an inspector discovers a minor violation in the field and are designed to be a streamlined enforcement tool that sends a clear enforcement message to violators that minor violations will not be overlooked.

Emergency actions can also be taken against a source when emissions pose an immediate danger.

Criminal Enforcement

A **federal environmental crime** is, generally speaking, a negligent, knowing, or willful violation of a federal environmental law. The CAA contains criminal enforcement provisions for a number of activities, including knowing violations of NESHAPs, tampering with monitoring devices or methods, knowingly failing to notify or report certain events or information, knowingly violating an operating permit, and other similar misconduct.[125] **"**Knowing**"** violations are those that are deliberate and not the product of an accident or mistake of fact. Environmental crimes often have attendant to them other violations of law, such as false statements, conspiracy, and wire fraud. These crimes also fall within the purview of an environmental criminal enforcement program. Any of these crimes may result in fines and/or imprisonment when proven in a court of law beyond a reasonable doubt.

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[122] Refer to EPA's Guidance for Issuing Federal EPA Inspector Credentials to Authorize Employees of State/Tribal Governments to Conduct Inspections on Behalf of EPA.

[123]For a description of noncompliance penalties regarding enforcement of Clean Air Act Amendment programs, refer to EPA's website Enforcement.

[124] Refer to the Amendments to the EPA's Civil Penalty Policies to Account for Inflation (effective 1/15/18) and Transmittal of the 2018 Civil Monetary Penalty Inflation Adjustment Rule.

[125]Refer to EPA's website, Criminal Provisions of the Clean Air Act for a list of statutory CAA crimes and required penalty authority.

EPA encourages tribes to develop their own environmental criminal law enforcement capacity, but we recognize that tribes often do not have the ability to impose the penalties required by federal law. In addition, investigation of environmental crimes may require specialized equipment and training that the tribe might not possess. Such limitations will not prevent EPA from approving a TIP but you must, in most cases, enter into a negotiated Memorandum of Agreement (MOA) with EPA that governs coordination between the tribe and EPA on matters of criminal enforcement of federal environmental law and attendant general crimes. Even in cases where this MOA requires that a matter be referred to EPA's Criminal Investigation Division for investigation and possible subsequent federal prosecution, tribal law enforcement officers may play a significant role in identifying suspected criminal misconduct, may coordinate with EPA special agents in the investigation of the matter, and may be witnesses in any subsequent prosecution. Accordingly, the MOA is important not only in delineating the boundary between tribal and federal enforceability but also in establishing the mechanism for communication and coordination needed to most effectively enforce against environmental crimes.[126]

Does the EPA have enforcement power on reservations?

Yes, EPA, consistent with the CAA and agency policies, may take criminal, civil, judicial and/or administrative enforcement actions against regulated facilities on reservations to protect human health and the environment and/or to deter future violations.[127] The EPA may exercise its enforcement authority if, for example, your tribe's environmental agency does not or cannot enforce EPA-approved regulations in your TIP. The EPA may also exercise its enforcement authority of other CAA violations that are not included in a TIP. Consistent with the CAA and agency policy, EPA will notify your tribe's environmental agency prior to taking an administrative or civil judicial enforcement action if it identifies a facility violation of a TIP or the facility's violations relate to a failure to enforce the TIP. The EPA also provides your tribe environmental agency with a copy of enforcement orders. If the enforcement involves a tribal facility, EPA also follows the process outlined in the agency's tribal specific enforcement policy.[128]

How do you start developing an enforcement program?

The EPA provides several sources that can assist you in developing an enforcement program.

- The National Enforcement Training Institute (NETI), run by EPA's Office of Enforcement and Compliance Assurance (OECA), offers training opportunities to environmental inspection and enforcement personnel (lawyers, inspectors, civil and criminal investigators and technical experts) employed by federal, tribal, state, and local governments. NETI provides courses on case support, statute enforcement, compliance assistance, and environmental criminal

[126] For information on criminal enforcement authority and the Memorandum of Agreement, refer to 40 CFR § 49.7(a)(6) and 40 CFR § 49.8.
[127] For more information on EPA enforcement authority, refer to CAA section 113 and EPA's website Compliance & Enforcement in Indian Country.
[128] Federal power to enforce approved implementation plans is established in the CAA section 113. The EPA's *Guidance on the Enforcement Principles Outlined in the 1984 Indian Policy* (Steve Herman, January 17, 2001), provides information on EPA's enforcement policies against tribal facilities.

enforcement. Training is provided online and in the classroom. For more information, refer to EPA's website on the National Enforcement Training Institute eLearning Center or send an email to NETI@epa.gov.

- Inspectors should also seek access to OECA's Inspector Wiki[129] which provides a "first-stop" comprehensive resource where EPA, tribal, state, and local government employees can access information about inspections, mandatory inspector training and credential requirements, health and safety policy and requirements, program specific and cross media inspection policy and guidance, inspection equipment and new technologies, and compliance assistance.
- Inspectors should take both generic and CAA specific classroom and on-the-job training to ensure that they understand the CAA, your tribe's TIP, and how to protect themselves and others when conducting a compliance monitoring evaluation. Training will include basic inspector techniques and understanding air pollution sources, controls, regulations, and monitoring and testing techniques. Inspectors should be prepared to take initial training and regular refresher training. NETI offers many training courses for inspectors. Other entities offer inspectors training, including Northern Arizona University's Institute for Tribal Environmental Professionals. Inspectors from your regional EPA office will facilitate on-the-job training for inspectors who will receive federal CAA credentials and may also facilitate such training if your tribe does not obtain a federal credential.
- OECA has many Compliance Assistance Centers to help businesses, governments, and other entities understand and comply with environmental requirements and save money through pollution prevention techniques. The Centers provide immediate access to comprehensive, easy-to-understand compliance information, fact sheets, and other tools. Centers are targeted to numerous sectors, include agriculture, automotive recycling, automotive services and repair, chemical manufacturers, construction, and transportation. For more information, refer to EPA's website Compliance Assistance Centers.

Conclusion

Adoption and implementation of adequate enforcement authorities (authorities to collect information, monitor emissions, perform compliance evaluations, issue orders, assess fines, etc.) is vital to the success of achieving the emission reductions necessary to reach the air quality goals you set in your TIP.

Once you have developed your enforcement authorities you can hold public hearings, adopt the TIP, and submit it to EPA for approval as described in Chapter 6.

[129] The Wiki is available only to government employees and is accessible upon request. For more information on the Wiki contact OECA's Tracy Back at back.tracy@epa.gov.

For Further Reading

- EPA's website Compliance & Enforcement in Indian Country.
- Resources and Guidance documents for Compliance Assistance
- EPA's website Compliance to learn how facilities near you are complying with Environmental Laws, to learn about Compliance Monitoring Programs, and Enforcement and Compliance Training Opportunities.

Chapter 6: TIP Adoption and Submission

After you develop your TIP it must be adopted by your tribal government and approved by EPA. There are several steps you need to follow to adopt your TIP and submit it to the EPA for approval, including public notice, public hearings, and formal adoption. This chapter will help guide you through the public outreach process and the requirements for public notification and hearings. It also presents information on how your tribal government must formally adopt your TIP and what happens once your TIP is submitted to the EPA.

Adopting Your TIP

What is public outreach and how do you prepare an outreach strategy?

Public outreach involves communication with all affected parties about the development of your TIP. The CAA requires that you provide reasonable notice and conduct public hearings prior to adopting your TIP. These requirements are discussed later in this chapter. In addition to these minimum requirements, it may also be useful to conduct other public outreach efforts even earlier in the TIP development process — such outreach is not required; however, it is likely to benefit tribal members, other residents, and potentially affected sources. Sources, business owners and operators, and air quality managers in adjacent jurisdictions are likely to be more helpful if they are included in the entire process. They may have ideas, viewpoints, or concerns to contribute that you may not have considered otherwise. Your early outreach may also enhance their ability to contribute to the TIP development process.

The first step in organizing your outreach strategy is to identify the main issues and how you will address them. One way to accomplish this task is to hold a brainstorming session with your staff and/or other individuals who may be able to provide ideas or guidance. The set of questions found in Table 6-1 may be useful to you if you begin brainstorming on ways to effectively communicate with the public. These questions may help you begin thinking about your TIP outreach strategy.

Table 6-1. Brainstorming Questions for Developing a TIP Outreach Strategy

Questions	Possible Answers
What is the air quality issue (or other priority such as protection of sovereignty) your tribe wants to address?	» Unacceptable air pollution in the community » Nonattainment status for a criteria air pollutant » Permitting new major sources of emissions » Fill regulatory gaps
What is the overall goal of your outreach?	» Explain the current or potential air quality problem and your approach to resolving it
What are the desired outcomes of your outreach?	» Widespread support for TIP
Which groups are most affected by the issue?	» General public, driving public, people with respiratory disorders, the elderly, children » Health professionals » Tribal government and agencies » Federal, state, and local government agencies (e.g., the Bureau of Indian Affairs) » Business owners/employees
What can your tribe do?	» Meet with people » Conduct media outreach » Hold public hearings » Make the proposed TIP and supporting information readily available
Does your organization have the capacity to address the issue and effect change?	» Determine any barriers to adopting the TIP (e.g., tribal council members, tribal laws and customs, jurisdiction disputes, resources) » Assess current resources (e.g., staffing, funding, information, time)
What strategy will your tribe use?	» Develop a plan, including all program tasks, a timetable, staffing and budget issues, evaluation methods, and partnerships

What support information is available to participate in the TIP development process?

The EPA suggests that you provide the following support information so that any interested person may be informed about the air quality on the reservation, the need to develop a TIP, and the procedures that will be used to manage air quality:

- Ambient monitoring data with comparisons to the National Ambient Air Quality Standards (NAAQS), if available;
- Air quality trends and forecasts, if available. This is especially important if new sources of emissions plan to begin operating on the reservation;
- Emission limits and regulations needed to attain and/or maintain the NAAQS;
- A demonstration that the proposed regulations will resolve the air quality problem;
- Documentation that the emission limits and regulations will require the use of Reasonably Available Control Measures (RACM), including Reasonably Available Control Technology (RACT), on sources in nonattainment areas (if applicable);
- Procedures that will be followed to enforce regulations; and
- Budgets for the air quality program and/or the tribal environmental agency.

Whom should you try to reach with the outreach strategy?

Many people will be interested in your TIP because it may affect their business costs, jobs, and air quality. You might want to meet with tribal leaders and/or other tribal members, individually or as a group, to present the TIP before presenting it to other interested parties. Others who may wish to participate and have their views heard include owners and operators of businesses that emit air pollutants, their employees, residents, and environmental groups. Additional groups that may be interested in your TIP include:

- Community, civic, neighborhood, and public health groups,
- Homeowner and resident organizations,
- Media/press,
- Spiritual communities.

Additionally, if your reservation borders Mexico or Canada, you may need to consider informing foreign governments about your TIP. The EPA tribal air coordinator for your region can provide your tribe with guidance about whom to inform and which interest groups and businesses your tribe should try to reach. (See *Appendix A* for information on the EPA regional offices.)

How can you effectively communicate with all interested parties?

To ensure effective communications with the public, there are five steps that you should undertake when developing an outreach strategy for your TIP:[130]

- **Problem/Issue Analysis:** Examine your problem or issue and determine your goals — for example, educating the community about the air quality situation so that they can contribute to identifying air quality goals.
- **Audience:** Determine who your audience is and its characteristics.

[130] For more information on communicating with the public and other topics relating to air program development, refer to the Institute for Tribal Environmental Professionals (ITEP) Resources website and the Online Resource Center Access (ORCA) database.

- **Medium Determination:** Determine what media or channels of communication you will use to reach your audience.
- **Message Development:** Select the appropriate message for each communication method.
- **Evaluation:** Devise a method of evaluating whether or not your campaign was successful — for example, you can count the number of people who attend educational meetings about air quality and their reactions to your suggested air quality goals.

The communication methods you can use range from speeches and presentations, to newspaper articles, editorials, the internet, social media (e.g., Facebook and Twitter), brochures, and community meetings. You can write news releases and public service announcements which newspapers and radios will often run for free. Letters to the editor are another good way to gain exposure. You can also use these forums to update the public on the status of TIP development and any changes that may occur. For example, a weekly or monthly column in a local newspaper or newsletter would enable many people to stay up-to-date on air quality issues while you are developing the TIP. Check with area newspapers or radio stations before submitting any press release or public service announcement as there may be guidelines on how to prepare them.

When preparing documents or statements to reach stakeholders, use clear, concise language; explain complicated scientific terms; and use acronyms sparingly. It is also helpful to discuss the various impacts that may arise from implementing a TIP.

When communicating with local citizens groups, it may be helpful to relate air quality issues to the more familiar issues of water quality, natural resource quality, and even quality of life. Referencing these more familiar issues can help people understand that air quality is an important part of everyday life. You may need to give speeches or presentations to different groups of stakeholders and choose to alter your presentation to suit their interests. For example, tribal members may want to know more about the importance of good air quality for long-term human health, the health of farm crops and natural vegetation, and the tribe's culture, while representatives from business and industry may want more technical explanations of proposed emissions reductions.

What are the minimum requirements for notice and public hearings?

You must publish a notice to alert interested parties about their opportunity to review and comment on your draft TIP. Your notice must be published in a prominent way in a general circulation newspaper and must provide information about how, when, and where the public can access the draft TIP. You must make the TIP available for public review by having it accessible in a public location. This notice can also provide information about the public hearing(s) that you must offer to hold before you can adopt your TIP. Notice should be provided at least 30 days prior to the date of the hearing.

Public hearings are required to be offered so that all those that are affected by the proposed rule have an opportunity to review the plan and make comments.[131] There are certain requirements for holding public hearings. These requirements are outlined in 40 CFR Part 51.102(d) and are as follows:

- Notice should be given to the public by prominent advertisement in the area affected announcing the date(s), time(s), and place(s) of such hearing(s);
- The proposed plan should be available for public inspection in at least one location in each region to which it will apply;
- The EPA Administrator should be notified (through the appropriate regional office);
- Notification should be provided to each local air pollution control agency which will be significantly impacted by such plan, schedule, or revision; and
- In the case of an interstate region, notification should be given to any other states included, in whole or in part, in the regions which are significantly impacted by such plan, schedule or revision.

You may request approval from EPA to utilize procedures different from those listed above; however, such alternative procedures would have to ensure public participation in matters for which hearings are required and provide adequate public notification of the opportunity to participate.[132] In addition to the above requirements, the following are suggestions on how to make the process run more smoothly:

- Consider holding a hearing in the evening to accommodate those people that cannot attend a daytime hearing.
- Include in the notice how the public can obtain a copy of the TIP. Make the plan available on and off your reservation.
- Try not to make changes to the TIP between the time of advertising and the hearing, if possible. If significant changes are made to the TIP during this time, it may need to be "re-proposed" to the public through additional advertising.
- In the notice for the hearing, explain the air quality goals to be achieved and how the TIP will help to meet those goals.
- Allow everyone to speak during the hearing, if possible. If there are a large number of people interested in speaking, you may want to have time limits on comments to ensure there is time to hear from everyone.
- Make the hearing transcripts available to the public. These transcripts need to include a list of speakers and their remarks.

After the public hearing, you must prepare a summary of the public's comments and respond to each comment within the summary document, showing how it may have influenced the final version of the TIP. (The comments do not have to influence the TIP; you may disagree with them.)

[131] The requirements for public participation are established in CAA section 110 and codified in 40 CFR 51.102.
[132] Requirements for public hearings can be found in 40 CFR 51.102. Under 40 CFR 51.102(g), a tribe may request alternative procedures.

Are there other consultation requirements?

Under Section 121 of the CAA, consultation with certain governmental entities (e.g., Federal land managers and local governments) may be necessary before you adopt your TIP. You should consult with your EPA regional contact to determine whether or not such consultation will be required.

How does your tribal government formally adopt the TIP?

After the consultation process, public notice period, public hearings, and any revisions resulting from public comment, your tribal government can adopt the TIP. The government must adopt the TIP in the tribal code or the tribe's body of regulations. Your tribe's laws and constitution may include procedural requirements that you will also need to follow in conducting and completing the adoption of the TIP.

Submitting Your TIP to the EPA for Approval

What needs to be submitted to the EPA along with the TIP?

Once your tribe has adopted the TIP, it should be submitted to your EPA regional office for approval. *Appendix G, TIP Regulation Development and Enforceability Checklist*, provides criteria that can be used to determine if your regulations are clearly written before your TIP is submitted.

The EPA has specified in the Code of Federal Regulations (40 CFR 51, Appendix V), the information that must be submitted with your TIP in order for it to be deemed a complete submission.[133] The list is broken down into administrative requirements, technical requirements, and exceptions to the requirements. The administrative requirements are:

- A formal letter from your tribe's Chair/President/Chief to the EPA requesting approval of the plan;
- Evidence that the TIP was adopted into tribal code;
- Evidence of your tribe's legal authority to adopt and implement the TIP;
- Evidence that your tribe is eligible to implement the TIP, including evidence that you have adequate personnel and funding;
- A copy of the tribal air code and the date the TIP is effective and enforceable;
- Certification that public hearings were held/offered; and
- A copy of the public comments and your response.

[133] 40 CFR 51, Appendix V identifies the criteria for determining the completeness of an implementation plan submission. Only a submission that is found or deemed completed triggers the requirement for EPA to decide whether to approve or disapprove the TIP.

The technical requirements include, as applicable:

- A list of regulated pollutants affected by the plan;
- Locations of affected sources and the air quality designation of their locations (i.e., attainment, unclassifiable, nonattainment);
- Projected estimates of changes in current actual emissions from affected sources;
- Modeling information (i.e., input and output data, justification of models used, data and assumptions used); and
- Evidence that the plan contains emission limitations, work practice standards, and record-keeping/reporting requirements.

Since the TAR allows tribes to adopt severable TIP elements and build a TIP in a modular fashion, it may not be necessary to meet every requirement listed. Consult with the tribal air coordinator in your EPA region before submitting your TIP to determine which requirements will apply to your submission. (Refer to *Appendix A.*)

In addition to the documents listed above, you may also need to provide additional supporting materials. Examples of these materials include air quality data summaries, current and projected emissions inventories, and dispersion modeling analyses. Any documents that support your use of certain control technologies, inventory development, and other air quality documents should be submitted along with your TIP.

If you have not already requested and received approval for "treatment as a state" for purposes of adopting a TIP, then this request should also be submitted with your TIP. (See Chapter 1 for a more detailed discussion regarding this submission.) Please note that the statutory timeframes discussed in the next section regarding completeness determinations and TIP approval would not apply unless your tribe has received approval for "treatment as a state" for purposes of those provisions.

What does the EPA do after you submit your TIP?

After you submit the TIP to your regional EPA office, the agency will review it for completeness within six months. If your TIP submission is incomplete, EPA will return it for revision. You can resubmit the TIP when appropriate changes have been made, the outreach and public comment process has been gone through again, and the TIP has been adopted into tribal law. If EPA does not make a completeness determination within six months from the date the TIP was received, the TIP submission will automatically be deemed complete.

Partial approval/partial disapproval of your TIP may occur if some sections of your TIP are approvable but other sections are not approvable. Plans may also be approved conditionally if it is necessary for you to make certain revisions to the TIP before the TIP can be fully approved by the EPA. If your TIP is partially or conditionally approved, you will need to revise it and resubmit it to the EPA for approval. If EPA finds that the TIP meets the requirements of the CAA, EPA will approve it. If your reservation boundary or other areas under your jurisdiction are under dispute, EPA may approve the plan for the

undisputed areas and request more information to resolve the conflict. Within 12 months of a TIP being deemed complete, EPA must approve or disapprove the TIP.

The EPA will notify you prior to making any final decision to fully or partially approve or disapprove your TIP. The EPA must take public comment on its intention to approve or disapprove your TIP in the Federal Register. Because you have to adopt the TIP as law prior to submitting it for approval, and given the extensive process required before regulations can be adopted, it is a very good idea to make sure that your TIP will be accepted by EPA before you begin the adoption and approval process. You can accomplish this by starting to work with EPA early in the development of the TIP.

Revising Your Approved TIP

Why would your TIP need to be revised once it has been approved?

If the NAAQS change or if the EPA revises regulations pertaining to a program that you have adopted, you may have to revise your regulations and submit those regulations as TIP revisions.

In addition, if tribal laws change or if you find that your TIP is not as effective as it could be in certain areas, you may wish to revise it. For example, if a source has altered its production methods it may require a different emission limit. You may also wish to change the air quality designation of your reservation – this would also require a revision in your TIP.

When the TIP needs to be revised, the same procedures must be followed as with the original TIP, and EPA applies the same completeness criteria when reviewing it for approval. This process only needs to take place for the specific revisions you are making; you do not need to resubmit the entire TIP.

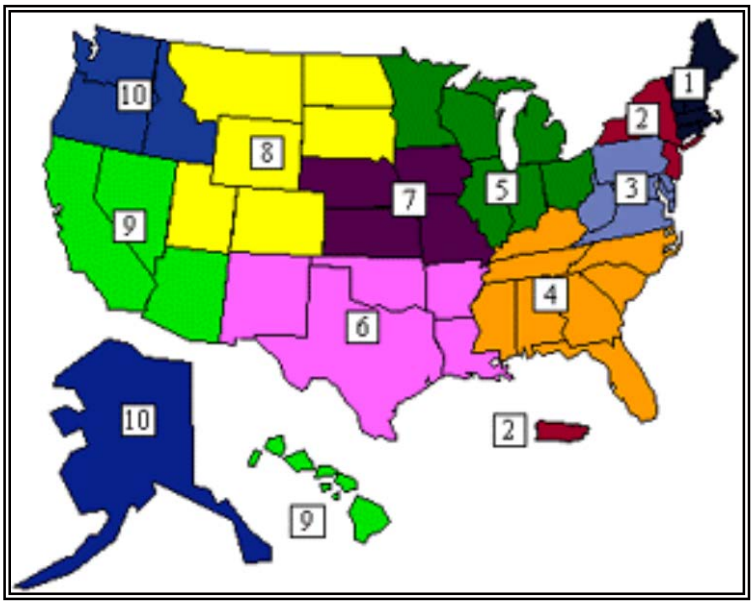
Conclusion

A TIP is a flexible tool your tribe can use to address its air quality goals. You can choose to develop and implement only those TIP elements, such as maintenance plans, attainment plans, preconstruction permitting program, and regional haze plans, that you consider important for addressing air quality problems due to criteria pollutants. If you choose to adopt a TIP, your regional EPA tribal air coordinator and the references provided in this document can help you develop one.

APPENDICES

Appendix A: Tribal Contacts at the EPA

EPA Regional Office Jurisdictions



EPA Regional Offices	EPA Regional Tribal Programs
Region 1 (New England) — CT, ME, MA, NH, RI, VT	Region 1 Tribal Program
Region 2 — NJ, NY, PR, USVI	Region 2 Tribal Program
Region 3 (Mid-Atlantic) —DE, DC, MD, PA, VA, WV	Region 3 Tribal Program
Region 4 (Southeast) — AL, FL, GA, KY, MS, NC, SC, TN	Region 4 Tribal Program
Region 5 — IL, IN, MI, MN, OH, WI	Region 5 Tribal Program
Region 6 (South Central) — AR, LA, NM, OK, TX	Region 6 Tribal Program
Region 7 (Midwest) — IA, KS, MO, NE	Region 7 Tribal Program
Region 8 (Mountains and Plains) — CO, MT, ND, SD, UT, WY	Region 8 Tribal Program
Region 9 (Pacific Southwest) — AZ, CA, HI, NV	Region 9 Tribal Program
Region 10 (Pacific Northwest) — AK, ID, OR, WA	Region 10 Tribal Program

EPA Tribal Air Coordinators for Headquarters and Regional Offices

Appendix B: Informational Resources

Websites and/or Other Sources of Information
Starting Points
▪ EPA's Environmental Protection in Indian Country
▪ EPA's American Indian Environmental Office (AIEO) Facebook
▪ Institute for Tribal Environmental Professionals (ITEP)
▪ American Indian Science and Engineering Society (AISES)
General Law
▪ The Clean Air Act (CAA)
▪ Plain English Guide to the CAA
▪ Code of Federal Regulations (CFR)
▪ Text of 40 CFR (environmental regulations)
▪ Tribal Authority Rule (TAR)
▪ Indian Tribes: Air Quality Planning and Management (Final Rule -1998)
▪ 40 CFR 50 - National Ambient Air Quality Standards (NAAQS)
▪ EPA's website Criteria Air Pollutants
▪ EPA's website NAAQS Implementation Process
▪ EPA's website NAAQS Table
▪ Memoranda for NAAQS - Policy & Guidance Memos
▪ Reviewing NAAQS: Scientific and Technical Information
▪ Air Quality Implementation Plans — This site contains information about air quality regulations called State Implementation Plans (SIPs), Federal Implementation Plans (FIPs), and Tribal Implementation Plans (TIPs).
▪ CAA Section 110(a) – SIPs for national primary and secondary ambient air quality standards

Websites and/or Other Sources of Information

- 40 CFR parts 52 - Approval and Promulgation of Implementation Plans
- Clean Air Act Title I - Air Pollution Prevention and Control, Parts A through D
- Ozone nonattainment area requirements — CAA Sections 181, 182, 183, 184, 185, 185A, 185B
- Carbon monoxide nonattainment area requirements — CAA Sections 186, 187
- PM nonattainment area requirements — CAA Sections 188, 189, 190
- Sulfur oxide, lead, or nitrogen oxide nonattainment area requirements — CAA Sections 191, 192
- Nonattainment areas for criteria pollutants (Green Book)
- Redesignation from nonattainment to attainment — CAA Section 107(d)(3)(E)

Emissions Inventories

- Air Emissions Inventory Improvement Program (EIIP) — Technical Report Series (Volumes 1-10) are guidance documents developed to describe emission inventory approaches. For on-road mobile sources, biogenic sources, fires, and some nonpoint stationary source categories, newer approaches have been developed as part of the National Emissions Inventory (NEI) program.
- National Emissions Inventory (NEI) — a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emissions sources.
- Clearinghouse for Inventories and Emissions Factors (CHIEF) — includes Air Emissions Inventories, Air Emissions Modeling, Air Emissions Factors and Quantification, Electronic Reporting of Air Emissions, and Emissions Monitoring Knowledge Base.
- *Handbook for Criteria Pollutant Inventory Development: A Beginner's Guide for Point and Area Sources* (EPA-454-R-99-037, September 1999)
- EPA website Air Emissions Inventory Guidance Documents — These resources provide the latest available guidance on developing emissions inventories to meet State Implementation Plan (SIP) requirements. Emissions inventory SIPs are required by NAAQS implementation rules and the Clean Air Act. These resources are intended for use by State, Local, and Tribal air agencies and the EPA regional offices.
- *Air Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter NAAQS and Regional Haze Regulations*. This document provides guidance on how to develop emission inventories to meet State Implementation Plan (SIP) requirements for complying with the 8-hour ozone national ambient air quality standard (NAAQS), the revised particulate matter (PM) NAAQS, and the regional haze regulations. It is intended for use by the EPA Regional Offices; state, local and tribal air quality management authorities; and the general public. The guidance is designed to implement national policy on these issues.

Websites and/or Other Sources of Information

- Tribal Emissions Inventory Software Solution (TEISS) — The TEISS provides guidance on what type of data to enter, conducts calculations and unit conversions, and creates clear reports and maps that support the needs of tribal air quality activities related to emissions inventories.
- *AP-42, Compilation of Air Emission Factors* has been published since 1972 as the primary compilation of EPA's emission factor information. It contains emissions factors and process information for more than 200 air pollution source categories and includes brief descriptions of processes used, potential sources of air emissions from the processes, common methods used to control these air emissions, and methodologies for estimating the quantity of air pollutant emissions via emission factors.

Air Quality Monitoring

- Interactive Map of Air Quality Monitors – the AirData Air Quality Monitors app is a mapping application available on the web and on mobile devices that displays monitor locations and monitor-specific information. It also allows the querying and downloading of data daily and annual summary data.
- The Air Quality System (AQS) contains ambient air pollution data collected by EPA, state, local, and tribal air pollution control agencies from over thousands of monitors. AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and its operator), and data quality assurance/quality control information.
- The Ambient Monitoring Technology Information Center (AMTIC) provides information on monitoring programs and methods, quality assurance and control procedures, and federal regulations. The AMTIC is primarily intended for staff responsible for collecting ambient air monitoring data.
- Using a nationwide network of monitoring sites, EPA has developed ambient air quality trends for key air pollutants. For more information, refer to EPA's website National Air Quality: Status and Trends of Key Air Pollutants
- The Tribal Air Monitoring Support (TAMS) Center was created through a partnership between tribes, the Institute of Tribal Environmental Professionals (ITEP) and the United States Environmental Protection Agency (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.
- The Quality Assurance (QA) Handbook is comprised of five volumes: Volume I: A Field Guide to Environmental Quality Assurance; Volume II: Ambient Air Quality Monitoring Program; Volume III: Stationary Source-Specific Methods; Volume IV: Meteorological Measurements Version 2.0; and Volume V: Precipitation Measurement Systems. For more information, refer to EPA's website Quality Assurance Guidance Documents.
- For data analysis requirements on the National Ambient Air Quality Standards (NAAQS) refer to 40 CFR 50. For access to a collection of EPA resources with technical information about many areas of air pollution prevention, technology, regulation, measurement and science refer to EPA's website Technical Air Pollution Resources.

Websites and/or Other Sources of Information

Control Measures

- The Clean Air Technology Center (CATC) is a resource on all areas of emerging and existing air pollution prevention and control technologies.
- Burn Wise is a partnership program of the U.S. Environmental Protection Agency that emphasizes the importance of burning the right wood, the right way, in the right wood-burning appliance to protect your home, health, and the air we breathe.
- The Menu of Control Measures (MCM) for NAAQS implementation provides state, local and tribal air agencies with information on existing emissions reduction measures, as well as relevant information concerning the efficiency and cost effectiveness of the measures. The MCM includes information on measures for large point sources of emissions, as well as some information on measures for nonpoint sources of emissions. State, local, and tribal agencies will be able to use this information in developing emissions reduction strategies, plans, and programs to assure they attain and maintain the National Ambient Air Quality Standards (NAAQS).
- The RACT/BACT/LAER Clearinghouse (RBLC) data base contains case-specific information on the "Best Available" air pollution technologies that have been required to reduce the emission of air pollutants from stationary sources (e.g., power plants, steel mills, chemical plants, etc.).
- *Procedures for Identifying Reasonably Available Control Technology for Stationary Sources of PM_{10}* (EPA 452R93001), September 1992.

Air Quality Modeling

- The Support Center for Regulatory Atmospheric Modeling (SCRAM) provides access to air quality models and other mathematical simulation techniques used in assessing control strategies and source impacts.

Emissions Measurement

- The Air Emission Measurement Center (EMC) provides information on test methods for measuring pollutants from smokestacks and other industrial sources.
- The EMC Methods Support Directory provides contact information for the EMC staff and their areas of method responsibility and assistance.
- EMC's Promulgated Test Methods - these methods have been proposed or promulgated in the Federal Register and codified in the Code of Federal Regulations (CFR).

Enforcement

- Refer to EPA's Compliance Website to learn how facilities near you are complying with environmental laws; about compliance monitoring programs; compliance assistance centers, resources and guidance documents; enforcement and compliance training opportunities; and popular compliance and enforcement features.
- EPA's Compliance Assistance Centers provide easy-to-understand compliance information targeted to specific industry and governments sectors.

Websites and/or Other Sources of Information

- The National Enforcement Training Institute (NETI) eLearning Center provides online eLearning, live webinar, and classroom training opportunities to environmental enforcement personnel (including government inspectors, the legal community, and investigators) in federal, state, tribal and local governments.
- Refer to EPA's Penalty and Financial Models Website to learn about the five models used to analyze the financial aspects of enforcement actions.

Miscellaneous

- EPA's Criteria Air Pollutants website provides general information on how EPA sets, reviews, and revises National Ambient Air Quality Standards (NAAQS) standards (primary and secondary standards), determines whether areas meet the standards, and works with areas to attain and maintain the standards.
- Environmental Benefits Mapping and Analysis Program – Community Edition (BenMAP-CE) is an open-source computer program that calculates the number and economic value of air pollution-related deaths and illnesses. The software incorporates a database that includes many of the concentration-response relationships, population files, and health and economic data needed to quantify these impacts.
- EPA's website New Source Review (NSR) Permitting Program provides information about New Source Review; laws authorizing NSR permits, regulatory actions, and policy guidance; permitting actions in your state and how to participate in the permitting process; and types of Clean Air Act permits.
- EPA's website Visibility and Regional Haze Website provides general information on visibility and regional haze; visibility in parks and wilderness areas; information on the Regional Haze Program; and regulatory actions and guidance documents.
- The Tribal Environmental & Natural Resource Assistance Handbook is a central location of federal resources of both technical and financial assistance available to tribes for environmental management.
- EPA's website Tribal Air and Climate Resources includes Regulatory Resources, Policy and Planning, Climate and Energy Resources, Tribal Air Quality Analysis, Voluntary Programs and other resources. Learn about the environmental programs and technical assistance regarding air quality on tribal lands.
- EPA's Advance Program is a collaborative effort between the EPA, states, tribes, and local governments. The program encourages expeditious emissions reductions in ozone and fine particle (PM2.5) attainment areas to help these areas continue to meet the National Ambient Air Quality Standards (NAAQS).
- The National Association of Clean Air Agencies (NACAA) represents air pollution control agencies across the United States.
- EPA's National Service Center for Environmental Publications (NSCEP) has over 5000 EPA publications (i.e., technical, scientific, and educational materials) available in hard copy and multimedia product, free of charge.

Appendix C: Education and Training Resources

Resources
▪ EPA's Air Pollution Training Institute (APTI-Learn) offers classroom, tele-course, self-instructional courses, and web-based learning.
▪ Institute for Tribal Environmental Professionals (ITEP) was created to act as a catalyst among tribal governments, research and technical resources at Northern Arizona University (NAU), various federal, state and local governments, and the private sector, in support of environmental protection of Native American natural resources. ITEP was established at NAU in 1992, in cooperation with USEPA. ITEP accomplishes its mission through several programs — it provides technical and administrative training (the American Indian Air Quality Training Program), a resource center and database (the Tribal Environmental Resource Center), outreach to schools, and professional and student internships.
▪ Tribal Air Monitoring Support Center (TAMS) was created in 1999 through a partnership between tribes, the Institute for Tribal Environmental Professionals (ITEP) and USEPA. 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.

Appendix D: Information on Criteria Pollutants

Pollutant	Description	Health and Environmental Effects and Common Emission Sources
CO	**What Is It?** Carbon Monoxide	• Carbon monoxide, or CO, is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. • Higher levels of CO generally occur in areas with heavy traffic congestion and during the colder months of the year.
	Health Effects	• CO can cause harmful health effects by reducing oxygen delivery to the body's organs (like the heart and brain) and tissues. • For a person with heart disease, a single exposure to CO at low levels may cause chest pain and reduce that person's ability to exercise; repeated exposures may contribute to other cardiovascular effects. • People who breathe high levels of CO can develop vision problems, reduced ability to work or learn, reduced manual dexterity, and difficulty performing complex tasks. • At extremely high levels, CO is poisonous and can cause death.
	Environmental Effects	• CO contributes to the formation of smog (ozone). • CO emissions lead to increases in the concentrations of carbon dioxide, methane, and ozone, which are greenhouse gases.
	Common Emission Sources	• Motor vehicle exhaust contributes about 56 percent of all CO emissions nationwide. • Other non-road engines and vehicles (such as construction equipment and boats) contribute about 22 percent of all CO emissions nationwide.
NO_2	**What Is It?** Nitrogen Dioxide	• Nitrogen dioxide (NO_2) belongs to a family of highly reactive gases called nitrogen oxides (NO_x). • While the EPA's National Ambient Air Quality Standard covers this entire family of NO_x, NO_2 is the component of greatest interest and the indicator for the larger group of nitrogen oxides.
	Environmental Effects	• Sulfur dioxide and NO_x are the two key air pollutants that cause acid deposition, which can harm lakes and streams and damage trees, crops, historic buildings, and monuments. • NO_x emissions contribute to accelerated eutrophication of coastal waters and estuaries. • Nitrous oxide (N_2O) is a greenhouse gas. • NO_x emissions lead to formation of compounds that impair visibility.
	Common Emission Sources	• NO_2 forms quickly from emissions from cars, trucks and buses, power plants, and off-road equipment.

Pollutant	Description	Health and Environmental Effects and Common Emission Sources
O_3	**What Is It?** Ozone	• Ozone (O_3) is a gas composed of three oxygen atoms. • At ground level, O_3 is created by a chemical reaction between NO_x and volatile organic compounds (VOC) in the presence of sunlight. • Ground-level O_3 is harmful to health and the environment and is the primary constituent of smog. • Very high in the atmosphere (about 10 to 30 miles above the earth's surface) "good" ozone occurs naturally and forms a layer that protects life on earth from the sun's harmful rays.
	Health Effects	• People with lung disease, children, older adults, and people who are active can be affected when ozone levels are unhealthy. • Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems, including: airway irritation, coughing, and pain when taking a deep breath; wheezing and breathing difficulties during exercise or outdoor activities; inflammation, which is much like a sunburn on the skin; aggravation of asthma and increased susceptibility to respiratory illnesses like pneumonia and bronchitis; and, permanent lung damage with repeated exposures.
	Environmental Effects	• Ground-level O_3 can have detrimental effects on plants and ecosystems. • These effects include: interfering with the ability of sensitive plants to produce and store food, making them more susceptible to certain diseases, insects, other pollutants, competition and harsh weather; damaging the leaves of trees and other plants, negatively impacting the appearance of urban vegetation, as well as vegetation in national parks and recreation areas; and reducing forest growth and crop yields, potentially impacting species diversity in ecosystems.
	Common Emission Sources	• Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents as well as natural sources emit NO_x and VOC that lead to formation of O_3.
Pb	**What Is It?** Lead	• Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. • As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999.
	Health Effects	• Lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems and the cardiovascular system. • Lead exposure also affects the oxygen carrying capacity of the blood. • The lead effects most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults.

Pollutant	Description	Health and Environmental Effects and Common Emission Sources
		• Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits and lowered IQ.
	Environmental Effects	• Ecosystems near point sources of lead demonstrate a wide range of adverse effects including losses in biodiversity, changes in community composition, decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.
PM	**What Is It?** Particulate Matter	• Particulate matter (PM) is a mixture of extremely small particles and liquid droplets, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. • As the size of particles is directly linked to their potential for causing health problems, the EPA groups particle pollution into two categories. • "Inhalable coarse particles," such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. • "Fine particles," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller.
	Health Effects	• PM particles are so small that they can get deep into the lungs and cause serious health problems. • Numerous scientific studies have linked particle pollution exposure to a variety of problems, including increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing, for example; decreased lung function; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. • People with heart or lung diseases, children and older adults are the most likely to be affected by particle pollution exposure.
	Environmental Effects	• Fine particles are the major cause of reduced visibility (haze) in parts of the United States, including many of our treasured national parks and wilderness areas. • Particles can be carried over long distances by wind and then settle on ground or water. The effects of this settling include: making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems. • Particle pollution can stain and damage stone and other materials, including culturally important objects such as statues and monuments.
	Common Emission Sources	• PM can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air.

Pollutant	Description	Health and Environmental Effects and Common Emission Sources
SO_2	**What Is It?** Sulfur Dioxide	• Sulfur dioxide (SO_2) is one of a group of highly reactive gasses known as "oxides of sulfur." • The EPA's National Ambient Air Quality Standard for SO_2 is designed to protect against exposure to the entire group of sulfur oxides (SO_x). • SO_2 is the component of greatest concern and is used as the indicator for the larger group of SO_2. Other gaseous sulfur oxides (e.g. SO_3) are found in the atmosphere at concentrations much lower than SO_2.
	Health Effects	• Current scientific evidence links short-term exposures to SO_2, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects including bronchoconstriction and increased asthma symptoms. These effects are particularly important for asthmatics at elevated ventilation rates (e.g., while exercising or playing.) • Studies also show a connection between short-term exposure and increased visits to emergency departments and hospital admissions for respiratory illnesses, particularly in at-risk populations including children, the elderly, and asthmatics. • Emissions of SO_x can react with other compounds in the atmosphere to form PM, which has adverse health effects.
	Environmental Effects	• SO_x and NO_x are the two key air pollutants that cause acid deposition, which can harm lakes and streams and damage trees, crops, historic buildings, and monuments. • SO_x emissions lead to formation of compounds that impair visibility.
	Common Emission Sources	• The largest sources of SO_2 emissions are from fossil fuel combustion at power plants (73%) and other industrial facilities (20%). • Smaller sources of SO_2 emissions include industrial processes such as extracting metal from ore, and the burning of high sulfur containing fuels by locomotives, large ships, and non-road equipment.

For additional information refer to EPA's website Criteria Air Pollutants.

Appendix E: Emissions Inventories

This appendix provides additional information on emissions inventory development, including:

- Different approaches toward inventory development,
- The types of sources to include in an inventory,
- The types of emissions to include in an inventory,
- The types of data to include in an inventory, and
- EPA resources for emissions data, emissions factors, and emissions estimation methods.

What approaches can be taken toward inventory development?

There are two main approaches you can follow in estimating emissions: top-down and bottom-up. Both approaches can be used in one inventory for estimating emissions from different types of sources.

1. **A Top-Down Approach** means that you develop emissions estimates based on national or regional estimates. You scale the national or regional estimates to your inventory area using some measure of activity data thought to be related to the emissions on your reservation. Sales data (such as the total amount of gasoline sold at a gas station) or per capita emission factors are often used. A top-down approach is typically used to inventory area sources (see below) and is used when local data are unavailable or when collection of local data is cost prohibitive. One problem with this approach is that the emission estimates will lose some accuracy due to the uncertainties associated with extrapolating national or regional estimates to your area.

2. **A Bottom-Up Approach** means you estimate emissions for individual sources and sum all the sources to obtain a reservation-wide estimate. Bottom-up approaches are typically used to inventory point sources, although they can be used to inventory area sources when resources are available to collect local activity data through a survey effort. The bottom-up approach requires more resources to collect site-specific information, but also results in more accurate estimates than the top-down approach because data are collected directly from individual sources.

What types of sources are included in an inventory?

An emission source can be defined as an entire facility, such as a petroleum refinery with many emission release points caused by various process activities.

Sources can also be smaller facilities, such as gas stations and mobile sources, such as cars. There are five categories of sources to include in an inventory: point sources, area sources, mobile sources, biogenic sources, and geogenic sources.

Point sources are stationary facilities that emit air pollutants. Examples of point sources include manufacturing facilities or electric utility sites. Air pollutants may be emitted from process activities through exhaust stacks or as fugitive emissions. Fugitive emissions are emission sources that do not come from an exhaust stack or vent and are technically infeasible to collect and control. Fugitive emissions may escape from industrial buildings or come from unconfined activities, such as outdoor materials storage piles swept by wind and surface mining activities.

Point sources can be major or minor sources of emissions. The definition of a major source under Title I of the CAA in most cases is a source that has the potential to emit 100 tons/year of any criteria air pollutant except for lead (Pb); the cutoff for a major source that emits lead is 5 tons/year. Volatile organic compounds ("VOCs," an ozone precursor), nitrogen dioxide (NO_2), carbon monoxide (CO), and particulate matter (PM_{10}) have lower thresholds for major sources in serious, severe, and extreme nonattainment areas (see table below). Minor sources are sources that emit less than the emission rate that defines a major source.

Thresholds for Major Source Designation
(TPY = tons per year)

	VOC (ozone precursor)	**CO**	**NO_X**	**PM_{10}**	**SO_2**	**Pb**
General Cutoff	≥100 TPY	≥100 TPY	≥100 TPY	≥100 TPY	≥100 TPY	≥5 TPY
Serious Nonattainment Areas	≥ 50 TPY	≥ 50 TPY	≥ 50 TPY	≥ 70 TPY	n/a	n/a
Severe Nonattainment Areas	≥25 TPY	n/a	n/a	n/a	n/a	n/a
Extreme Nonattainment Areas	≥10 TPY	n/a	n/a	n/a	n/a	n/a

n/a = Not applicable: There are only serious nonattainment areas for ozone, CO, NO_X, and PM_{10}, and there are only severe and extreme nonattainment areas for ozone (VOCs are an ozone precursor).

1. **Area sources** are activities that cause emissions over a geographic area, such as vehicle traffic on unpaved roads, open burning, residential heating, and agricultural activities. Area sources are usually minor sources, but the combined emissions of a pollutant from one type of area source can be a large proportion of the total emissions of that pollutant in an area. Emissions from area sources are usually fugitive emissions.

2. **Mobile sources** include on-road and non-road sources. On-road mobile sources include vehicles designed for use on public roadways, such as cars, trucks, buses, and motorcycles. Non-road mobile sources are equipment or vehicles with internal combustion engines not generally for highway use. Examples of non-road mobile sources are lawn mowers, chain saws, airplanes, boats, and diesel locomotives.

3. **Biogenic sources** are non-manmade or natural emitters of air pollutants. For example, conifer trees emit terpenes which are volatile organic compounds, a precursor to ozone.

5. **Geogenic sources** are natural occurrences that create pollution, such as oil and natural gas seeps which emit ozone precursors (VOC and NO_x), volcanoes which emit PM and SO_2, and wind that blows dust from natural areas, creating particulate matter.

What types of emissions can be inventoried?

Whether a top-down or a bottom-up approach is used, you can compile inventories using actual emissions, allowable emissions, or emissions based on a facility's potential to emit, depending on the purpose of the inventory.

Actual Emissions record the actual rate of emissions of a pollutant from a source, calculated using actual operating hours, production rate, and where applicable, fuel combusted during the period of interest. For example, base-year inventories developed by states in support of SIPs are compiled using actual emissions. **Actual emissions are used to validate atmospheric models.**

Allowable Emissions are the product of an enforceable emissions rate (e.g., pounds of NO_2 per unit of product), the anticipated operating rate or activity level (e.g., units of product produced per hour), and the anticipated operating schedule (e.g., hours per day). In general, allowable emissions are used when emission projections are being developed for use in atmospheric modeling.

Potential Emissions are the capability of a source, at maximum design capacity, to emit a pollutant after the application of air pollution control equipment. Potential-to-emit estimates are based on the maximum capacity of a source after taking into consideration enforceable permit conditions, such as the type of materials combusted, the type of materials processed, and the annual hours of operation. In general, potential emissions are estimated and reported in inventories in support of permitting activities under the CAA.

What data are necessary for an emissions inventory?

You will need information on the activities causing emissions, the frequency or rate of the activity, the locations of emissions points, the hours of operation (i.e., hours per day and days per year), and the temperature, height, and speed at which emissions enter the atmosphere. You will also need information on the level of emissions control (percent reduction) initially used, if any, and the level required by your attainment strategy.

What types of resources are available from EPA for emissions data, emissions factors, and emissions estimation methods?

Resources for Emissions Data

- The National Emissions Inventory (NEI) is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emission sources. The NEI is a national inventory released every three years based primarily upon data provided by state, local, and tribal air agencies for sources in their jurisdictions and supplemented by data developed by EPA. The NEI is built using the Emissions Inventory Systems (EIS) first to collect the data from state, local, and tribal air agencies and then to blend that data from other data sources.

- The Emissions Inventory System (EIS) is the repository database for the emissions that make up the National Emissions Inventory. The EIS was developed to provide registered EPA, state, local and tribal users with access to emissions inventory data. The EIS allows users to manage their profile information to: add, view and edit facility inventory information for their agency; extract data by running reports; access reporting codes and; request support from the EPA through a central message center.

Resources for Emissions Factors

- AP-42 Compilation of Air Pollutant Emissions Factors contains criteria pollutant emission estimation factors for point and area sources.

- WebFIRE is EPA's online emissions factor repository, retrieval, and development tool. The WebFIRE database contains EPA's recommended emissions factors for criteria and hazardous air pollutants (HAP) for industrial and non-industrial processes. In addition, WebFIRE contains the individual data values used to develop the recommended factors and other data submitted to EPA by federal, state, tribal, and local agencies; consultants; and industries. For each recommended emissions factor and individual data value, WebFIRE contains descriptive information such as industry and source category type, control device information, the pollutants emitted, and supporting documentation.

Resources on Emission Estimation Models and Software Tools

- Emissions Modeling Clearinghouse (EMC) distributes emissions model input formatted inventories based on the latest version of the National Emission Inventory (NEI). This site is also used to document and distribute the Agency's latest versions of the ancillary files used to support the temporal, spatial, speciation, and projection of these emissions.

- TANKS estimates volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions from fixed- and floating-roof storage tanks.

- SPECIATE is EPA's repository of Total Organic Compound (TOC) and Particulate Matter (PM) speciated profiles for a variety of sources for use in source apportionment studies.

- LandGEM is an automated estimation tool with a Microsoft Excel interface that can be used to estimate emissions rates for total landfill gas, methane, carbon dioxide, nonmethane organic compounds, and individual air pollutants from municipal solid waste landfills. It is available from the EPA's Clean Air Technology Center.

- WATER9**,** a wastewater treatment model, consists of analytical expressions for estimating air emissions of individual waste constituents in wastewater collection, storage, treatment, and disposal facilities; a database listing many of the organic compounds; and procedures for obtaining reports of constituent fates, including air emissions and treatment effectiveness.

- PM Augmentation Tool helps to ensure completeness of PM inventories by correcting inconsistencies in submitted data and filling gaps where possible. PM Augmentation. The file is available on the Emissions Inventories page under Emissions Inventory Tools.

- MOVES is an emissions modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics.

For more information, refer to EPA's websites Air Emissions Inventories and Clearinghouse for Inventories and Emissions Factors (CHIEF).

Appendix F: Air Quality Monitoring

This appendix provides additional information on air quality monitoring.

What is the role of air quality monitoring?

Ambient air monitoring systems are a critical part of the nation's air quality management infrastructure. Air quality management involves a cycle of setting standards and objectives, designing and implementing control strategies, assessing the results of those control strategies, and measuring progress. Ambient monitoring data have many uses throughout this process, such as research on the health effects of air pollution; developing and determining compliance with the National Ambient Air Quality Standards (NAAQS); characterizing air quality and trends; estimating health-related exposure risks; developing and evaluating emission control strategies; evaluating source-receptor relationships; providing data for input to run and evaluate models; and measuring overall progress of air pollution control programs. Ambient air monitoring data provide accountability for emission strategy progress through tracking long-term trends of criteria and non-criteria pollutants and their precursors. The data form the basis for air quality forecasting and other public air quality reports and also can provide valuable information about broader ecosystem impacts.

Federal, state, local, and tribal air monitoring agencies have a long history of providing high-quality, credible environmental data. Monitoring agencies have primary responsibility for air monitoring networks that produce data used to demonstrate which areas in the United States attain the NAAQS. Many monitoring agencies maintain additional monitoring resources to assess local air quality issues such as air toxics. In addition, the federal government operates or supports several networks, such as atmospheric deposition and visibility monitoring networks, that provide data on specific issues, particularly focused on providing information on ambient conditions in regionally representative areas. Regional air quality issues, such as transport, can be better characterized by evaluating both urban-oriented criteria pollutant monitoring with regionally oriented, non-criteria pollutant monitoring. In addition, both types of monitoring are designed to provide information for accountability of national and regional emission reduction programs, model development and evaluation, and geographical distribution of pollutants.

What guidance is available specifically for tribal air monitoring programs?

In order to develop comprehensive guidance on tribal ambient monitoring, a Tribal Monitoring Workgroup made up of staff from the EPA's Office of Air and Radiation (OAR), the EPA regional office tribal air coordinators, and tribal air professionals gathered in August 2005. Due to the scope of the topics covered, this effort resulted in two separate documents — both documents are available at EPA's website Tribal Air Quality Monitoring.

The first of these two documents, *Technical Guidance for the Development of Tribal Air Monitoring Programs*, provides specifics on how to plan and implement ambient air monitoring programs and is currently being updated since its original release in 2007. The intent of this document is to help tribes

gain a better understanding of the ambient air monitoring process and provide information on resources and tools that help to build and sustain an air quality monitoring program. 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. The intended audience for this document is tribal environmental professionals. This document includes the following information to help tribes plan, implement, and assess their air quality program activities:

- 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 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 second document, *Guidance and Policy for Implementation of Tribal Monitoring Programs*, was developed to improve the ability of tribes and the 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. The intended audience for this document is the 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. *Appendix B* of this document contains a comprehensive list of informational resources and links for tribal air monitoring.

The Institute for Tribal Environmental Professionals (ITEP) was established in 1992 to assist Indian tribes in the management of their environmental resources through effective training and educational programs. The subcomponent to ITEP is the Tribal Air Monitoring Support (TAMS) Center. The 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. Refer to ITEP and the TAMS Center for a listing of trainings and services that are available to tribal programs.

For additional guidance related to tribal air monitoring, refer to EPA's website Tribal Air Quality Monitoring.

Appendix G: TIP Regulation Development and Enforceability Checklist

This checklist provides general regulation development and enforceability guidance applicable to all possible components of a TIP. However, TIPs do not need to contain all of these components. You need only to refer to those sections that apply to the provisions included in your tribe's TIP.

Analysis and EPA Guidance
Purpose and Intent
What is the problem that the TIP is intended to address? The overall purpose and intent of the TIP should be clearly stated.
Are the sources and activities that will be regulated clearly defined? Regulated sources and activities should be clearly defined in the TIP.
Where is the emissions inventory of affected sources listed in the document? The allowable and actual emissions in the source category should be included in your TIP for enforcement purposes and determination of any baselines in the regulation(s).
Has the TIP's impact on other tribal environmental programs and offices been considered? Any impacts to other tribal environmental programs, such as cross-program compliance issues, should be clearly stated in the TIP.
Clarity and Specificity
Have clarifying tools, such as definitions, tables, or flowcharts been used as appropriate? All definitions should be precise, unambiguous, and used consistently throughout the TIP.
Does the TIP use complex language that could be interpreted in more than one way by parties acting in good faith? Regulatory language that is clear and precise will help the regulated community understand its obligations under the regulation. Nonspecific language that may require clarification through guidance or policy should be avoided.
Are circumstances that can change a requirement, such as redesignation, clearly specified? If yes, which ones and how? Upon the redesignation of your area to attainment, the regulation may not allow for self-nullification. A maintenance demonstration is required in order to drop the regulation.

Analysis and EPA Guidance

Demonstrating Compliance

What test methods are required to determine compliance? All test methods should be explicitly stated in the TIP.

Who is responsible for proving compliance (the tribal authority or the owner/operator)? The party responsible for demonstrating compliance should be clearly stated in the TIP.

What is the averaging time in the compliance test method? The averaging time and application of your emission limit should be explicitly stated in the TIP.

Is the averaging time(s) used in the rule different from that of the ambient standards? The averaging and ambient standard times should be consistent. The averaging time is typically equal to or shorter than the ambient standard time. Longer term averaging is available only in limited instances, provided the ambient standard is not compromised.

Is it clearly stated what constitutes compliance and how compliance is determined? Your formula, period of compliance, and/or evaluation method should be explicitly stated in the TIP, as well as the performance standards for regulated entities.

What are the units of compliance (pounds VOC per gallon of solids applied less water, grains per dry standard cubic foot, etc.)? All units of compliance should be clearly stated in the TIP.

Are alternative compliance techniques allowed? The TIP should include an explicit description of how overall total facility emissions are to be determined. Provision should be explicit as to whether case-by-case approval is required. If EPA case-by-case approval is not required, then objective and reproducible criteria should be set forth to determine if the alternative method is equivalent in terms of emission rates.

Are all relevant dates and deadlines for compliance clearly stated? What is the area's attainment date? Your compliance date should not be later than the approved (or soon to be approved) date of attainment, unless emission reductions are not necessary for attainment. In some cases, it will be necessary for the regulation to specify dates in compliance schedules.

Analysis and EPA Guidance

Recordkeeping and Reporting

What records are required to determine compliance? The required records should help determine compliance or non-compliance and provide sufficient evidence to document a possible violation. The TIP should clearly state what data the regulated community is required to record and report.

Does the TIP provide a clear schedule and format for recordkeeping, including the form or units (lbs/gal, gr/dscf, etc.) that records be kept? Records to be kept should be consistent with units of compliance in the performance requirements, including the applicable recordkeeping schedule.

Does the TIP explicitly require the records to be kept? There should be a clear, separately enforceable provision that requires records to be kept.

Is notification required? The information that must be included in the notification should be clearly stated in the TIP.

Monitoring and Inspections

How will compliance with the regulation be monitored (field inspections, records review, facility reports, self-enforcing)? The mechanisms for monitoring regulated entities should be clearly stated in the TIP. Self-reporting/ self-monitoring should be considered where appropriate.

What professional qualifications or training will be needed to conduct inspections and evaluate compliance with the rule? Any qualifications or training that will be necessary to conduct inspections and evaluate compliance should be defined in the TIP. Inspectors should be readily able to determine compliance or gather the necessary data to determine compliance.

What are the procedures and authority for entering, inspecting, and sampling at regulated facilities? Inspection and sampling procedures at regulated facilities should be explicitly stated in the TIP.

Has the latitude of an inspector's discretion in applying professional judgment been specified? The latitude of an inspector's discretion in applying professional judgment in individual and extenuating circumstances should be explicitly stated in the TIP.

Analysis and EPA Guidance

Enforceability

What is your tribe's authority for rulemaking? The TIP should include a demonstration of your tribe's legal authority to promulgate and enforce rules.

Are the methods/rules incorporated by reference in the right manner? Any methods/rules incorporated by reference should be clearly stated in the TIP. Some federal regulations may be inappropriate for incorporation by reference into your TIP.

Has independent confirmation of compliance by a third party (e.g., by a professional engineer) been considered as a means to add credibility to assessment of technical requirements? Any provisions for third party verification should be clearly stated in the TIP.

Have self-certification measures such as verifying data accuracy with EPA-approved methods, training by certified hazardous materials trainers, or other certifications been considered? Any plans for self-certification, including certifications for inspectors, should be included in the TIP.

Is the burden of proof required to prove a violation clearly defined? The burden of proof should be clearly defined in the TIP.

Exemptions

What are the allowed exemptions? All exemptions should be clearly defined and distinguishable from what constitutes a violation.

What are the criteria for exemptions? Exemption criteria should be clearly stated in the TIP.

Is the calculation procedure for exemptions clearly identified? You should include an example calculation or clear explanation of how to determine exemption.

Are the criteria for application clear? The criteria for the exemption application, including any required calculations, procedures and reporting elements, should be clearly stated in the TIP.

Does the TIP include malfunction provisions? The TIP should specify what exceedances may be excused, how the standard is to be applied, and who makes the determination.

See the following sources for additional information on regulatory development and enforceability: 1) *Principles of Environmental Compliance and Enforcement Handbook, Chapter 5: Designing Effective Requirements* by the International Network of Environmental Compliance and Enforcement (INECE), April 2009, and 2) *How to write a regulation* from the Virginia Regulatory Town Hall.

Appendix H: Procedures for Class I Redesignation

The procedures outlined in this appendix are for tribal governments seeking to have areas within their jurisdiction, that are in attainment of NAAQS, redesignated as a Class I attainment area.[134] Tribes may also seek redesignation for areas other than their reservations. These procedures are based on requirements set forth in section 164 of the Clean Air Act, 40 CFR 51.166(g) and 40 CFR 52.21(g), and the Tribal Authority Rule, 63 Federal Register 7254 which is codified at 40 CFR 49.

The lands within the exterior boundaries of an Indian reservation may be redesignated only by the appropriate tribal government. Before proposing a redesignation, the tribe needs to prepare a discussion of the reasons for the proposed redesignation, including a satisfactory description and analysis of the health, environmental, economic, social, and energy effects of the proposal.

The tribe is required to hold public hearings on the proposed redesignation in the areas proposed to be redesignated, and in areas that may be affected by the proposed redesignation. At least 30 days before the hearing, your tribe needs to issue a public notice of the hearing that includes:

- A prominent advertisement in the area affected announcing the date, time, and place of the hearing,
- Information about the availability of the proposal and discussion document in at least one location in the area.

The tribal government needs to submit a proposal to redesignate to the EPA Administrator through the appropriate EPA regional office. The tribe also needs to prepare and retain, for inspection by the EPA Administrator upon request, a record of the hearing that includes a list of witnesses together with the text of each presentation. Along with the proposal to redesignate, the tribe must submit to the EPA a certification that the hearing was held in accordance with the requirements of 40 CFR 51.102. If federal lands are included in the proposed redesignation, the appropriate Federal Land Manager needs written notice and an opportunity to confer with the tribe regarding the redesignation.

The EPA Administrator will approve or disapprove the proposed redesignation within 90 days of submission. The proposal will be disapproved after notice and opportunity for public hearing only if it is found that it did not meet the procedural requirements in the EPA regulations or it was inconsistent with the Clean Air Act's restrictions on area classifications. If the EPA Administrator disapproves a proposed redesignation, it may be resubmitted after correcting the deficiencies noted by the Administrator.

References: Section 164 of the CAA; 40 CFR 51.166(g) and 40 CFR 52.21(g)

[134] For more information and *Guidance for Indian Tribes Seeking Class I Redesignation of Indian Country Pursuant to Section 164(c) of the Clean Air Act*, refer to EPA's website Class I Redesignation.

Appendix I: TIP Completeness Checklist

(This TIP completeness checklist is an example used in EPA Region 5.)

EPA REGION 5 COMPLETENESS REVIEW

A. Regulatory (Administrative Materials)

1. Is the submittal accompanied by a formal letter of submittal from the governor's designee? Yes_____ No___

   The date of submittal is _____

2. Did the State provide evidence that it has incorporated the revision in the Wisconsin Administrative Code? Yes_____ No___

   The month of publication was _____

   The effective date is _____

   Are test methods/rules incorporated by reference correctly?

   Has approval been obtained from the state Attorney General?
   Yes _____No____Not applicable ___

3. Did the State provide evidence that it has the necessary legal authority under State law to adopt and implement the revision? Yes_____No____

   Rule analysis which cites authorizing statutes submitted? Yes_____No____

4. Does the submittal include a copy of the actual regulation or document submitted for review? Yes _____No ___

5. Did the State provide evidence that it followed all of the requirements of its Administrative Procedures Act in conducting and completing adoption/issuance of the revision? Yes _____No ___

6. Did the State provide evidence that Public Notice was given of the revision, including the date of publication? Yes _____No ___

7. Did the State provide certification that public hearings were held in accordance with the information provided in the public notice (notarized SIP Revision Certification)? Yes _____No ___

8. Does the submittal contain a compilation of public comments and the State's response? Yes _____No ___

B. Technical Support

1. Does the submittal identify all regulated pollutants affected by the revision?
   Yes _____No ___

2. Does the submittal identify the designation, status of the attainment plan and attainment date for the area(s)? Yes _____ No ___

3. Does the submittal identify the location and types of affected sources?
   Yes _____ No ___

4. Does the submittal quantify the changes in SIP-allowable emissions and estimate or quantify the changes in actual emissions from affected sources?
   Yes _____ No ___

5. Has the State demonstrated that the NAAQS/PSD increment/RFP demonstration/visibility will be protected if the revision is approved and implemented? Yes__ No ___

6. For any request to redesignate an area to attainment, has the State submitted a revision which provides for maintenance of the primary NAAQS for at least 10 years?
   Yes _____No____ Not applicable ___

7. Has the State provided modeling information (if necessary) to support the revision?
   Yes _____No____Unnecessary ___

8. Has the State provided evidence that emission limitations are based on continuous emission reduction technology? Yes ___ No___Not applicable ___

9. Has the State provided evidence that the revision contains emission limitations, work practice standards and recordkeeping/reporting requirements, where necessary, to ensure emission levels? Yes _____No ___

10. Does the submittal contain enforcement/compliance strategies including how compliance will be determined in practice, and at what frequency? Yes ___No ___

11. Does the submittal contain special economic and technical justifications required by the USEPA policies, or explain why such justifications are necessary?
    Yes _____No ___Not applicable ___

Appendix J: Tribal Air Quality Grants

Guidance

Review of Authorities Available for Tribal Program Financial Assistance Awards
This document is intended to reiterate the discussion EPA presented on financial assistance in the proposed rule (40 CFR Parts 9, 35, 49, 50 and 81 Indian Tribes: Air Quality Planning and Management) and provides additional guidance on how these mechanisms might be used to advance the tribes' objectives in air quality management.

Tribal Air Grants Framework – Menu of Options
EPA is committed to working with tribes to develop and to implement Clean Air Act (CAA) programs in Indian country. One of EPA's primary tools in this effort is to award CAA grants in order to help build tribal knowledge and increase tribe's capacity to manage air quality issues. CAA §103 and §105 allow EPA to provide grant support to tribes for this purpose. To assist tribes in writing effective grant applications and work plans, the EPA has developed this "Tribal Air Grants Framework: A Menu of Options." EPA revised and updated the Framework for the fourth time in 2015.

Types of grants available

- Indian General Assistance Program (IGAP) - Funding to carryout initial baseline air monitoring and to increase understanding of air pollution impacts in their community.

- Clean Air Act Section 103 - Funding for projects to study or investigate the causes and prevention of air pollution.

- Clean Air Act Section 105 - Funding for implementing programs for the prevention and control of air pollution.

- Performance Partnership Grants (PPGs) – These grants enable tribes and tribal consortia to combine funds from more than one environmental program grant into a single grant with a single budget under streamlined administrative requirements. This authority requires prior IGAP or CAA section 105 authority to be implemented.

- Direct Implementation Tribal Cooperative Agreements (DITCAs) - Available to help tribes build capacity and assist EPA with the direct implementation of federal environmental laws, including the Clean Air Act in Indian country. DITCAs are negotiated between EPA and tribes and can help tribes build the capacity to carry out specific activities for EPA with EPA retaining final decision-making authority and ultimate responsibility for the environmental programs including all regulatory activities.

For more information, refer to EPA's website Grant Programs for Tribes

Appendix K: Acronym List

AIRS-AQS	Aerometric Information Retrieval System - Air Quality System database (EPA)
AILESP	American Indian Lands Environmental Support Project (EPA)
BACT	Best Available Control Technology
BACM	Best Available Control Measures
CAA	Clean Air Act
CATC	Clean Air Technology Center (EPA)
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CHIEF	Clearinghouse for Inventories and Emissions Factors (EPA)
C/MSA	Consolidated Metropolitan Statistical Area
CO	Carbon Monoxide
EIIP	Emissions Inventory Improvement Program (EPA)
EMC	Emissions Monitoring Center (EPA)
EPA	Environmental Protection Agency
FIP	Federal Implementation Plan
GCVTC	Grand Canyon Visibility Transport Commission
HAP	Hazardous Air Pollutant
IPP	Inventory Preparation Plan
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
minor NSR	Minor Source New Source Review
MSA	Metropolitan Statistical Area
NA	Nonattainment
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NET	National Emissions Trends database (EPA)
NETI	National Enforcement Training Institute (EPA)
NO_2	Nitrogen Dioxide
NSPS	New Source Performance Standards
NSR	New Source Review (for major sources in either attainment or nonattainment areas)
NTIS	National Technical Information Service

OECA	Office of Enforcement and Compliance Assurance (EPA)
O_3	Ozone
Pb	Lead
PM_{10}	Particulate Matter with a diameter less than or equal to 10 micrometers
$PM_{2.5}$	Particulate Matter with a diameter less than or equal to 2.5 micrometers
ppm	Parts per million (a unit of measurement)
PSD	Prevention of Significant Deterioration program (New Source Review for attainment areas)
QA/QC	Quality Assurance / Quality Control
RACM	Reasonably Available Control Measures
RACT	Reasonably Available Control Technology
RFP	Reasonable Further Progress
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
TAMS	Tribal Air Monitoring Support Center
TAR	Tribal Air Rule
TIP	Tribal Implementation Plan
$\mu g/m^3$	Micrograms per cubic meter of air (a unit of measurement)
VOC	Volatile Organic Compounds
WRAP	Western Regional Air Partnership

Appendix L: Glossary

Acid Deposition - the process by which acidic particles, gases, and precipitation leave the atmosphere. Although it is more commonly referred to as acid rain, acid deposition has two components: wet deposition (through snow, rain, and fog) and dry deposition (through the settling of gases and particles out of the atmosphere).

Acid Rain - primarily the result of sulfur dioxide (SO_2) and nitrogen oxides (NO_X) reacting in the atmosphere with water and returning to earth as rain, fog, or snow. This term is broadly used to include both wet deposition and dry deposition (through the settling of gases and particles out of the atmosphere).

Aerometric Information Retrieval System (AIRS-AQS) - a database with easily-retrieved information on the levels of the criteria pollutants in all areas of the country. The EPA's procedures for reporting and using data ensure timely and widespread access to accurate information. The public may browse and obtain reports from EPA's website Air Quality System (AQS).

Ambient Air - any unconfined portion of the atmosphere; open air, surrounding air.

Area Source - any small source of non-natural air pollution that is released over a relatively small area but which is not classified as a point source. Such sources may include vehicles and other small engines, small businesses, and household activities.

Attainment Area - an area considered to have air quality as good as or better than the national ambient air quality standards as defined by the Clean Air Act. An area may be an attainment area for one pollutant and a nonattainment area for others.

Baseline - the ambient concentration level of a pollutant that exists at the time of the first application for a PSD permit. The baseline concentration is established for each pollutant (and relevant averaging time). In areas with a PSD program, ambient air concentration levels may not exceed the baseline plus an established increment.

Best Available Control Measures (BACM) - a term used to refer to the most effective measures (according to EPA guidance) for controlling small or dispersed particulates from sources such as roadway dust, soot and ash from woodstoves and open burning of brush, timber, grasslands, or trash.

Best Available Control Technology (BACT) - an emission limitation based on the maximum degree of emission reduction (considering energy, environmental, and economic impacts) achievable through application of production processes and available methods, systems, and techniques. BACT does not permit emissions in excess of those allowed under any applicable CAA provisions. Use of the BACT concept is allowable on a case by case basis for major new or modified emission sources in attainment areas (used under the Prevention of Significant Deterioration program) and applies to each regulated pollutant.

Biogenic Source – non- man-made or natural emitter of air pollutants. For example, conifer trees emit terpenes which are volatile organic compounds, a precursor to ozone.

Carbon Monoxide (CO) - a colorless, odorless, poisonous gas produced by incomplete fossil fuel combustion. CO is a criteria pollutant regulated under NAAQS.

Class I, II, and III Attainment Areas - classifications of attainment/unclassifiable areas established in the CAA. Class I areas are held to the strictest air pollution standards; Class III areas allow for the greatest amount of emissions of criteria pollutants. "Federal Class I" areas are the Class I areas created in the CAA: national wilderness areas and national memorial parks greater than 5,000 acres, national parks greater than 6,000 acres, and international parks. Additional areas have since been reclassified as Class I areas. Class II areas initially were all those areas that were in attainment or unclassifiable that were not established as Class I areas. Class II areas can be redesignated as Class I or Class III areas.

Clean Air Act (CAA) - the basis of U.S. clean air programs. The original CAA passed in 1970 and was amended in 1977 and 1990. It is comprised of nine sections or Titles that cover, in order, the National Ambient Air Quality Standards, mobile sources, hazardous air pollutants, acid-deposition control, stationary source operating permits, stratospheric ozone and global climate protection, enforcement, miscellaneous provisions, and clean air research.

Continuous Emission Monitoring Systems (CEMS) - the total equipment necessary for determining the gas or particulate matter concentration or emission rate using pollutant analyzer measurements and a conversion equation, graph, or computer program to produce results in units of the applicable emission limitation or standard. CEMS are required under some of the EPA regulations for either continual compliance determination or determination of exceedances of the standards.

Code of Federal Regulations (CFR) - a codification of the general and permanent rules published in the *Federal Register* by the executive departments and agencies of the federal government. The CFR is divided into 50 titles which represent broad areas subject to federal regulation. Title 40 consists of regulations related to protection of the environment. The CFR is available online at Electronic Code of Federal Regulations.

Clearinghouse for Inventories and Emissions Factors (CHIEF) - an on-line resource with information on emissions factors, emissions inventories, and emissions estimation software.

Contingency Measures - the part of an attainment strategy that provides extra emission reductions if your basic control strategy fails to achieve reasonable further progress or fails to attain the primary National Ambient Air Quality Standards (NAAQS) on schedule. Contingency measures should accomplish about one year's worth of progress toward meeting the NAAQS or an additional 20 to 25% of the emissions being reduced.

Criteria Pollutants - pollutants known to be hazardous to human health for which the 1970 amendments to the Clean Air Act required EPA to set National Ambient Air Quality Standards (NAAQS). The EPA has identified and set standards to protect human health and welfare for six pollutants: ozone (O_3), carbon monoxide (CO), total suspended particulates (also known as particulate matter or PM), sulfur dioxide (SO_2), lead (Pb), and nitrogen dioxide(NO_2). The term, "criteria pollutants," derives from the requirement that EPA must describe the characteristics and potential health and welfare effects of these pollutants. It is on the basis of these criteria that standards are set or revised.

Design Value - the ratio of current pollutant concentration to the National Ambient Air Quality Standards (NAAQS). A design value greater than one indicates the area is in violation of the NAAQS for that pollutant.

Eligible Tribe - a tribe that has received a determination of eligibility to run Clean Air Act programs (formerly known as "treatment in the same manner as a state"). To become eligible, your tribe must demonstrate federal recognition, have a governing body carrying out substantial governmental duties and powers, provide evidence it will perform functions pertaining to the management and protection of air resources within its jurisdiction, and demonstrate the capability to implement the programs for which it is seeking approval.

Emission - pollution discharged into the atmosphere from smokestack, other vents, and surface areas of commercial or industrial facilities; from residences; and from motor vehicle, locomotive, or aircraft exhausts.

Emissions Factor - a ratio that relates emissions of a pollutant to an activity level at a plant that can be easily measured, such as the amount of material processed or an amount of fuel consumed. Given an emissions factor and a known activity level, multiplication yields an estimate of emissions.

Emissions Inventory - a listing, by source, of the amount of air pollutants discharged into the atmosphere of a geographic area.

Air Emissions Inventory Improvement Program (EIIP) - a jointly sponsored effort of the State and Territorial Air Pollution Program Administrators/Association of Local Air Pollution Control Officials and EPA. The goal of EIIP is to provide cost-effective, reliable inventories by improving the quality of emissions information and developing systems for collecting, calculating, and reporting emissions data. The primary guidance on inventory development is summarized in the *EIIP Document Series, Volumes I-X*, accessible through the EIIP website.

Emission Standard - the maximum amount of air polluting discharge legally allowed from a single source, mobile or stationary.

Emissions Trading - EPA policy that allows a plant complex with several facilities to decrease pollution from some facilities while increasing it from others, so long as total results are equal to or better than previous limits. Facilities where this is done are treated as if they exist in a bubble in which total emissions are averaged out. Complexes that reduce emissions substantially may "bank" their "credits" or sell them to other industries.

Enforcement - EPA, state, tribal, or local legal actions to obtain compliance with environmental laws, rules, regulations, or agreements and/or obtain penalties or criminal sanctions for violations. Enforcement proceedings may vary, depending on the requirements of different environmental laws and related implementing regulations.

Federal Implementation Plan (FIP) - under current law, a federally implemented plan to achieve attainment of air quality standards, used when a state or a tribe is unable to develop an adequate plan.

Federal Land Manager - with respect to any lands owned by the government of the United States, the Secretary of the department with authority over such lands. Four agencies administer the majority of this land: The Forest Service (in the Department of Agriculture), the Bureau of Land Management, the Fish and Wildlife Service, and the National Park Service (in the Department of the Interior). Management authority may be delegated to regional or local officials, such as the Regional Forester or the individual Forest Supervisor for Forest Service lands.

Fugitive Emissions - sources of emissions that do not come from an exhaust stack or vent and are not collected or controlled. Fugitive emissions may escape from buildings or come from unconfined activities such as outdoor materials storage piles swept by wind and surface mining activities.

Geogenic Sources - natural sources that create pollution, such as oil and natural gas seeps which emit ozone precursors (VOCs and NO_X), volcanoes which emit PM and SO_2, and wind that blows dust from natural areas, creating PM.

Grand Canyon Visibility Transport Commission (GCVTC) - a regional planning group that developed a strategy for dealing with visibility impacts in the national parks and wilderness areas on the Colorado Plateau. The GCVTC was comprised of tribal, state, and federal representatives. Once the GCVTC made its recommendations, the Western Regional Air Partnership (WRAP) was formed to implement them.

Hazardous Air Pollutants (HAPs) - 187 air pollutants that are not covered by ambient air quality standards, but which, as defined in Title III of the Clean Air Act, may reasonably be expected to cause or contribute to irreversible illness or death. Such pollutants include asbestos, beryllium, mercury, benzene, coke oven emissions, radionuclides, and vinyl chloride.

Increment - the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant in areas with a PSD program. Class I areas have the smallest increments and thus allow only a small degree of air quality deterioration. Class III areas have the largest increments and therefore allow for a larger amount of development than either Class I or Class II areas.

Inventory Preparation Plan (IPP) - a concise, prescriptive document that states exactly how you intend to develop and present your inventory. The IPP should include inventory objectives and general procedures, and should clearly describe how you will present and document the inventory for submission to EPA and/or others.

Knowing Violation - a violation in which the responsible party is aware of an environmental regulation, yet still takes an action that causes the regulation to be violated.

Lead (Pb) - a heavy metal that is hazardous to health if breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations. Lead is a criteria pollutant regulated under NAAQS.

Lowest Achievable Emission Rate (LAER) - under the Clean Air Act, the rate of emissions that reflects (a) the most stringent emission limitation in the implementation plan of any state for such source unless the owner or operator demonstrates such limitations are not achievable; or (b) the most stringent emissions limitation achieved in practice, whichever is more stringent. A proposed new or modified source may not emit pollutants in excess of existing new source standards. LAER is usually required in nonattainment areas under the New Source Review program.

Major Modification - any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the CAA. Refer to 40 CFR 51.165(a)(1)(v)(A).

Major Stationary Source - a source that emits, or has the potential to emit, 100 tons per year or more of any pollutant subject to regulation under the CAA. Refer to 40 CFR 51.165(a)(1)(iv)(A).

Minor Stationary Sources - any stationary source of air pollutants that does not meet the definition of a major stationary source.

Mobile Source - any non-stationary source of air pollution such as cars, trucks, motorcycles, buses, airplanes, and locomotives.

Minor New Source Review (minor NSR) Program - applies in both attainment and nonattainment areas to smaller new facilities and expanding facilities that are not large enough to qualify as major new sources or major modifications.

National Ambient Air Quality Standards (NAAQS) - national standards for pollutants considered harmful to public health and the environment. The Clean Air Act requires EPA to set NAAQS and established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. The EPA Office of Air Quality Planning and Standards (OAQPS) has set NAAQS for six principal pollutants, which are called "criteria" pollutants: ozone, carbon monoxide, total suspended particulates (also known as particulate matter), sulfur dioxide, lead, and nitrogen dioxide.

National Emissions Inventory (NEI) - a national database that is a comprehensive and detailed estimate of air emissions of criteria pollutants, criteria precursors, and hazardous air pollutants from air emissions sources. The NEI is released every three years based primarily upon data provided by state, local, and tribal air agencies for sources in their jurisdictions and supplemented by data developed by EPA. The NEI is built using the Emissions Inventory System (EIS) first to collect the data from state, local, and tribal air agencies and then to blend that data with other data sources.

National Emissions Standards for Hazardous Air Pollutants (NESHAPs) - emissions standards set by EPA for an air pollutant not covered by the National Ambient Air Quality Standards (NAAQS) that may cause an increase in fatalities or in serious, irreversible, or incapacitating illness.

New Source - any stationary source built or modified after publication of final or proposed regulations that prescribe a given standard of performance.

New Source Performance Standards (NSPS) - uniform national EPA air emission and water effluent standards which limit the amount of pollution allowed from new sources or from modified existing sources.

New Source Review (NSR) Preconstruction Permitting Program - requires all new major sources or existing sources with major modifications in both nonattainment areas and attainment areas to obtain preconstruction permits. The nonattainment NSR and the Prevention of Significant Deterioration (PSD) programs, collectively known as major NSR, are federal regulations under the CAA. The programs focus primarily on the criteria pollutants regulated by the NAAQS. See also “minor New Source Review,” “nonattainment New Source Review,” and “Prevention of Significant Deterioration.”

Nitrogen Dioxide (NO_2) - the result of nitric acid combining with oxygen in the atmosphere; major component of photochemical smog; a criteria pollutant regulated under NAAQS.

Nitrogen Oxide (NO_X) - a product of combustion from transportation and stationary sources and a major contributor to the formation of ozone in the troposphere and to acid deposition.

Nonattainment Area - an area that does not meet one or more of the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act.

Nonattainment New Source Review (nonattainment NSR) Preconstruction Permitting Program - in areas where air quality is worse than the National Ambient Air Quality Standards (NAAQS), this program prevents increases in emissions from major new sources and major modifications of existing sources and thus ensures progress toward meeting the standards. To obtain a permit under NSR, a facility must install control equipment ensuring the Lowest Achievable Emission Rate (LAER) and obtain emission "offsets" or reductions from other sources equal to the increased pollutant emissions.

Non-criteria Pollutant - an air pollutant other than one of the six criteria pollutants [ozone (O_3), carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO_2), lead (Pb), and nitrogen dioxide (NO_2)].

Offsets - emissions reductions obtained from existing source(s) by a prospective major new stationary source, or a source planning major modification, in order to offset the increase in pollutant emissions caused by the new or modified source (thereby creating no net increase in emissions). Offsets are generally secured from other sources in the vicinity of the new source or modification. However, in the case of modifications, offsets can also be obtained, with limitations, from the source itself.

Opacity - the amount of light obscured by particulate pollution in the air; clear window glass has zero opacity; a brick wall is 100 percent opaque. Opacity is an indicator of changes in performance of particulate control systems.

Ozone (O_3) - found in two layers of the atmosphere, the stratosphere and the troposphere. In the stratosphere (the atmospheric layer which extends from the top of the troposphere to 30 miles or more above the earth's surface), ozone is a natural form of oxygen that provides a protective layer shielding the earth from ultraviolet radiation. In the troposphere (the lowest region of the atmosphere, extending from the earth's surface to a height up to 10 to 12 miles), ozone is a major component of smog. It can seriously impair the respiratory system and is one of the most widespread of all the criteria pollutants for which the Clean Air Act required EPA to set standards. Ozone in the troposphere is produced through complex chemical reactions of nitrogen oxides, which are among the primary pollutants emitted by combustion sources; hydrocarbons, released into the atmosphere through the combustion and processing of petroleum products; and sunlight.

Particulates - fine liquid or dust particles such as dust, smoke, mist, fumes, or smog, found in air or emissions; particulate matter is a criteria pollutant regulated under the National Ambient Air Quality Standards (NAAQS).

Permit - an authorization, license, or equivalent control document issued by EPA or an approved state or tribal agency to implement the requirements of an environmental regulation (e.g., a permit to operate a wastewater treatment plant or to operate a facility that may generate emissions).

Particulate Matter (PM) - (1) PM_{10} - a standard for measuring the amount of solid or liquid matter suspended in the atmosphere, i.e., the amount of particulate matter over 10 micrometers (µm) in diameter; smaller PM_{10} particles penetrate to the deeper portions of the lung, affecting sensitive population groups such as children and individuals with respiratory ailments. (2) $PM_{2.5}$ - particulate matter greater than or equal to 2.5 µm in diameter. PM is a criteria pollutant regulated under the National Ambient Air Quality Standards (NAAQS).

Point Source - a stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution (e.g., a pipe, ditch, ship, ore pit, factory smokestack).

Potential to Emit - emission estimates for a source based on the maximum capacity of that source, taking into consideration enforceable permit conditions, such as the type of materials combusted, the type of materials processed, and the annual hours of operation.

Precursor - a substance from which another substance is formed; ozone precursors, such as NO_2 and volatile organic compounds, react in sunlight to form ozone.

Prevention of Significant Deterioration Preconstruction Permitting Program (PSD) - an EPA program in which state, tribal, and/or federal permits are required in order to restrict emissions from new or modified sources in places where air quality already meets or exceeds primary and secondary ambient air quality standards.

Public Comment Period - the time allowed for the public to express its views and concerns regarding an action by the EPA or other regulating authority (e.g., a Federal Register notice of proposed rule-making or a public notice of a draft permit).

Quality Assurance/Quality Control (QA/QC) - a system of procedures, checks, audits, and corrective actions to ensure that all EPA research design and performance, environmental monitoring and sampling, and other technical and reporting activities are of the highest achievable quality.

Reasonably Available Control Measures (RACM) - a broadly defined term referring to technological and other measures for pollution control.

Reasonably Available Control Technology (RACT) - control technology that is both reasonably available, and both technologically and economically feasible. RACT is usually applied to existing sources in nonattainment areas; in most cases it is less stringent than new source performance standards.

Reasonably Severable - means that the TIP elements selected for the TIP must be able to stand alone and meet applicable Clean Air Act and regulatory requirements.

Source - any activity that causes pollutants to be emitted into the air. A stationary source is a fixed-site producer of pollution, such as power plants, industrial facilities, and gas stations. A mobile source is any non-stationary source of air pollution such as cars, trucks, motorcycles, buses, airplanes, and locomotives. A major source is one that emits, or has the potential to emit, pollutants over a major source threshold. A minor source is any source which emits less pollutants than the major source threshold.

State Implementation Plan (SIP) - EPA-approved state plans for the establishment, regulation, and enforcement of air pollution standards. A detailed description of the programs a state will use to carry out its responsibilities under the Clean Air Act. Collections of regulations used by the state to reduce air pollution.

Sulfur Dioxide (SO_2) - a pungent, colorless, gaseous pollutant formed primarily by the combustion of fossil fuels.

Stationary Source - a fixed-site producer of pollution, such as power plants, industrial facilities, and gas stations.

Synthetic Minor - a source with major source potential to emit that agrees to enforceable emission limits below the major source threshold. Synthetic minor provisions can be included in minor New Source Review programs.

Tribal Air Program - a program that incorporates technical, administrative, and outreach elements to address air quality concerns on a reservation or other area under a tribe's jurisdiction. Technical elements in a tribal air program may include identifying emission sources, establishing and maintaining an emissions inventory, collecting meteorological data, monitoring air quality, rule-making, and enforcing rules.

Tribal Authority Rule (TAR) - The TAR identifies eligibility criteria for tribes seeking to implement CAA programs and defines the process for EPA approval of tribal CAA programs. The TAR was issued on February 12, 1998 (63 Federal Register 7254) and the regulatory provisions codified at 40 CFR Section 49.

Tribal Implementation Plan (TIP) - a practical and enforceable plan, the primary purpose of which is to ensure that the National Ambient Air Quality Standards (NAAQS) are not violated. Tribes may choose to develop TIPs, whereas states are required to develop state implementation plans (SIPs). The EPA may develop and implement a federal implementation plan (FIP), where necessary or appropriate, for areas of Indian Country where the tribe is unable to or chooses not to develop an implementation plan that meets EPA approval.

Volatile Organic Compound (VOC) - any organic compound that participates in atmospheric photochemical reactions, except those designated by EPA as having negligible photochemical activity. Atmospheric photochemical reactions can transform VOCs into ozone.

Western Regional Air Partnership (WRAP) - the organization created to implement the Grand Canyon Visibility Transport Commission's (GCVTC) recommendations for dealing with visibility impacts in the national parks and wilderness areas on the Colorado Plateau. The WRAP's goal is to "promote and monitor the implementation of the recommendations from the GCVTC and, with the concurrence of its members, engage in other common regional air quality issues." The members of the WRAP include governors from Western states, Western tribal leaders, and representatives of the Departments of Agriculture and Interior, and EPA.

Appendix M: Request for Eligibility Determination and Treatment as a State "TAS" Application

The Salt River Pima-Maricopa Indian Community established their eligibility to be treated in the same manner as a state for the purposes of becoming eligible for receiving CAA grant funds, commenting on NAAQS air quality designations, and obtaining "affected state" status for the Title V permit program. (Please note that Title V programs are not covered by TIPs). The first document contains the Request for Eligibility Determination letter to the regional EPA administrator, and the second contains the tribe's TAS application.

SALT RIVER
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 850-8000

Environmental Protection & Natural Resources Division

May 8, 2007

Mr. Wayne Nastri, Regional Administrator
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105

Dear Mr. Nastri:

Re: Salt River Pima-Maricopa Indian Community (DUNS: 108588716); Request for Eligibility Determination Pursuant to federal Clean Air Act Section 301(d) (2)

The Salt River Pima-Maricopa County Indian Community (hereinafter, the "Community") is pleased to inform you that it is in the process of developing a comprehensive program to regulate air quality within the Community's exterior boundaries and, over time, other areas within the Community's jurisdiction. It is imperative that the Community and the Environmental Protection Agency (hereinafter, the "EPA") continue to work cooperatively and display the mutual commitment to addressing the air quality issues within and surrounding the Community. One vital step in that process is the submission and approval of the Request for Eligibility Determination and continued funding from EPA under § 105 of the federal Clean Air Act (CAA). As an initial step in the Community's efforts to preserve and protect its air resources, this letter is presented in support of the Community's request for a determination that it meets the eligibility requirements of 40 C.F.R. § 49.6 for "treatment in the same manner as a State" for certain CAA programs pursuant to CAA § 301(d)(2) (42 U.S.C. § 7601(d)(2)) and the EPA's Final Rule, Indian Tribes: Air Quality Planning and Management, published in 63 Fed. Reg. 7254-01 (February 12, 1998). At this initial stage, the Community seeks an eligibility determination for the following CAA programs: (1) grants for support of air pollution planning and control programs pursuant to CAA §§ 105 & 106 (42 U.S.C. §§ 7405 & 7406); (2) air quality designations pursuant to CAA § 107(d) (42 U.S.C. § 7407(d)); and (3) Title V permit notification as an "affected state" pursuant to CAA § 505(a)(2) (42 U.S.C. § 7661d(a)(2)).

The Community understands that, pursuant to 40 C.F.R. § 49.3, "[t]ribes meeting the eligibility criteria of [40 CFR] § 49.6 shall be treated in the same manner as States with respect to all provisions of the Clean Air Act and implementing regulations . . . ." The eligibility criteria prescribed by 40 C.F.R. § 49.6 include the following:

(a) The applicant is an Indian tribe recognized by the Secretary of the

Interior;

(b) The Indian tribe has a governing body carrying out substantial governmental duties and functions;

(c) The functions to be exercised by the Indian tribe pertain to the management and protection of air resources within the exterior boundaries of the reservation or other areas within the tribe's jurisdiction; and

(d) The Indian tribe is reasonably expected to be capable, in the EPA Regional Administrator's judgment, of carrying out the functions to be exercised in a manner consistent with the terms and purposes of the Clean Air Act and all applicable regulations.

See also 42 U.S.C. § 7601(d)(2).

EPA Requirement:

(a) The applicant is an Indian tribe recognized by the Secretary of the Interior

SRPMIC Response:

With respect to the first eligibility criterion, the Community is an Indian tribe recognized by the Secretary of Interior. For purposes of tribal CAA authority, the regulations define "Indian tribe" as "any Indian Tribe, band, nation, or other organized group or community . . . which is federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians." 49 C.F.R. § 49.2(c). *See also* 42 U.S.C. § 7602(r). On March 13, 2000, the Department of Interior published a list of "Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs" in the Federal Register. This list (Appendix A) includes the Salt River Pima-Maricopa Indian Community (*See* 65 Fed. Reg. 13298-01, p 71196).

EPA Requirements:

(b) The Indian tribe has a governing body carrying out substantial governmental duties and functions

(c) The functions to be exercised by the Indian tribe pertain to the management and protection of air resources within the exterior boundaries of the reservation or other areas within the tribe's jurisdiction

SRPMIC Response:

The Community has adopted a Constitution pursuant to both its own inherent sovereign authority and the Indian Reorganization Act of June 18, 1934 (48 Stat. 984, 25 U.S.C. §§ 461 *et seq.*). Pursuant to Article I of the Community's Constitution, the jurisdiction of the Community "shall extend to all lands within [its] boundaries." Article IV of the Community's Constitution provides that the Community Council is the Community's governing body. *See* Constitution of the Salt River Indian Community, Subpart A of the Code of Ordinances of the Salt River Pima-

Maricopa Indian Community. Such Constitution is appended hereto as Appendix B and incorporated herein by this reference. Copies of the compact of Self Governance between the SRPMIC and the United States of America dated June 1995 and the Self-Governance Multi-Year Funding Agreement between the SRPMIC and the United States of America are also included in this appendix for your review.

Several provisions of the Community's Constitution expressly authorize the Community Council to exercise powers that concern and encompass regulation of air quality within the Community. Article VII, Section 1(d), authorizes administration and regulation of the Community's land and public property, including the Community's natural resources. Specifically, Article VII, Section 1(d)(5) authorizes the Council to provide for the proper use and development and prevent the misuse of the lands, natural resources and other public property of the Community. Meanwhile, Article VII, Section 1(h) authorizes the Council to consult, negotiate, contract, conclude and perform agreements with federal, state, and local governments on behalf of the Community. Article VII, Section (1)(c)(4) provides for the protection of public health and morals and public and private property rights. Finally, Article VII, Section 1(k) authorizes the Community Council to make all laws and take such action as shall be necessary and proper for carrying into execution the enumerated powers of the Council as vested by the Constitution. These specific constitutional provisions are interpreted broadly to achieve the protection of tribal rights and interests, and to accommodate constant developments in federal law that expand or refine the general scope of tribal jurisdiction. Moreover, the Community is authorized to exercise any inherent sovereign power not expressly abrogated by the United States Congress. *See, e.g., Rice v. Rehner,* 463 U.S. 713 (1983); *United States v. Wheeler,* 435 U.S. 313 (1978).

The primary purpose for regulating air quality within the exterior boundaries of the Community is to protect and preserve the Community's air resources. The Community finds that air pollution and denigration of air quality within the Community: 1) constitute an increasing danger to the health and welfare of the residents of the Community; 2) can cause physical discomfort and injury to property and property values, including injury to agricultural crops and livestock; 3) discourage recreational and other uses of the Community's resources; 4) are inconsistent with the Community's cultural values; and 5) are aesthetically unappealing. Community regulation of air quality therefore fulfills the Council's constitutional obligations to protect the basic health, safety and welfare of the Community. Given the fundamental tribal interests implicated by the need to protect and preserve the Community's air resources, the Community has jurisdiction to regulate air quality throughout the reservation. *See Arizona Public Service Company v. EPA*, 211 F.3d 1280 (D.C.Cir. 2000). This reservation-wide jurisdiction over air quality is also consistent with the broad language of Section 301 of the Clean Air Act, which recognizes the tribal primacy over "the management and protection of air resources within the exterior boundaries of the reservation . . . ." 42 U.S.C. § 7601(d)(2)(B). The exterior boundaries of the Community are identified in Appendix C, incorporated herein by this reference.

EPA Requirement:

(d) The Indian tribe is reasonably expected to be capable, in the EPA Regional Administrator's judgment, of carrying out the functions to be

exercised in a manner consistent with the terms and purposes of the Clean Air Act and all applicable regulations.

SRPMIC Response:

Finally, the Community must demonstrate that it has the capability to administer the specified CAA programs. The Community Council has vested primary responsibility for the development, implementation and administration of the Community's air quality program with the Community's Environmental Protection & Natural Resources Division. For purposes of demonstrating the ability to administer grant programs under CAA §§ 105 & 106 (42 U.S.C. §§ 7405 & 7406), the Community's Environmental Protection & Natural Resources Division currently administers various federally funded grant programs, including several Clean Water Act programs, a Solid Waste Management program, an EPA Pesticide and Worker Protection program, and other environmental and health programs. With respect to air quality designations pursuant to CAA § 107(d) (42 U.S.C. § 7407(d)), the Community believes that formal involvement in the air quality designation process is critical to the development of the Community's air quality regulatory program. As part of that development, the Community has developed and implemented a comprehensive air monitoring network with four monitoring sites within the Community. In addition, the Community has been an active participant in the recent 8-hour ozone designation process. As for the ability to review permit applications and proposed Title V permits under CAA § 505 (42 U.S.C. § 7661d), division employees have demonstrated the ability to exercise the functions necessary for the management and protection of the Community's air resources while implementing the programs described above. Community laws, policies, and regulations related to these environmental and public health programs are provided in Appendix D, incorporated herein by this reference. More detailed descriptions of the technical and administrative capabilities of Division staff members responsible for administering the requested federal CAA programs are provided in Appendix E, incorporated herein by this reference.

In conclusion, the Community believes that it possesses the legal authority and has demonstrated the requisite capability to administer effectively the requested programs in a manner consistent with the terms and purposes of the CAA and all applicable regulations. Accordingly, for the purposes designated herein, the Community respectfully requests a determination that it meets the eligibility requirements under 40 C.F.R. § 49.6 for "treatment in the same manner as a State." If you have any questions or concerns, please call Ms. Ondrea S. Barber, Manager of Environmental Protection & Natural Resources at (480) 362-7625.

Very truly yours,

Diane Enos, President
SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

Enclosures

SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

APPLICATION FOR ELIGIBILITY DETERMINATION FROM UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA) REGION IX

TO IMPLEMENT CLEAN AIR ACT PROGRAMS IN THE SAME MANNER AS STATE

IN ACCORDANCE WITH TITLE 40, PART 49 OF THE CODE OF FEDERAL REGULATIONS

Scottsdale, Arizona
March 2008

Table of Contents

General Information:

A. Applicant: The applicant is the Salt River Pima-Maricopa Indian Community (SRPMIC) or the "Community" with a well-defined Tribal Council and governmental organization to enhance the administration of programs to benefit the Community. The Tribal Council is comprised of:

Diane Enos, President
Toni Harvier, Vice-President
Dixie Padilla, Councilmember-District A
Anthony Collins, Councilmember-District B
Claire Miller, Councilmember-District C
Ricardo Leonard, Councilmember-District D
Tom Largo, Councilmember-District E
Lynn Myore, Councilmember-District F
Deanna Scabby, Councilmember-District G

B. Applicant's Address: Mailing address: 10,005 E. Osborn Road, Scottsdale, Arizona 85256

C. Applicant's Representatives: Representatives of the Community for this application are:

Mr. B. Bobby Ramirez, Community Development Department Director
(480) 362-7636 OFFICE (480) 577-1910 CELL
Ms. Ondrea Barber, Environmental Protection & Natural Resources Manager
(480) 362-7625 OFFICE (480) 452-8502 CELL
Mr. Christopher Horan, Environmental Engineer*
(480) 362-7639 OFFICE (602) 515-6764 CELL
*Primary contact for this application.

D. Purpose of Application: Purpose of this application is for the Salt River Pima-Maricopa Indian Community to request the US Environmental Protection Agency (EPA) to undertake an eligibility determination to implement Federal Clean Air Act programs, also known as Treatment as a State, under the Clean Air Act. This application has been approved by the Salt River Pima-Maricopa Indian Community Tribal Council by Resolution. (Appendix A-1).

E. Date of Application: The date of this application is March 11, 2008

F. Duns Number: 108588716

G. Employer Identification Number. 860143787

Federal Recognition

The Salt River Pima-Maricopa Indian Community (SRPMIC) is a federally recognized Indian tribe. (Volume 70 Federal Register No. 226, pgs. 71194-71198; November 25, 2005). (Attachment A-2).

General History

The Salt River Pima-Maricopa Indian Community (SRPMIC) is comprised of two Native American Tribes: The Pima, or "Akimel Au-Authm," (River People) and the Maricopa, or "Xalychidom Piipaash," (People who live toward the water). The Maricopa Tribes were small bands that lived along the lower Gila and Colorado Rivers. In early 1800's they migrated toward Pima villages. The Pima, known as a friendly Tribe, established a relationship with the Maricopa Tribe and together they protected themselves from the Yuman and Apache Tribes.

The Pima believe that they are the descendants of the "Hohokam" (those who have gone) an ancient civilization who inhabited Arizona nearly two thousand years ago, dating as far back as 300 BC. The Hohokam farmed the Salt River Valley and created elaborate irrigation canal systems throughout the valley; this system, in a modernized fashion, is still used today.

In 1854 the Gadsden Purchase made southern Arizona an American territory, which brought in a new group of strangers to the country of the Pimas - white soldiers, traders and Indian agents. The attraction might have been the rich Pima farms that provided plenty of food. By 1871 the Gila River was starting to dry up as the White settlers living upstream around Florence were diverting all of the water, leaving the fields of the Pimas and Maricopas to wither.

According to Anne Moore Shaw's book, A Pima Past, "Like the Nile, the Gila and Salt Rivers used to overflow their banks, depositing rich loam" that created irrigated, productive lands along the Gila River. In 1876, the Pimas sold a surplus of 2 million pounds of wheat. Soon a drought condition began to make its impact affecting lives of the people. Whole families relocated to the lush edges of the Salt River, where they cleared fields, refilled ancient ditches, and tilled the soil around their new settlements. The Pimas and Maricopas "were denounced for this by the committee of the Maricopa Grand Jury and termed renegades and savage intruders," according to a letter written by Major General Irvin McDowell. Indian Agent J.H. Stout also noted that the "number of whites who want farms of the lands occupied by the Indians has increased to 16", and that they had held a meeting demanding that the Indians be forced back to the Gila.

In 1877, Mormon pioneers founded Lehi community, now a part of Mesa, Arizona. Their first order of business was to locate a canal head on the Salt River and dig a 2.5-mile-long irrigation canal, which they named the Utah Ditch. By 1878, Agent Stout counted 600 to 700 people living at the Salt River and petitioned the Commissioner of Indian Affairs to add Salt River to the then-existing reservation, citing the Indians' buffering effect against the Apaches, as well as their right to farm the land. The Pimas and Maricopas had also served well as scouts for the army.

On January 10, 1879, President Rutherford B. Hayes enlarged the reservation to include the "Salt River on the west, the San Carlos Reservation on the east." Less than six (6) months later, that executive order

was revoked and President Hayes established the current Salt River Pima-Maricopa Reservation (Salt River Pima-Maricopa Indian Community) on June 14, 1879 by Executive Order (Appendix A-3).

The Dawes Act of 1887, applied at the Salt River in 1910, allowed for the division of land into individual "allotments" of ten (10) acres below the Arizona Canal and twenty (20) acres of secondary land above the canal, which had no rights to irrigation water from the canal. The intent of the Dawes Act was to create "family farms", but instead the resulting land use and settlement pattern led to the destruction of village structure and cooperative modes of farming which had enabled villagers to pool their labor and resources.

In 1902, President Theodore Roosevelt signed the Irrigation Act, which paved the way for the construction of dams on the Salt and Verde Rivers and subsequent diversion of water below the Granite Reef Dam into canals. The Salt River began to dry up, and along with it the way of life of those who relied on its water.

In the late 1970's, the Salt River Pima-Maricopa Indian Community began operating under self-determination. Today on its own accord the Community thrives and continues its endeavors towards being even more prosperous and successful in the future.

Background

The Salt River Pima-Maricopa Indian Community (SRPMIC) is located in Maricopa County of Arizona aside the boundaries of Mesa, Tempe, Scottsdale, Fountain Hills, Ft. McDowell Indian Reservation and Tonto National Forest. As of 2007, the number of enrolled Community Members is over 8,500. The population living within the Community is close to 5,500. The Community consists of around 54,000 acres of land of which fifty-four (54) percent is owned by the Tribe and 46 (forty-six) percent is allotted land. The Community maintains 9,000 acres of land as natural preserve and around 15,000 acres of land is used to cultivate a variety of crops. The land is primarily agricultural and residential and naturally slopes to the Salt River channel.

In late 1980's the Council determined that the Community Members wanted to maintain a residential core and develop commercial businesses on the outer edges of the Community. Commercial development is reserved along northwest and western boundary. The southwestern border plays host to industrial development. Along northern portion of the Community, much of the land is undeveloped and contributes sheet-flow to the Salt River channel. Many portions of the reservation remain undeveloped. There is a large area of protected open space in the north and eastern part of the reservation, where development is prohibited.

The Community road system has 132 miles of roadways and about 18 miles of state highways running through it. The road system, maintained by the Community's Public Works Department, includes standard grid style roads that run north/south and east/west through the southwestern portion of the Community, as well as several main arteries, which border and transect.

According to Pete Bolton, of real estate firm CB Richard Ellis, "the Community was incredibly smart in the early years, getting the freeway on their land. They drove an incredible bargain with ADOT (Arizona Department of Transportation) and got a tremendous amount of money for that right of way." This freeway known as Loop 101 or Pima Freeway runs north and south nine miles along the Community's

western boundary adjacent to Scottsdale and is named the "Pima Corridor". There are interchanges at each mile intersection which branch off to the east, deeper into the Community, and west into Scottsdale. This short well-placed segment of Loop 101 is transforming some farm fields and desert into a blooming commercial corridor. The nine miles stretch of freeway frontage is heavily traveled by over a million cars annually, with an increase each year. This is very beneficial to developers and makes this a highly desirable area.

The Loop 202, Red Mountain Freeway, runs along the southern border of the Community to connect with Tempe, Mesa, Chandler, and Gilbert while Shea Boulevard runs along the northern border to connect Fountain Hills and Tonto National Forest. Arizona 87 or "the Beeline Highway" diagonally transects the Community south from McDowell Road and northeast to the Community's northern border. This stretch of roadway leads northeast, through Fort McDowell Mohave Yavapai Nation and on into Tonto National Forest.

Tribal Government

The Community's first Constitution was adopted in 1940, which was amended and adopted on February 28, 1990 under which the Community is governed. The ordinances that are developed and adopted to assure adherence to the ideals of the Constitution include: General Provisions, Community Membership, Voting and Elections, Court Generally, Civil and Criminal Procedure, Civil Offenses, Criminal Code, Extradition, Sentencing, Probate, Domestic Relations, Minors, Animals and Fowl, Health and Sanitation, Alcoholic Beverages and Contraband, Taxing, Licensing and Permits, Gaming, Traffic and Motor Vehicles, Development, Real Property and Housing, Floodplain and Drainage Ordinance, Water and Other Resources, Antiquities and Archaeological Sites, Finances, Graffiti, and Noncommercial Divisions of the Government.

The Community is progressive and possesses a Compact of Self-Governance with the Bureau of Indian Affairs (BIA) and Department of Interior (DOI) (Appendix A-4). The Community is on the leading edge of Self-Governance and manages its affairs with minimal BIA-Area or Agency interference, according to Mr. Bob Scabby, head of the Self-Governance division. SRPMIC self-governing body, the Community Council, was adopted on February 28, 1990 under the current constitution and established the Government System which consists of three branches:

1. **Executive branch**: Authorized by the SRPMIC Constitution (Appendix B-1), Article III Sections 1-7, the Community President and Vice-President are both elected at large and serve four (4) year terms. To be considered for President or Vice President, nominees must be enrolled members of the Community, have physically resided in the Community for at least a year preceding election, and be at least twenty-five (25) years of age. The President and Vice-President oversee management of government development, operations and services including administration, staff attorneys, treasury, budgets and records, gaming regulation, community and economic development, construction and engineering, public works, education, human resources, and community relations. The Council enacts ordinances to provide for the appointment of election boards and officials needed to impartially and fairly supervise elections conducted under the constitution.
2. **Legislative Branch:** Authorized by the Constitution, a Tribal Council is established to oversee congressional and legislative affairs on culture, finances, environment, fire and police department,

judicial center, public works, transportation, recreation, museum, learning center, and purchasing. The Council sets salaries for judges and court personnel. As per Article IV, Sections 1-7 of the Constitution, the Council consists of seven (7) representatives. Two (2) electoral districts are established from which the Community elects council members. Five (5) council members are elected from the Salt River District (District I), consisting of the Community land lying west of the west boundary of Section 35, T.3N, R.5E, and Sections 2, 11, 14, 23, 26 and 35 in T.2N, R.5E, G & SRB & M. Two (2) council members are elected from the Lehi District (District II), consisting of all the remaining Community land. To be considered for Tribal Council, nominees must be enrolled members of the Community and must reside in the Community for at least one (1) year and in the district as provided in Article V, Section 1 for at least six (6) months preceding the election and be at least twenty-five (25) years of age. The Council members serve a staggered term of four (4) years.

3. **Judicial Branch:** Authorized by Community Ordinance Chapter IV, the Community Court shall be composed of one (1) chief judge, one (1) juvenile judge, and such associate judges, as from time to time, are authorized by the Council. Four (4) judges currently serve in the Tribal Court. The chief judge, juvenile judge, and associate judges shall hear such cases where the Community Court has jurisdiction as may be assigned to them by category or individually by the chief judge. Subject to the budget approved by the Council, the chief judge may request that the Community hire probation officers, bailiffs, and other court assistants necessary to carry out the function of the Community Court.

Elections: The Community has established two (2) electoral districts: the Salt River District, consisting of all the Community land lying west of the west boundary of Section 35, T.3N, R.5E, and Sections 2, 11, 14, 23, 26, and 35 inT.2N, R.5E, G & SRB &M from which five (5) council members shall be elected and the Lehi District consisting of all the remaining land of the Community from which two (2) council members shall be elected. The candidates who are certified as elected by the Community Council shall be installed in office two (2) weeks prior to the first day of January, except when such date falls on a Sunday, then on the following Monday. Elections shall be held only for those positions of council members whose terms are to expire during the year of the election. All elected officers and Council Members shall hold office until their successors have been elected and installed.

The nomination of President and Vice-President must be at least twenty (20) days before the nominations of candidates for council members are made, and no less than two (2) candidates for each office of president and vice-president shall be nominated at a general community meeting called for that purpose. Nominations of Council Members shall be made at a meeting in each electoral district called for that purpose. No less than two (2) candidates for each office of council members shall be nominated at a general community meeting called for that purpose. The Council shall enact ordinances to provide for the appointment of election boards and officials as necessary to impartially and fairly supervise elections conducted under the constitution.

Areas of Air Quality Jurisdiction

The Salt River Pima-Maricopa Indian Community, located in Maricopa County of Arizona, is within a large metropolitan area with a population over 2 million that includes the cities of Mesa and Tempe to the south, Phoenix and Scottsdale to the west, and Fountain Hills and Scottsdale to the north. The Community's location within a highly dense urban area results in a broad range of initiatives for economic

development and land uses which lead to a variety of pollution concerns. For instance, while the Community enjoys over 12,000 acres of agricultural activities, other industries also exist within the Community, all with potential for air pollution. These industries include large scale aggregate mining operations that supply a number of concrete and asphalt facilities, as well as landfill operations that include several gas collection systems to recover and mitigate toxic air pollutants such as methane gas. The ongoing urbanization of this region has encroached on the Community boundaries with major highways such as the 101, Loop 202, and Beeline Highway serving as main thoroughfares through the Community. This growth also continues to significantly increase the number of mobile sources and vehicle miles traveled through the Community and the added impact on air quality.

The Community's proximity to a large Metropolitan Statistical Area (MSA) results in increased negative impacts to the Community's health and welfare from the transport of air pollutants from the Phoenix metropolitan area. The MSA that the Community resides in is currently classified as Serious Non-attainment for particulate matter at 10 microns (PM_{10}) and non-attainment for the 8-hour ozone (O_3) standard under the National Ambient Air Quality Standards (NAAQS). The urban growth surrounding the Community continues at one of the fastest rates in the country. Since urban sprawl will elevate degradation of surrounding air quality, the Community is committed to the development of an air quality program consistent with the Community's goal of protecting the health and welfare of its citizens, while participating in and supporting the efforts of the regional jurisdictions working on mitigating regional air quality issues.

The SRPMIC has been developing an air quality program to help address and mitigate significant issues of concern since late 1997. The program's mission has been to assess the Community's air shed and develop an air quality program to address issues of concern such as respiratory problems among Community Members, visibility, and the current designation under the NAAQS for PM_{10} and 8-hour ozone standard. Specifically, the Community seeks to address its air shed under the NAAQS and establish its jurisdictional authority for sources of air pollutants located within the exterior boundaries of the reservation by gaining an eligibility treatment as a state (TAS) determination for Clean Air Act (CAA) programs and the development of a Tribal Implementation Plan (TIP).

Since the air quality program's inception, the program staff has utilized every opportunity to progressively develop the technical and policy capabilities to address air quality issues on the Community. Over the past few years, the program has developed emissions inventories to identify and assess sources of air pollutants impacting the Community. In addition, a comprehensive ambient monitoring network has been established to measure criteria pollutants as provided by the NAAQS which includes PM_{10} and $PM_{2.5}$, O_3, meteorological data, and more recently air toxics monitoring (VOC canister sampling and $PM_{2.5}$ speciation monitoring).

A comprehensive baseline emissions inventory (EI) of the Community was conducted during 1998-1999 and portions of the inventory are updated periodically. The emission inventory was subsequently entered into the EPA NEI database. The sources identified and quantified include stationary, area, and mobile. A comprehensive EI for is near completion and will be entered into the NEI database. The program will continue with technical assessment and evaluation of air pollution sources. It is anticipated that the

program will in the near future update the existing EI including the identification and inventory of new sources.

Based on the inventories conducted and monitoring data, control strategies are being developed and implemented to control sources of fugitive dust which include the stabilization of vacant and exposed areas, unpaved roads and shoulders, agricultural roads and aprons, mitigation of road track-out, and integration of dust control measures in land-use development.

The significant population increase in the Phoenix area and the economic growth in and outside the Community's exterior boundaries have resulted in new facilities locating on the reservation. The EI will include Title V sources currently operating in the Community, minor and area sources of air pollution. The Community plans to evaluate off-reservation pollution sources in close proximity to the Community by evaluating EI data collected by the Arizona Department of Environmental Quality (ADEQ), Maricopa County Environmental Services Department (MCESD), and Maricopa Association of Governments (MAG). The information to be collected includes geographic locations and site maps, source categories and pollutants of concern, records of existing permits, emissions inventories, and compliance history.

The National Environmental Information Exchange Network Grant Program (NEIEN) on going priority is to develop an Exchange Network to facilitate data and information exchange with the EPA and other partners. This initiative will allow the Community to establish a Web based link to make exchange of data and information more efficient and consistent. Two of the initial data flows being developed are the National Emission Inventory (NEI) and the Facility Registry System (FRS). The Community will be one of the first, if not the first, tribe in the country to have functional data flows under the NEIEN program.

The Air Quality Program will continue to develop regulatory elements that will ultimately result in a comprehensive Tribal Implementation Plan (TIP). Development of these and other draft ordinances has already begun, however additional time and resources are needed to finalize and enact the ordinances within the Community. These ordinances will address many of the Community's sources of air pollution, however issues associated with transport of air pollution from the Phoenix Metropolitan Area will have to be addressed in a different manner. The regulatory development will be undertaken with input from the Community's legal counsel, Community Members, and the Tribal Council.

For years, the Air Quality Program has participated in various committees, forums, workshops, and associations at both the local, regional, and national levels. The staff have participated in and have served as leaders in many initiatives including (but not limited to) the Western Regional Air Partnership (WRAP) and its various committees and forums, the National Tribal Air Association (NTAA), Tribal Air Monitoring Station (TAMS) Steering Committee, Maricopa Association of Governments' (MAG) Air Quality Technical Advisory Committee, AZ Monitoring Work Group, AZ Tribal Air Working Group, Governor's Advisory Council on Climate Change as well as the Joint Air Toxic Assessment Project (JATAP). Participation in these initiatives has enhanced the program's capacity to establish cooperative working relationships and partnerships with various agencies and jurisdictions to seek creative solutions to address the air pollution problems.

The Program conducts outreach in various media to the Community Members and the Tribal Government about air quality issues and their impacts on the Community's health and welfare. Outreach efforts have been undertaken at the Tribal Council and District meetings, and also through the Community newspaper articles, brochures, school science fairs, and other events.

The program is committed to assessing air quality of the Community to develop and implement policies and ordinances to improve air quality locally and regionally. This data will provide the public with air quality data and its impact on public health including options for changing behaviors that may contribute to poor air quality. To achieve tribal capacity and contribute to the national goal of cleaner healthy air, the Community must be afforded funding to continue the following activities: development of a comprehensive air quality program that is fully staffed to assess and monitor ambient air quality, including toxic air pollutants; provide consistent educational outreach; and finally develop ordinances to self-regulate.

Air Pollution Sources:

- **Major Stationary Sources** (Tribal jurisdiction): Aggregate mining and the landfill.
- **Title V sources** (Tribal jurisdiction): aggregate mining operations, the Salt River Landfill.
- **Non-major air pollution sources concerns (**Tribal jurisdiction**)**: Agricultural production. Mobile sources (freeways), minor sources: gas stations, asphalt and concrete plants, etc.
- **NAAQS designation**: MSA that the Community resides in is currently classified as NAAQS Serious Non-attainment for PM_{10} and non-attainment for the 8-hour O_3.
- **Transport Issues from off-reservations:** The proximity to a large MSA results in increased negative impacts to the Community's health and welfare due to the transport of air pollutants from the Phoenix metropolitan area. This is a major concern for the Community which requires extensive communication and coordination with neighboring jurisdictions.
- **Other air pollutions of concerns**: All criteria pollutants, hazardous air pollutants, mobile sources, agricultural and aggregate mining activities as well as other minor and area sources.

Tribal Capability

Congress passed a series of laws, including Indian Self-Determination Act, Indian Child Welfare Act, and Health Care Improvement Act aimed at enhancing quality of reservation life without destroying Tribal governance. SRPMIC developed a self-governance system operating under Self-Determination and has been handling most of its own contracting since the early 1970's. There are advantages to getting away from negotiations with the BIA, particularly in Arizona where, in the fall of 1987, the Arizona Republic published a series of articles entitled "Fraud in Indian Country". These accounts alleged serious mismanagement in the Bureau. As a result, oversight hearings were held by U.S. Senator Sidney Yates that led to the development of the Self-Governance Demonstration Project. Extensive contracting experience from the responsibility that the Tribe had assumed by managing areas that BIA did not take care made it easy to be self-governing in 1990. The result of this has been greater governmental efficiency, Self-Determination, and more influence in land management without disrupting the trust responsibility of the U.S. government. With three (3) decades of experience managing over 54,000 acres of land, the

Community's approach to governmental management has had much in common with Self-Governance. Along with self-determination came greater application of Indian culture and Tribal governance. It increases efficiency by reducing duplicative reporting requirements to the Bureau. It is important for the Community to maintain a vigil on the Federal trust responsibility. The Self-Governance legislation should continue to protect the Community's interests.

The Community established a school system and language center to train Community Members, as well as real estate and probate programs to help members manage their estate and financial affairs under a trust relationship with community agencies that represent their best interests. The Community encourages member involvement in natural resource planning and protection. The Community also encourages capabilities of its members in the direction and management of programs for their benefit. Self-determination and self-governance brings compliance and enforcement closer to the Community and allows the Community Members to handle their own affairs, which results in greater accuracy, increased understanding, and attention to detail.

The Community Government employs over 1800 full time employees. Close to a dozen community enterprises operating in the Community employ over 2400 full time employees. The not for profit Divisions, to include Housing and Schools, as well as the for-profit enterprises, are run by Boards of Directors appointed by the Council. The Boards usually consist of five (5) Tribal members and two (2) professionals who may or may not be Tribal members but are experienced in that particular field. The Council has a strong philosophy of not micromanaging Executive Branch affairs, as well as allowing its business enterprises room to manage their own affairs through the Boards. This method generally makes businesses stable and strong.

The Community is interested in developing income for the Tribe, employing Tribal members, and achieving the highest possible level of self-determination. Not only are there several Tribal member owned businesses like Chevron and Shell self-service stations, JR's convenience store, and On-Auk-More Smoke Shops, the Community has also developed several commercial enterprises, providing much revenue for the Community and its members. These Enterprises are:

Casino Arizona: operating at two locations and planning a multi-level luxury hotel
Salt River Materials Group: producing crushed aggregates for construction
Saddleback Communications: a local telecommunications with business solutions
Talking Stick Golf Course: suits any golfer's skill
Red Mountain Trap & Skeet: provides variety of trap and skeet events
Salt River Financial Services: provides one-stop lending and financial education services
Salt River Landfill: an award-winning landfill, and
Devco - the Community's development arm.

Self-governing has increased outlook of the Community, for responsible development and preservation of their land. Respect for traditional cultural wisdom, strong leadership, and empowerment of management teams has been the hallmark of success for tribal administration, and has been the framework for new development. While Tribal leaders have been concerned with land available to its people, it has been

through the implementation of self-governance that they have been afforded a real voice in determining, preserving, and developing those resources.

Tribe's Authority to Regulate Air Quality

It is the policy of the SRPMIC that the health and welfare of the Community and its members are enhanced by compliance with federal and Community environmental laws to protect the health and safety of individuals residing and working in the Community, and for the protection and preservation of the environment for future generations. Consistent with the 1994 "EPA Policy for the Administration of Environmental Programs on Indian Reservations", the SRPMIC will develop and fulfill its principal role as the non-federal party to make decisions and carry out program duties affecting the reservation, its environment, and the health and welfare of the Community Members. The Environmental Protection and Natural Resources (EPNR) Division under the Community Development Department (CDD), is the Community's designee as the primary responsible party ensuring compliance with all tribal and federal environmental laws. In addition to several tribal ordinances to assist in the protection of the Community's environment, the SRPMIC has adopted several Federal environmental statutes enacted by the US Congress to include the Federal Clean Air Act Amendments of 1990 (CAAA), the Clean Water Act (CWA), Toxic Substances Control Act (TSCA), National Environmental Policy Act (NEPA), Solid Waste Disposal Act (SWDA), and the Comprehensive Environmental Response, Compensation, Liability Act (CERCLA).

The Community Development Department (CDD) reviews land development proposals, agricultural and business leases, permitting and licensing, planning and zoning, and land ownership; maintains enrollment records; and enforces cultural resources and environmental laws. To ensure that the goals are met and to carry out its functions the following divisions are established: Economic Development Division (EDD), Planning & Architectural Services (PAS), Membership & Real Property Management (MRPM), and Environmental Protection and Natural Resources (EPNR). The department works with the Land Management Board (LMB), Tribal Council, enterprises, landowners, Tribal departments, and others on policies and procedures as they apply to the lease process in advocating the highest, best, and intelligent land use planning and development of private and public lands.

The department regulates and assures compliance with the Community's adopted land use planning and development policy through cognizant application of the Vision Statement, Planning Policies, Design Guidelines, General Development Plan, Zoning, and Development Codes. It also assures that the land use decisions reflect the goals and desire of the Community and are adhered to by land owners and developers.

The Environmental Protection and Natural Resources (EPNR) Division had been established to enhance the quality of life in the Community by protecting human health, and safeguarding the natural environment. EPNR administers environmental regulatory programs, addresses environmental issues, and assures that growth and development have minimal impact on the Community's natural and cultural resources.

EPNR administers environmental regulatory programs, addresses environmental issues, and monitors growth and development to protect the Community's natural resources. EPNR staff is frequently in the

Community conducting research, site inspections, and monitoring. It manages and analyzes data, interprets consultant's work, prepares reports, and enforces environmental policies. In addition, EPNR staff provides environmental outreach and education to increase awareness about environmental issues that impact the Community. In an ongoing effort to strengthen the bond between the Community Members and their land, staff makes presentations to the Council, schools, and the general public. The five (5) programs within EPNR that are federally funded through the EPA include: Air Quality Program; Water Quality Program; Environmental Protection and Policy Development (consisting of Solid Waste, Grants and Contracts, Pesticide, and Enforcement and Compliance); Range Management; and Land Use Clearances.

The Air Quality Program continues to enhance the Tribe's efforts to maintain the quality of life for the Community by developing programs to ensure a clean environment for the Community Members. The program is responsible for protecting the ambient (outdoor) air quality for the Community and monitors, assesses, and reports on the air quality. Working with the EPA enables facilities within the Community's boundaries to comply with the Community's environmental laws and ordinances. The program undertakes outreach activities with Community Members, the Council, schools, and others to educate them about concerns they may have and how to address air quality issues related to dust generation, smoke inhalation, etc.

The Water Quality program focuses on monitoring, assessing, and reporting on the quality of the Community's ground and surface water. The program is responsible for developing standards for the protection of the Community's surface and groundwater through guidelines set forth in the Community Ordinances and the EPA under the Clean Water Act. Water quality monitoring is critical to the health and welfare of Community residents. Surface water quality assessments address streams, wetlands, rivers, and other surface water bodies. Ground water quality assessments focus on data from wells, which supply drinking and irrigation water for the Community. The Program establishes and enforces guidelines for wellhead protection, point source control, non-point source control, sole source aquifer designation, and surface water quality monitoring. This program conducts outreach with other departments, Community schools, and Community Members routinely to increase environmental stewardship to further protect the surface and groundwater. The program also manages the Cottonwood and the Lehi wetlands. In May of 1995 the Council approved and adopted surface water ordinances SRO 199-95. In 1998 the Council approved and adopted Community Water Quality Standards. The program completed a Water Quality Assessment and developed a Water Quality Management Plan. The program also implemented surface water and groundwater monitoring to further define the Community's water resources. The primary water quality monitoring objectives were: assess ambient conditions; support designated beneficial uses established for surface waters on the Community lands; and locate and identify stressors posing a threat to the environment and health. Procedures Manuals for sampling both groundwater and surface water were developed and approved and adopted by Council in May 23, 2000. The Quality Assurance Project Plan was developed as part of a 106 grant, and was approved and adopted by the Council in 2000.

The management of solid waste is an ongoing global problem which the Community is addressing by developing a program for reducing solid waste and planning. Waste reduction activities being developed are recycling, household hazardous waste, and source reduction. The program also focuses on protecting the health and safety of the Community by monitoring existing landfills for gas migration and collecting

methane gas. The Solid Waste Management Program stays current with technological advances to implement methane utilization/collection, energy production, tire recycling, and recyclable household materials recovery.

The Grants and Contracts Program manages every federal grant obtained by EPNR to ensure compliance with federal and SRPMIC regulations. This program provides a comprehensive internal structure to maintain oversight of grants, organize contract management, and monitor all grant program budgets.

The Pesticide Program conducts monitoring and recording of all pesticide applications on Community lands, which ensures compliance of Community Ordinances and Federal standards and protect the land and health of residents. The program also maintains a database of information studying long-term health effects resulting from pesticide use.

The Enforcement and Compliance Program reviews, researches, and facilitates development of environmental policies and ordinances for the Community. It provides environmental inspections on a regular basis at facilities located on the Community. The program offers guidance to Community members and businesses to ensure compliance with applicable environmental laws.

The Range Management Program was created as a result of Community Ordinance (SRO-187-95) to protect wild horses on the Community from sale and slaughter and requires management to prevent overpopulation. This program manages a herd of bison that is located in Clarkdale, Arizona; collaborates with the Salt River Police Department Ranger Division through clearing and thinning of vegetation to reduce fire hazards; collaborates with outside agencies such as Arizona Game & Fish Department annually to monitor the federally threatened Bald Eagles that inhabit the Community during breeding season; provides services to organizations and departments within the Community such as youth in the Juvenile Detention Program of the Salt River Department of Corrections receive hands-on experience in the care of wild mustangs while learning about the benefits of a strong work ethic.

The Land Use Clearances (LUC) program reviews proposed home sites, right-of-way and commercial development projects within the Community. Multi-agency collaboration is necessary to ensure compliance with applicable federal and tribal legislation dealing with environment and historic preservation. This division oversees: National Environmental Policy Act (NEPA) NEPA applies to residential, commercial and/or any other projects on the Community that require the use of federal funding and allows for a complete environmental review and evaluation of projects initiated on Community lands. The review process involves a site inspection to determine the environmental and cultural impact of a proposed project on the land and on the surrounding environment. If the review determines that the project will have no significant impact, a clearance document in the form of a Programmatic Environmental Assessment (PEA) or Categorical Exclusion (CE) is issued. The project can then move forward without further review or mitigation. If the review determines that the project will have a significant impact, an Environmental Impact Statement (EIS) document is issued to properly assess and mitigate the impact of the project to the environment. The archaeology section is responsible for ensuring the preservation and protection of the Community's archaeological resources for future generations of O'odham and Piipaash peoples. The objective of the division is to comply with the National Historic Preservation Act NHPA) of 1966 and other federal legislation dealing with natural resources. In addition to federal laws, the

Community has an Antiquities Ordinance (SRO-102-86) which provides for further protection of archaeological sites on the SRPMIC.

The Community has received several awards and grants in response to environmental initiatives undertaken by the Environmental Protection and Natural Resources Division.

Tribal Accounting and Procurement Systems

The SRPMIC Finance Departments Division Grants and Contracts section is responsible for monitoring over two hundred (200) grants and contracts from various funding agencies. Grants and Contracts is responsible for submitting periodic financial reports to the funding agencies and ensuring that the Tribal departments expend the grants in a timely manner. They are also responsible for ensuring that the Tribe is compliant with all grant-specific financial requirements.

The Fixed Assets Purchase of Equipment Checklist is a form designed to aid Purchasing Department with the purchase and tagging of property (e.g. equipment, vehicles, hardware, software, etc.) to accurately capture the cost of the property. All BPA's for supplies, parts, etc. will be subject to competition as any other purchase, unless a written sole source justification has been provided with the requisition justifying why the particular vendor is the only vendor that can provide the product and/or service. A BPA does not waive the competition requirements and should be used for high volume, repetitive purchases of supplies, etc. and not as a means to circumvent the Procurement Policy.

Appendix N: Designation Recommendation

Examples of tribal recommendations and EPA response letters for the 1997 8-hour ozone standard, can be found at EPA's website Tribal Recommendations and EPA Response. Please note that the recommendation letters shown do not represent "perfect" designation letters – there is no 100 percent "correct" way to submit supporting information. Your recommendation may include more, less, or different information. You can refer back to the section on designation recommendations in Chapter 3 or contact your EPA regional office if you have questions as to what supporting evidence is appropriate for your recommendation.

Appendix O: Tribal Emissions Inventory (Penobscot Nation)

The following four pages provide an example of a tribal emissions inventory. The inventory, conducted by the Penobscot Indian Nation, summarizes and itemizes emissions for several relevant pollutants on the Penobscot Indian Reservation. The inventory includes both criteria pollutants and hazardous pollutants, and covers point, nonpoint, and mobile sources**.**

TABLE 1.1 CRITERIA POLLUTANT EMISSIONS ON INDIAN ISLAND AND THE PENOBSCOT RESERVATION

Source	Emissions (ton/yr)[a]							
	VOC	**CO**	**Lead**	**NO_X**	**PM**	**PM10**	**PM2.5**	**SO_2**
Stationary Sources								
Heating Units	4.17	5.05	9.86×10^{-5}	1.71	7.07×10^{-1}	6.70×10^{-1}	6.60×10^{-1}	5.56
Wastewater Treatment	--	--	--	--	--	--	--	--
Bonfires	4.12	4.55	--	4.68×10^{-2}	6.23×10^{-1}	6.23×10^{-1}	6.23×10^{-1}	7.20×10^{-3}
Biogenic Emissions	66.1	--	--	1.27	--	--	--	--
Household Products	1.79	--	--	--	--	--	--	--
Fuel Storage Tanks	1.59×10^{-2}	--	--	--	--	--	--	--
Subtotal	76.2	9.60	9.86×10^{-5}	3.03	1.33	1.29	1.28	5.57
Mobile Sources								
Mobile Vehicles	4.44	59.3	--	6.47	1.77×10^{-1}	1.39×10^{-1}	7.94×10^{-2}	2.70×10^{-1}
Idling Buses	8.25×10^{-1}	7.15×10^{-2}	--	1.10×10^{-1}	8.10×10^{-3}	6.40×10^{-3}	3.64×10^{-3}	5.26×10^{-3}
Lawnmowers	8.50×10^{-1}	1.78	--	5.52×10^{-4}	1.47×10^{-2}	1.16×10^{-2}	6.60×10^{-3}	3.88×10^{-3}
Leafblowers	4.05×10^{-1}	1.20	--	8.46×10^{-4}	3.17×10^{-3}	2.51×10^{-3}	1.43×10^{-3}	1.80×10^{-3}
Snowblowers	1.65	3.42	--	1.07×10^{-3}	2.85×10^{-2}	2.25×10^{-2}	1.28×10^{-2}	7.55×10^{-3}
Subtotal	8.18	65.7	--	6.58	2.31×10^{-1}	1.82×10^{-1}	1.04×10^{-1}	2.79×10^{-1}
All Sources								
Total Emissions	84.4	75.3	9.86×10^{-5}	9.61	1.56	1.47	1.38	5.85

[a]All values are rounded to three significant figures.

TABLE 1.2 HAP EMISSIONS ON INDIAN ISLAND AND THE PENOBSCOT RESERVATION

Source	Emissions (ton/yr)[a]						
	Arsenic	**Cadmium**	**Formaldehyde**	**Manganese**	**Mercury**	**Methanol**	**Total HAPs**
Stationary Sources							
Heating Units	5.05	1.71	6.70×10^{-1}	5.56	4.17	--	18.5
Wastewater Treatment	--	--	--	--	--	--	1.50×10^{-3}
Bonfires	--	--	--	--	--		6.73×10^{-1}
Biogenic Emissions	--	--	7.60×10^{-1}	--	--	7.93	9.45
Household Products	--	--	--	--	--	--	0
Fuel Storage Tanks	--	--	--	--	--	--	0
Subtotal	5.05	1.71	1.43	5.56	4.17	7.93	28.7
Mobile Sources							
Mobile Vehicles	--	--	5.83×10^{-2}	--	--	--	2.49×10^{-1}
Idling Buses	--	--	6.74×10^{-4}	--	--	--	1.10×10^{-3}
Lawnmowers	--	--	1.08×10^{-5}	--	--	--	1.80×10^{-3}
Leafblowers	--	--	5.14×10^{-6}	--	--	--	8.58×10^{-4}
Snowblowers	--	--	2.09×10^{-5}	--	--	--	3.49×10^{-3}
Subtotal	--	--	5.90×10^{-2}	--	--	--	2.57×10^{-1}
All Sources							
Total Emissions	5.05	1.71	1.49	5.56	4.17	7.93	28.9

[a]All values are rounded to three significant figures.

TABLE 1.3 CRITERIA POLLUTANT EMISSIONS ON PENOBSCOT NATION TRUST LANDS

Source	Emissions (ton/yr)[a]						
	VOC	**CO**	**NO_X**	**PM**	**PM10**	**PM2.5**	**SO_2**
Stationary Sources							
Campfires	15.3	16.8	1.73E-01	2.30	2.30	2.30	$2.66x10^{-2}$
Biogenic Emissions	900	--	15.2	--	--	--	--
Subtotal	915	16.8	15.0	2.30	2.30	2.30	$2.66x10^{-2}$
Mobile Sources							
Alder Stream Logging Activities	7.52	22.8	12.9	$8.65x10^{-1}$	$6.83x10^{-1}$	$3.89x10^{-1}$	1.65
Mattamsicontis Logging Activities	11.9	35.5	15.4	1.14	$9.00x10^{-1}$	$5.13x10^{-1}$	1.97
Recreational Traffic – Roadway Dust Emissions	--	--	--	589	234	34.1	--
Recreational Traffic – Fuel Combustion Emissions	2.01	29.5	1.38	$2.40x10^{-2}$	$1.90x10^{-2}$	$1.08x10^{-2}$	8.72E-02
Subtotal	21.4	87.9	29.7	591	236	35.0	3.72
All Sources							
Total Emissions	937	105	44.7	593	238	37.3	3.74

[a]All values are rounded to three significant figures.

TABLE 1.4 HAZARDOUS AIR POLLUTANT EMISSIONS ON PENOBSCOT NATION TRUST LANDS

Source	Emissions (ton/yr)[a]							
	Acetaldehyde	**Formaldehyde**	**Hexane**	**Methanol**	**MTBE[b]**	**Toluene**	**Xylene**	**Total HAPs**
Stationary Sources								
Campfires	--	--	--	--	--	--	--	1.07×10^{-3}
Biogenic Emissions	10.3	10.3	--	108	--	--	--	129
Subtotal	10.3	10.3	--	108	--	--	--	129
Mobile Sources								
Alder Stream Logging Activities	8.86×10^{-2}	1.73×10^{-1}	9.37×10^{-2}	--	9.50×10^{-1}	6.49×10^{-1}	7.08×10^{-1}	3.06
Mattamsicontis Logging Activities	1.10×10^{-1}	2.13×10^{-1}	1.53×10^{-1}	--	1.56	1.06	1.15	4.87
Recreational Traffic – Roadway Dust Emissions	--	--	--	--	--	--	--	0
Recreational Traffic – Fuel Combustion Emissions	5.26×10^{-3}	1.52×10^{-2}	--	--	1.33×10^{-3}	--	--	7.83×10^{-2}
Subtotal	2.03×10^{-1}	4.01×10^{-1}	3.07×10^{-1}	--	1.95	1.71	1.86	8.00
All Sources								
Total Emissions	10.4	10.7	3.07×10^{-1}	108	1.95	1.71	1.86	137

[a]All values are rounded to three significant figures.

[b]MTBE = methyl tertiary butyl ether.

Appendix P: Tribal Implementation Plans (TIPs)

As of April 2015, there are five tribes with approved TIPs – the Gila River Indian Community, the St. Regis Mohawk Tribe, the Mohegan Tribe of Indians, the Swinomish Indian Tribal Community, and the Pechanga Band of Luiseño Indians. The TIPs all take advantage of the modular approach afforded by the TAR – as such, they contain differing provisions.

- **The Gila River Indian Community's TIP**, available at: Implementation Plan for the Gila River Indian Community, includes general and emergency authorities, ambient air quality standards, permitting requirements for minor sources of air pollution, enforcement authorities, procedures for administrative appeals and judicial review in tribal court, requirements for area sources of fugitive dust and fugitive particulate matter, general prohibitory rules, and source category-specific emission limitations.

- **The St. Regis Mohawk Tribe's TIP**, available at: EPA-approved St. Regis Mohawk Regulations, establishes tribal ambient air quality standards; includes an emissions inventory; provides regulations for permitting, source surveillance, open burning and enforcement; and defines the tribe's program for review of state permits and regional haze planning.

- **The Mohegan Tribe's TIP**, available at: Mohegan Tribe of Indians EPA-approved regulations, consists of an area wide NOx emission limitation regulation.

- **The Swinomish Indian Tribal Community's TIP**, available at: EPA's website Approved Air Quality Implementation Plans in Washington — located under Approved TIPS, provides a regulatory program to protect air quality on the Swinomish reservation from the impacts of open burning. The TIP consists of a program, procedures, and regulations that cover prohibited materials, burn bans, open burning permit requirements and fees, and enforcement.

- **The Pechanga Band of Luiseño Indian's TIP,** available at: Federal Register Document Number 2015-07534, is an Ozone Maintenance Plan for maintaining the 1997 8-hour ozone standard within the Pechanga Reservation through 2025. Based, in part, upon the approval of this maintenance plan, the EPA granted a request from the tribe to redesignate the Pechanga Reservation nonattainment area to attainment for the 1997 8-hour ozone standard because the area meets the statutory requirements for redesignation under the Clean Air Act.

Appendix Q: Maintenance Plans and Attainment Demonstrations

Due to the limited number of currently completed TIPs, and the limited nature of the TIPs themselves (due to the severability afforded by the TAR), the EPA is unable to provide an example of a maintenance plan for a tribe. There are, however, 50 states from which to choose maintenance plan examples. In 2009, the state of Pennsylvania submitted a revision to its previous SIP for $PM_{2.5}$. Previously, the Pittsburgh-Beaver Valley nonattainment area within Pennsylvania violated the $PM_{2.5}$ standard of 15 micrograms/cubic meter ($\mu g/m^3$). The state then was required to implement an attainment strategy for the area that required the area to meet the standard by 2010. By 2009, modeling had shown that the effects of several emission reduction measures, including SO_2 controls at several nearby major sources, tighter emission standards for new vehicles, and a 2008 law regulating idling time for diesel vehicles had brought the $PM_{2.5}$ design value for the region below the NAAQS standard. The purpose of this SIP revision was to submit a maintenance plan to the EPA that includes an attainment demonstration (based on monitoring and modeling data), a strategy for maintaining the NAAQS for at least 10 years, and contingency measures to quickly bring emission levels below the NAAQS should PM concentrations climb back above 15 $\mu g/m^3$. The plan is available at the Pennsylvania Department of Environmental Protection State Implementation Plan (SIP) website, scroll down to “Pittsburgh-Beaver Valley Area”).

Appendix R: Attainment Plans

The following is an example of an attainment plan that also includes another attainment demonstration. The New York-New Jersey-Long Island, NY-NJ-CT metropolitan area is designated moderate nonattainment for the 1997 8-hour ozone standard. The state of New York submitted an attainment plan in their SIP in 2007. The state included in a SIP revision an attainment demonstration by 2013. This date, however, is not soon enough to meet the EPA requirements for moderate nonattainment areas, which in this case would be a required date of 2010 for attainment. However, the state submitted data with this attainment demonstration that show that the area had worse air quality than is required for an area to be designated as moderate nonattainment, and as such should instead be designated serious nonattainment, which carries stricter regulatory requirements but allows a later attainment date – in this case, 2013. The SIP is available at New York State's, Department of Environmental Conservation website Ozone (1997 8-Hour NAAQS) Attainment Demonstration for NY Metro Area – Final Proposed Revision.