UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

March 2007

Dear Environmental Professional:

The Environmental Protection Agency's (EPA) Office of Enforcement and Compliance Assurance (OECA) is pleased to provide you with the *Profile of Tribal Government Operations* (*Tribal Profile*). We hope that you will use the *Profile* and share it with your colleagues. EPA revised the *Tribal Profile* after seeking and receiving comments from tribes and tribal organizations.

The *Tribal Profile* presents information on the environmental regulations that may apply tribal government operations and related pollution prevention opportunities. Additionally, the *Tribal Profile* provides tribes with key information needed to ensure compliance with federal and tribal environmental regulations and simultaneously build tribal environmental program capacity for environmental compliance. The *Tribal Profile* is part of EPA's National Tribal Compliance Assurance Priority (Tribal Priority) and one of thirty-five EPA sector notebooks. Information on the Tribal Priority is available at EPA's at http://www.epa.gov/compliance/data/planning/priorities/tribal.html.

A Tribal Compliance Assurance Web Site http://www.epa.gov/compliance/tribal/assistance, containing up-to-date information and links to EPA and non-EPA resources and personnel will be available in February 2007. If you have any questions about the *Profile* or the Tribal Priority, please feel free to contact Jonathan Binder at (202) 564-2516, binder.jonathan@epa.gov, or by mail (EPA, 1200 Pennsylvania Avenue, N.W., Mail Code 2224A, Washington, DC 20460).

I hope you find the *Tribal Profile* to be a useful tool in helping you ensure environmental compliance in Indian Country.

Sincerely,

/s/

James Edward
Director
Compliance Assistance and Sector Programs Division
Office of Compliance

PREFACE

The P*rofile of Tribal Government Operations* (*Tribal Profile*) is one in a series of volumes published by the United States Environmental Protection Agency (EPA) to provide comprehensive information of general interest regarding environmental issues associated with specific sectors, including federal facilities and local governments. There are currently thirty-five Sector Notebooks.

The T*ribal Profile* orients readers to the environmental responsibilities and challenges facing tribal governments. The *Tribal Profile* is especially useful in providing information on the complex and wide array of tribal government operations and applicable and relevant environmental regulations and pollution prevention opportunities. The Tribal Profile also offers references to more detailed information to facilitate compliance and pollution prevention.

OBTAINING THE TRIBAL PROFILE AND OTHER SECTOR NOTEBOOKS

Complimentary copies are available to tribal governments and certain other groups, including public and academic libraries, federal, state, and local governments, and the media.

All Sector Notebooks are available in hardcopy by calling (800) 490-9198, reference 310-R-05-001 and in electronic format at http://www.epa.gov/compliance/sectornotebooks.html.

THE SECTOR NOTEBOOK PROJECT AND SECTOR NOTEBOOK CONTACTS

EPA's Office of Compliance developed the *Tribal Profile* and each Sector Notebook. Appendix I contains information on, and contacts for, each Sector Notebook. For questions on the *Tribal Profile*, contact Jonathan Binder, Tribal Program Manager Office of Enforcement and Compliance Assurance, at binder.jonathan@epa.gov or (202) 564-2516. You can direct general questions about the Sector Notebook Project to Seth Heminway, Coordinator, Sector Notebook Project, at heminway.seth@epa.gov or (202) 564-7017.

UP-TO- DATE INFORMATION AND PEOPLE TO CONTACT

EPA's Tribal Compliance Assistance Web Site at www.epa.gov/compliance/tribal/assistance contains up-to-date information on ensuring compliance in Indian country and EPA Headquarters and Regional personnel who can offer you assistance.

TABLE OF CONTENTS

DISCLAIMER

The *Tribal Profile* is for employees of EPA and the general public for informational purposes only. The *Tribal Profile* was reviewed inside EPA, but its contents do not necessarily reflect the views or policies of EPA or any other organization mentioned within. Mention of organizations, trade names commercial products, or events does not constitute endorsement or recommendation for use. The statutory provisions and regulations described in the *Tribal Profile* contain legally binding requirements. The *Tribal Profile* is not a regulation itself, nor does not it change or substitute for those provisions and regulations. Thus, the *Tribal Profile* does not impose legally binding requirements on EPA, tribes, states, or the regulated community. In addition, the *Tribal Profile* is not intended and cannot be relied upon to create any rights, substantive or procedural, enforceable by any party in litigation with the United States.

Note: EPA's Office of Enforcement and Compliance Assurance, Compliance Assistance and Sector Programs Division developed the *Tribal Profile*. Special thanks to the many individuals inside EPA who reviewed the *Tribal Profile* and provided valuable comments, particularly Jonathan Binder, Jeffrey Brown, Joe Edgell, Dan Martin, Catherine Tunis, Elizabeth Wendt, and Barbara Wester. Additional thanks go to Mary Andrews, Jenny Beilanski, Jeff Besougloff, Steve Clark, Darrell Harmon, Ken Harmon, Jim Havard, William Lienesch, Trish McKenzie, Nick Nichols, Kris Range, and Martin Topper. The Inter Tribal Council of Arizona, Inc. provided initial contract (PR-DC-01-02451/YDC-049) support and the Northwest Indians Fisheries Commission and Robert Pojasek, Pojasek and Associates, provided additional material. Abt Associates provided subsequent contract support (EP-W-04-058, WA 02-OPT1).

CHAPTER 1. INTRODUCTION

1.1 WHY A TRIBAL PROFILE

The mission of the United States Environmental Protection Agency (EPA or Agency) is to protect human health and the environment. EPA works with federally-recognized Indian tribes (tribes) to protect human health and the environment, in a manner consistent with EPA's trust responsibility to tribes and the government-to-government relationship.

> U.S. Environmental Protection Agency Strategic Plan
>
> EPA's work with tribes is based on the recognition that tribes have unique cultural, jurisdicational, and legal issues that must be considered when coordinating and implementing environmental programs in Indian country. One of their cultural distinctions is a longstanding commitment to environmetal stewardship. Native Americans recognize the importance of not only protecing the environment, but of pursuing a longer-term goal of sustainability – a perspective that has much to offer as EPA pursues stewardship efforts.
>
> EPA works with each tribe on a government-to-government basis. The Agency's 1984 Indian Policy formally recognizes the uniqueness of tribes and their rights as sovereign governments. In keeping with that policy, EPA will pursue innovative and coordinated programs that complement tribal government structures and incoproate tribal priorities to protect human health and the environment in Indian country.

The *Profile of Tribal Government Operations* (*Tribal Profile*) presents information on many aspects of tribal government operations that affect the environment and human health. As such, the *Tribal Profile* provides environmental professionals working with tribes key information needed to effectively understand the environmental regulations that may apply to such tribal operations and related pollution prevention opportunities. The *Tribal Profile* also offers material related to building tribal compliance capacity and achieving environmental compliance. To this end, the *Tribal Profile* gives the reader information on:

- The different types of tribal governments;
- The types of tribal government operations that have the potential to significantly affect human health and the environment;
- The potential environmental impacts of those operations;
- Opportunities to reduce environmental impacts through pollution prevention;
- The regulatory requirements with which tribal governments must comply; and
- Information on federal and non-federal resources available to achieve compliance and potential pollution prevention opportunities.

1.2 How The Tribal Profile Is Organized

The *Tribal Profile* presents general information on many aspects of tribal governments that affect the environment. In addition to this introductory chapter, the *Tribal Profile* contains three additional chapters:

- ***Chapter 2*** presents an overview of tribal governments, including the types, numbers, and sizes of tribal governments in the United States.
- ***Chapter 3*** identifies the major operations conducted by tribal governments, the environmental impacts of these operations, the applicable environmental requirements, and pollution prevention opportunities.
- ***Chapter 4*** provides an overview of the federal statutes and regulations that may affect the major operations conducted by tribal governments, including information on EPA authorization of tribal governments to implement federal environmental programs.
- ***Appendices*** provide comprehensive support material, including information on EPA's media and Indian programs, references to compliance and technical assistance documents, financial assistance resources, and green building and pollution prevention opportunities.

U.S. Environmental Protection Agency Strategic Plan

EPA's work with tribes to "[p]rotect human health and the environment on tribal lands by assisting federally-recognized tribes to build environmental management capacity, assess environmental conditions and measure results, implement environmental programs in Indian country.

Chapter 3 is the heart of the *Tribal Profile* and focuses on eleven specific types of operations:

- Public safety;
- Healthcare programs;
- Land use management;
- Tribal government enterprises;
- Construction and construction management;
- Water resource management;
- Water supply;
- Wastewater management;
- Pesticides application and regulation;
- Solid waste management; and
- Vehicle/Equipment maintenance.

Although this list may not include all operations conducted by tribal governments, it is representative of the operations that present the most significant environmental impacts. The *Tribal Profile* intentionally omits other operations with significant environmental aspects and impacts in Indian country, such as agriculture, mining, pulp and paper industry, and power generation, because they are the subjects of other EPA sector notebooks that offer comprehensive information on environmental concerns common to similar operations. A complete list is available at: http://www.epa.gov/compliance/sectornotebooks.html.

It should be noted that tribal environmental laws, in addition to federal environmental laws, may regulate many operations conducted by tribal governments and private entities within a reservation. As such, tribal governments may also play the role of the regulator for many facilities in Indian country. The regulatory authority is discussed in Chapter 2 and Chapter 4.

1.3 Scope Of The Tribal Profile – Every Tribe is Different

It is impossible to describe every aspect of tribal governments, tribal government operations, or Native American history and culture. Tribes and native communities are numerous and diverse as well as culturally rich and unique, and have differing perspectives on, and interests in, environmental protection. A tribal government may not have each (or any) of the operations described in Chapter 3. However, it is possible to provide general insight into tribes and more specific insight into the range of environmental issues encountered. Of course, a tribal government's facilities may have unique characteristics that are not fully captured in the *Tribal Profile*. The *Tribal Profile* serves, therefore, as an effective guide to tribes and EPA personnel to help them understand and address environmental issues.

To produce a manageable document, the *Tribal Profile* focuses on providing summary information for each topic. This format provides a synopsis of each issue, and references where more in-depth information is available. Text originated from a variety of sources, and was usually condensed from detailed sources pertaining to specific topics. This approach allows for a wide coverage of activities that can be further explored using the references listed throughout the *Tribal Profile*.

1.4 The Tribal Profile is Adaptable to Particular Needs

EPA encourages tribal governments and other groups to supplement or re-package the information contained in the *Tribal Profile* to include more specific information that may be available. EPA plans to make the information contained in the *Tribal Profile* available online at: http://www.epa.gov/compliance/tribal/assistance.

CHAPTER 2. OVERVIEW OF TRIBAL GOVERNMENTS

2.1 TRIBAL GOVERNMENTS – OVERVIEW OF HISTORY AND STRUCTURE

> **For the purposes of the Profile**, the term ***tribal government*** means any Indian or Alaska Native tribe, band, nation, pueblo, village or community that appears on the list of federally-recognized tribes published annually by the United States Department of the Interior [http://www.doi.gov].

There are three distinct types of sovereign governments within the United States – the federal government, tribal governments, and state governments; the federal government is also responsible for fourteen insular areas, including Puerto Rico and the Virgin Islands. Tribes possess significant powers of governance. The relationship between the United States and tribes is of one government to another government. This principle has shaped the entire history of dealings between the federal government and the tribes, and is lodged in the Constitution. Because the United States Supreme Court has recognized that the Constitution vests authority over Indian affairs in the federal government, generally, states have no authority over tribal governments. Tribal governments are not subordinate to state governments.

Most tribal governments exercise jurisdiction over a single reservation and portions of a reservation may not be contiguous. Some tribes, however, share a reservation but maintain separate tribal governments. Other tribes share a reservation and govern together in a confederation, and some tribes lack any reservation. There is one formal reservation in Alaska and over 200 Alaska Native village corporations and 13 regional for-profit corporations in Alaska.

Tribes have the inherent right to choose the form of government that best suits their practical and cultural needs. Many tribes adopted constitutions patterned loosely on the Constitution after passage of the Indian Reorganization Act (IRA) of 1934. Other tribes operate under Articles of Association or other bodies of written law. Still other tribes have retained their traditional forms of government, which are codified in tribal customs and have added nontraditional elements, as appropriate. Thus, tribal governments are complex systems that vary from tribe to tribe. In each case, tribal governments are responsible for the people, resources, and activities within their jurisdictions except those aspects that have been withdrawn or modified by treaty, case law or by the United States Congress. IRA tribes and those tribes with written laws exercise this responsibility by making and enforcing laws and adjudicating cases, though not necessarily through separate branches of government.

The chief executive of a tribe, if one exists, is generally called the tribal chairperson, but may also be called principal chief, governor, president, administrator, or other name. The chief executive usually presides over what is typically called the tribal council or tribal business committee. Therefore, many tribal governments are like parliamentary bodies in that they combine executive and legislative functions. Typically, the tribal council performs the legislative function for the tribe, although some tribes require a referendum of the membership to enact laws. Tribal legislative authority includes, but is not limited to, regulation of commercial and business relations, environmental protection, land use regulation, regulation of domestic relations among members, some police powers, and chartering of business organizations. Tribes typically establish departments or agencies with responsibility for both regulating activities and providing services. The most common departments are listed below:

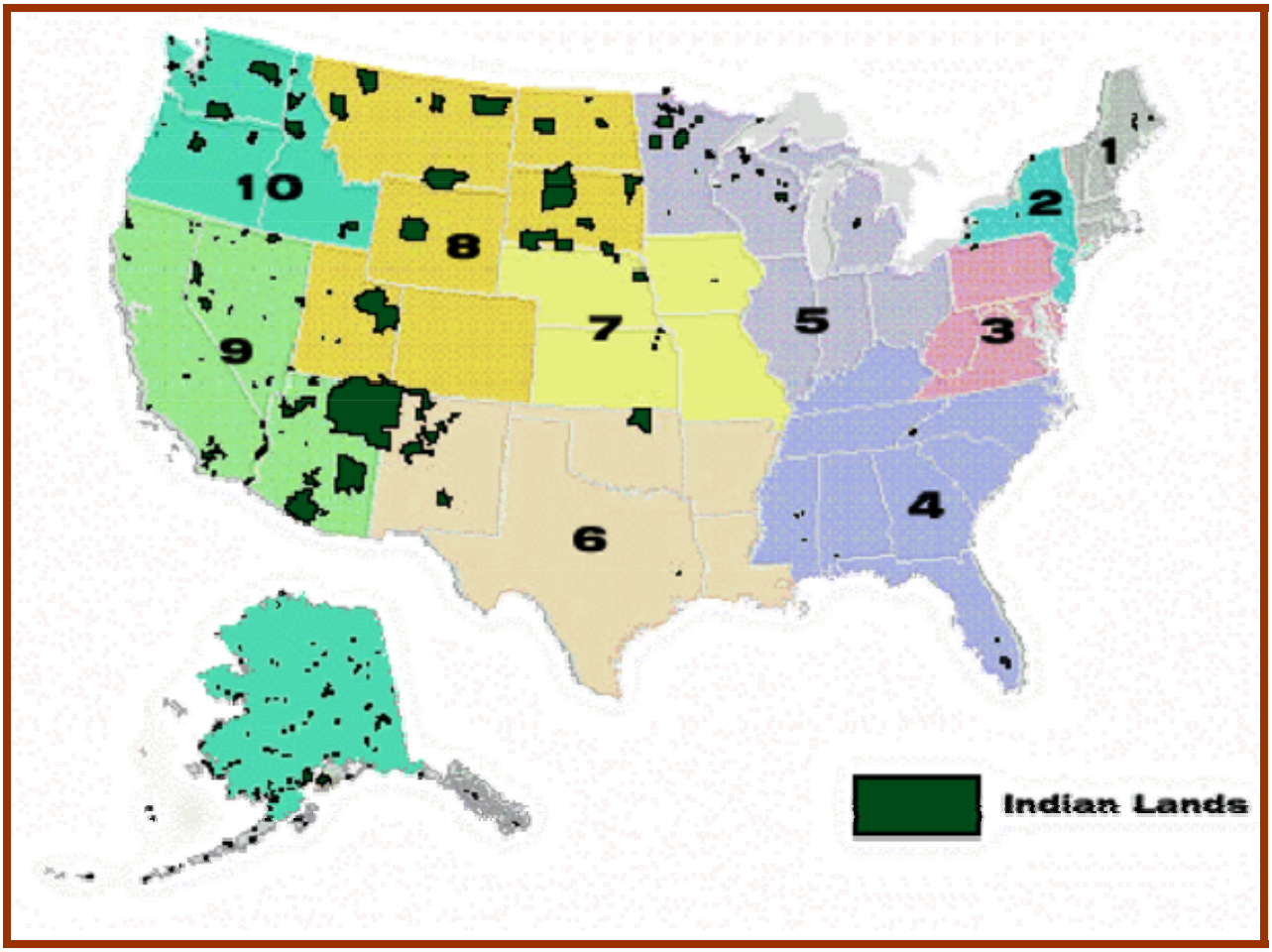
- Environment and/or natural resources;
- Health and welfare;
- Law enforcement;
- Education; and
- Housing.

Tribal governments may also establish a formal judicial structure that can ultimately seek tribal administrative or judicial sanctions to enforce tribal laws. Of course, some tribes retain traditional community-based forms of jurisprudence that conduct the same activities and provide the same services.

The Secretary of the Interior is responsible for acknowledging tribes pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 USC 479a. When federal recognition exists, the result is a trust responsibility flowing from the federal government to the tribe as a beneficiary. The Secretary publishes a list of federally-recognized tribes each year. To date, the Secretary of the Interior has acknowledged 562 tribal governments; no Alaska Native Village corporations are recognized. These federally-recognized tribes are disbursed throughout the United States. The heaviest concentration of tribes is in Alaska (227 tribes), California (106 tribes), Oklahoma (38 tribes), and Washington (29 tribes). There are over 55.7 million acres (approximately 3% of the United States) of tribal trust lands in the United States. In addition, Alaska Native Corporations retain title to 44 million acres, and individual tribes also own additional non-trust lands. In the 2000 Census, 4.1 million people identified themselves as American Indian and Alaska Natives (1.5 percent of the total United States population). Of that number, 2 million reported their enrollment in a particular tribe.

Exhibit 2-1 provides a national map of federally-recognized tribes and each Environmental Protection Agency (EPA) Region.

Exhibit 2-1. National Map of Federally Recognized Indian Tribes



The remainder of this chapter offers a broad overview of how tribes approach providing services and environmental regulations, and the role of public participation in tribal governments.

2.2 APPROACHES FOR PROVIDING SERVICES

Tribal governments have a special responsibility to their members. Tribes provide essential services and participate in the reservation economy both as a government (regulator) and as an entrepreneur and service provider because the tribe is typically a major business/facility owner within its own jurisdiction. Tribal businesses and services are as diverse as the tribal governments providing them. With respect to services, the mechanisms through which tribal governments provide the services are also diverse. Tribal governments often provide services through their own employees. A tribe, for example, may hire and retain its own personnel and equipment (*e.g.*, dumpsters, trucks) to collect solid waste within its boundaries. In contrast, a tribe may negotiate a contract with a private waste management company to collect solid waste. Through either mechanism, the tribal government is providing the service. It should also be

noted that even though a tribal government may not actually conduct the operation (*e.g.*, collect solid waste) when contracting with a private company, the tribal government may still be responsible for the environmental compliance of that operation and contractor. Tribal governments may be responsible for meeting environmental requirements of its operations, whether they actually conduct them or not.

Tribal governments may also provide tribal members with services through federal grants, contracts, compacts, and cooperative agreements through the Indian Self-Determination and Education Assistance Act (Public Law 93-638, as amended). This statute allows tribes to assume programs provided for federally-recognized tribes by the Interior and Health and Human Services Departments, especially those of the Bureau of Indian Affairs (BIA) and the Indian Health Service (IHS). Examples of such programs include the operation of healthcare facilities for IHS or schools operated by the BIA. Tribes may also operate federally-funded housing programs through block grants provided under the Native American Housing Assistance and Self Determination Act of 1996. Under these programs, tribes operate and maintain physical assets, infrastructure, and services initially funded with federal resources, including highways and roads, schools, water and sewerage facilities, and solid waste disposal systems. In these cases, the tribal government usually has the responsibility for environmental compliance. The federal government may also provide these and other services directly to tribal governments and tribal members. When the federal government provides the service, depending on the nature of federal involvement, the federal government may be responsible for environmental compliance, under federal and applicable tribal laws.

In certain situations, tribal governments may choose to enter into agreements with state and local governments to provide or share services. For example, a tribe and a local government may agree to allow the local government to collect solid waste within the tribe's boundaries. These agreements may be used to conserve financial resources or when a tribal government chooses not to provide these services itself. In other situations, individual tribal members can select the service provider(s) of choice (*e.g.*, pest control, phone service).

2.3 REGULATION OF TRIBAL GOVERNMENT OPERATIONS

Federal and tribal environmental statutes and regulations are major tools to protect the environment and human health in Indian country. Federal environmental statutes are enacted into law by the United States Congress and, in accordance with these statutes, EPA and other federal agencies develop corresponding regulations. Tribal environmental statutes are put into place by tribal governments. Both federal and tribal environmental statutes may contain enforcement mechanisms to deter and punish noncompliance.

Federal and tribal environmental laws and regulations apply to many tribal government operations. In the case where a tribe is a provider of a service or the owner and/or operator of a business, the tribe is both the regulator of the operation and the regulated entity, generally with different parts of the tribal government carrying out the separate functions. Under certain circumstances, tribal governments may implement federal environmental programs in the same manner as states. In these instances, the tribe is again both the regulator of the operation and the regulated entity. EPA-approved state programs generally do not apply in Indian country. EPA is responsible for ensuring compliance with federal environmental laws in Indian country, even when a tribe is operating a federal environmental program. Chapter 4 contains additional information on federal statutes and regulations applicable to tribal government operations.

The Government-to-Government Relationship

Under EPA's 1984 *Indian Policy*, EPA recognizes tribal governments as sovereign entities with primary authority and responsibility for the reservation populace. Accordingly, EPA will work directly with tribal governments as the independent authority for reservation affairs, and not as political subdivisions of states or other governmental units.

2.4 TRIBES AND ENVIRONMENTAL PROTECTION

Tribes' interest in, and authority over, environmental protection can arise from statutes, federal executive orders, Indian treaties, agreements with the United States and/or state and local governments, or as a result of aboriginal title. Tribes generally exercise exclusive jurisdiction over civil claims arising in Indian country that implicate tribal interests. While, as a general rule, federal courts have held that tribes do not have inherent jurisdiction over non-members, the federal courts have established important exceptions to this general rule. In Montana v. United States, the United States Supreme Court held that a tribe "may regulate...the activities of non-members who enter consensual relationships with the tribe or its members [or] the conduct of non-Indians on fee lands within its reservation when that conduct threatens or has some direct effect on the political integrity, the economic security, or the health or welfare of the tribe." Montana v. United States, 450 U.S. 544 (1981).

Under their own inherent tribal authorities, many tribes are developing environmental protection programs and exercising jurisdiction over tribal members and, in some cases, non-members. There is great variation in the scope and in the issues addressed by tribal environmental protection programs. These variations are due to multiple factors, including a tribe's location, the environmental conditions faced by each tribe, a tribe's individual relationship with the United States (by way of treaty, executive order, statute, or other situation), a tribe's relationship with surrounding state governments, and a tribe's size and financial and technical expertise. Because

each tribe is unique and has a unique history, a specific tribe's environmental program may cover some but not all environmental regulatory areas and may include a broad variety of regulations associated with planning, monitoring, permitting, and licensing. Ensuring compliance with the tribe's regulations is achieved through providing compliance assistance, conducting inspections, and taking enforcement actions.

A number of federal Indian treaties and federal laws explicitly reserve rights pertaining to the environment. These rights include rights to fish, hunt, and gather, rights to mineral estates and water rights. Some treaties explicitly reserve such rights within Indian reservations. Other treaties, particularly in the Pacific Northwest and the Great Lakes regions, reserve such rights both within reservation areas and also within ceded territories where the tribes traditionally maintained "usual and accustomed" hunting, fishing, or gathering places. Some treaties do not contain any explicit reservation of hunting, fishing, or gathering rights. Nonetheless, courts have held that treaties carry those rights necessary to realize the primary purposes of the treaty. How these off-reservation reserved rights or tribal resource claims in ceded areas may impact federal environmental program implementation should be addressed on a case-by-case basis.

2.5 TRIBAL ASSUMPTION OF FEDERAL ENVIRONMENTAL PROGRAMS

EPA recognizes tribal governments as the primary parties for setting standards, making environmental policy decisions, and managing programs for Indian reservations, in a manner consistent with Agency standards and federal regulations. Tribal governments may assume full or partial responsibility for a variety of EPA programs; EPA retains aspects of certain enforcement programs even when a tribe gets delegation of the whole program.

Federal environmental statutes that allow for EPA authorization of tribal assumption of federal programs or a substantial role for tribes are:

- Federal Insecticide, Fungicide, and Rodenticide Act;
- Safe Drinking Water Act;
- Comprehensive Environmental Response, Compensation, and Liability Act;
- Clean Water Act; and
- Clean Air Act.

In addition, eligible tribes may apply for approval to run certain federal environmental programs under two additional statutes:

- Toxic Substances Control Act; and

- Emergency Planning and Community Right-to-Know Act.

To assume regulatory program responsibility and be treated "in the same manner as a state," tribes must generally meet the following criteria:

- The tribe must be federally-recognized;
- The tribe must have or be able to exercise substantial governmental powers;
- The tribe must have or have been delegated jurisdiction over the area in question; and
- The tribe must be reasonably expected to have the capability to effectively implement a program.

One important criterion for EPA's evaluation of a tribal application for assumption of an environmental program is whether the functions to be exercised are within the applicant tribe's jurisdiction. EPA asks tribes that are applying for regulatory program eligibility to demonstrate that they have adequate authority over the activities to be regulated. Demonstrating jurisdiction over activities on trust lands or lands owned by a tribe is usually relatively straightforward. Under principles of federal Indian law, tribes generally have inherent sovereign authority to regulate both their members and land held in trust (although specific federal statutes may have affected this general principle for some tribes).

As part of the evaluation, EPA examines whether a tribe has jurisdiction over non-member activities on non-member-owned fee lands within the boundaries of an Indian reservation, where a tribe seeks approval for such activities. EPA generally analyzes whether a tribe has jurisdiction over non-member activities on fee lands with respect to two potential sources of authority: 1) a tribe may have inherent authority over these activities; or 2) Congress may, by statute, delegate federal authority to a tribe.

In general, once a tribe has established one of the criteria, above, it need not reestablish that same criteria for subsequent programs. It must only establish that it has jurisdiction and capability for each subsequent program. If a tribe does not have capability, it must have a plan for acquiring capability over time. This capability is required because each program may require different skills and activities to provide the level and type of protection required by specific statutes and regulations.

Chapter 4 provides additional information on tribal regulatory programs, including which programs are eligible for treatment in the same manner as a state.

2.6 DIRECT FEDERAL IMPLEMENTATION IN INDIAN COUNTRY

In general, when tribal governments are unwilling or unable to assume full responsibility for federal environmental programs, EPA retains authority for directly implementing and enforcing these programs in Indian country. Given that environmental program responsibility requires capability and significant resources, tribes do not always find it practical to assume full responsibility for federal environmental programs.

Based upon a variety of factors, including program costs, availability of technical expertise, availability of technical assistance and maintenance costs, tribal governments may select certain high-priority activities, but may decide not to assume an entire regulatory program. When tribes decide not to undertake certain activities under federal environmental programs or when tribes do not to apply for entire programs, EPA retains direct implementation and enforcement of those environmental management programs.

The following is an illustrative selection of some tools that can provide assistance to tribal programs in situations where EPA directly implements programs in Indian country:

- Establish Tribal-EPA Environmental Agreements (TEAs) that identify tribal priorities and help with budget development;
- Develop Regional and National Environmental Work plans based on TEAs;
- Fine-tune Regional strategies so that direct implementation is consistent with tribal priorities; and
- Establish Direct Implementation Tribal Cooperative Agreements (DITCA) which allows tribes and eligible intertribal consortia to assist EPA in meeting its statutory obligations.

2.7 TRIBAL CAPACITY TO MANAGE FEDERAL ENVIRONMENTAL PROGRAMS

Tribal governments relate to the reservation environment both as a government and as a participant because they are often regulators, major landowners, and business owner/operators within their own jurisdictions. The diversity of tribal governments – structure, number, geography, environmental issues, and financial resources – affects their capacity to manage federal environmental programs and ensure regulatory compliance.

EPA and a variety of other federal agencies provide resources to support tribal capacity to manage environmental programs. The Indian Environmental General Assistance Program (GAP) Act (42 USC 4368(b)) provides a significant source of grants to build tribal capacity to

administer environmental programs and to provide technical assistance from EPA in the development of multimedia environmental management and/or regulatory programs. Capacity-building activities eligible for GAP funding include planning, hiring staff, environmental monitoring, and assessing environmental resources and pollution threats. In addition, many EPA program-specific grants help to build tribal environmental capability and can be used in concert with GAP grants to establish integrated tribal environmental programs.

Tribal governments must ensure that resources are available to operate and maintain regulated activities. In this situation, tribal governments operate like any government, business, organization, or household and manage cash inflow and outflow, savings accounts, investments, and debt. There may be a wide range of revenue sources available to tribes. These revenue sources include tribally owned or operated businesses, taxes, natural resource severance fees, royalties, and federal funds. For many tribal governments, like other government entities, revenue sources do not always cover expenses. Limited revenue sources may impact the services provided and environmental performance.

2.8 PUBLIC PARTICIPATION

Public participation can help ensure that tribal members and non-tribal members who reside in Indian country are afforded opportunities to meaningfully participate in the decision-making processes on issues which may impact their environment and public health. From planning a project or activity through implementation, such participation should involve the people who will be most affected in decision-making processes. This helps mitigate conflicts and misunderstandings and prevent consequent delays in operations.

Public participation activities can be divided into two basic categories: 1) public outreach and education; and 2) public involvement. Public outreach and education tools are designed to increase the public's awareness of environmental issues pertaining to government operations. Public involvement tools are designed not only to inform the public, but also to encourage activism and involve the public in decision-making processes. Public involvement is also important in fostering good relationships and open communication among operators of tribal government facilities, tribal governments, tribal members, non-tribal members, and other stakeholders. Examples of non-member involvement in tribal government processes include administrative procedures like processes for tribal regulation or inclusion of non-tribal members on regulatory boards.

CHAPTER 3. TRIBAL GOVERNMENT OPERATIONS

Tribal governments, regardless of size, location, or demographics, provide a variety of services to their populations. This chapter provides an overview of many of these operations and activities, presents the potential environmental impacts of the operations/activities, and identifies the environmental requirements to which these operations/activities may be subject. The following sections are not exhaustive discussions of every aspect of the specific tribal operation. Instead, they attempt to highlight activities with the greatest potential to impact the environment. Chapter 4 presents additional information on specific environmental requirements.

A significant aspect of all of the operations presented in this chapter is pollution prevention. Not only does pollution prevention reduce the amount of waste that must undergo treatment and disposal, it also plays an important role in helping regulated facilities achieve compliance. For these reasons, this chapter begins with an overview of pollution prevention and its relationship with compliance; additionally, each section on a specific operation discusses pollution prevention practices.

3.1 POLLUTION PREVENTION AND COMPLIANCE ASSISTANCE

Pollution knows no boundaries. Pollution originating in the air, on the land, in the water, even on the other side of the world, can eventually disperse around the globe and degrade human health and the environment. Pollution prevention can be applied across these environmental media (*i.e.*, air, water, and land) to address both point source and nonpoint sources of pollution.

Pollution prevention, also known as source reduction, is any practice that eliminates or reduces pollution at its source. Pollution prevention is achieved through material substitutions, process changes, and the more efficient use of natural resources (*e.g.*, raw materials, energy, water, and other resources). Through pollution prevention, the use and production of hazardous substances can be minimized, thereby protecting human health, strengthening economic well-being, and preserving the environment.

> The **EPA's Pollution Prevention (P2)** Web site [http://www.epa.gov/p2/] offers up-to-date information about pollution prevention practices and source reduction programs and initiatives administered by EPA and other organizations. For additional pollution prevention information specifically for tribes, and to share your tribe's pollution prevention successes with others, go to **Tribal Pollution Prevention** Web site [http://www.tribalp2.org/].

3.1.1 Benefits of Pollution Prevention

Pollution prevention is one of the best ways for tribes to conserve natural resources and decrease chemical exposures and environmental degradation. At the same time, reducing pollution also allows tribes to meet compliance standards, save money on materials and energy costs, and reduce liability. Information on waste streams, along with pollution prevention tips and strategies, is included in this chapter.

Putting pollution prevention practices in place can:

- Help tribes and tribal facilities meet compliance standards;
- Improve practices and procedures to ensure continued compliance; and
- Reduce risk of employee exposure to hazardous waste by creating safer working conditions.

Practicing pollution prevention can:

- Save money in production and material costs;
- Reduce solid and hazardous waste disposal costs; and
- Increase regulatory compliance and avoid penalty fees.

3.1.2 Implementation of Pollution Prevention

Many tribal governments integrate pollution prevention into their operations. Tribal pollution prevention practices can be applied across a wide variety of operations, including during wastewater pretreatment, purchasing and procurement opportunities, building construction and operation, and educational activities.

3.2 PURCHASING PRACTICES THAT ENCOURAGE REGULATORY COMPLIANCE AND POLLUTION PREVENTION

> **The Office of the Federal Environmental Executive** [http://www.ofee.gov/gp/gp.htm] provides information on the **Federal Green Purchasing Program** and a wealth of other green purchasing tools.

Tribal governments use numerous products as they perform services for tribal members. Product manufacturing (including raw material extraction), transportation, use, and disposal can generate byproducts that stress tribal, national, and global environmental resources and pose health threats to product users and the public. By incorporating environmental and health criteria into purchasing specifications, tribal governments can reduce or avoid the use of potentially harmful chemicals, reduce the risk of accidents and toxic releases, and more easily achieve regulatory compliance.

Green purchasing practices (*e.g.* purchasing energy efficient equipment, low toxicity cleaning materials, recycled content products) are important components of effective pollution prevention programs and can also lead to cost savings, manifested in reduced energy costs and reduced hazardous material disposal costs.

Presidential Executive Order 13101 (which strengthens Executive Order 12873) *Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition*, directs federal agencies to set goals to increase their use of recycled content products and other environmentally preferable products and services. Many tribal and state governments have voluntarily adopted policies that support the Executive Order and have increased their procurement of recycled products and products that are less hazardous, non-toxic, energy efficient, and generate less waste.

3.2.1 ENVIRONMENTALLY-PREFERABLE PRODUCT ALTERNATIVES

The waste stream, and the types of emissions generated by the activities of tribal governments, is directly affected by the products they purchase or use. Choosing environmentally-preferable alternatives to products that are considered hazardous, or that contribute to wastes covered under environmental regulations, is a preventive strategy available to any tribe involved in product requisition. Various sections of the *Tribal Profile* provide information on specific wastes generated and pollution prevention opportunities as does EPA's Environmentally Preferable Purchasing Web site [http://www.epa.gov/opptintr/epp/], where you will find tools, documents, and guidance, including a comprehensive database for specific products.

3.2.2 TOP POLLUTION PREVENTION OPPORTUNITIES

The following list highlights selected strategies for preventing pollution through purchasing practices:

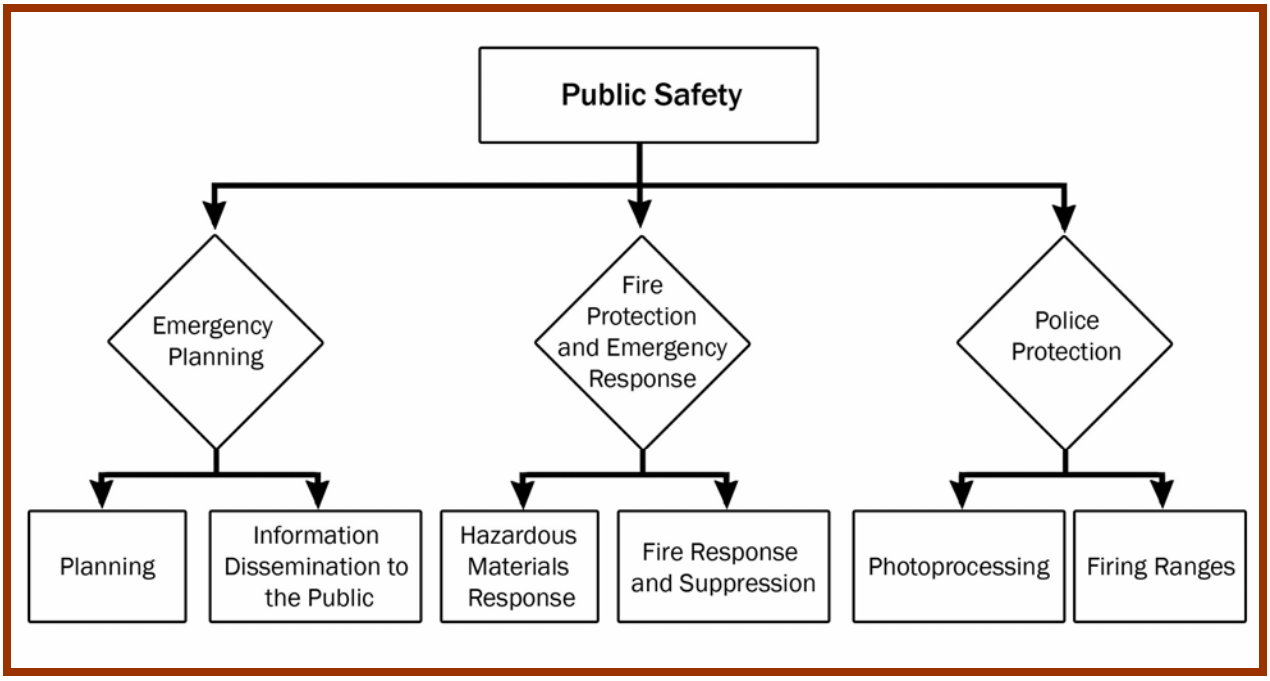
- Adopt a purchasing policy that promotes the integration of environmental and health criteria in all product specifications;
- Educate tribal staff about health effects associated with chemicals commonly contained in the products they use or are exposed to, and provide information on alternatives;
- Choose one department/operation at a time to incorporate environmentally-preferable products; start with a group where you are most likely to succeed. Review final product specifications with product users or operation supervisors to ensure that their needs are satisfied;
- Encourage users to choose environmentally-preferable products;
- Involve product end-users throughout the decision-making process. Request that vendors perform product demonstrations for staff, and compare products;
- Review all purchases and read all product Material Safety Data Sheets and product labels for potential environmental and health impacts prior to purchase and use;
- Check products for durability;
- Make sure products can be safely used and stored (*e.g.*, adequate storage locations and ensure personal protective equipment is available).
- Avoid purchasing products that are potentially harmful to the user, public, or environment (*e.g.*, contain known or suspected carcinogens or other toxic ingredients), or purchase the least toxic products available to do the job.
- Prevent the generation of hazardous wastes in operations by eliminating products that contain hazardous ingredients.
- Participate in cooperative purchasing ventures with other jurisdictions to increase availability of environmentally-preferable products, leverage purchasing power, and reduce internal costs associated with the formal bid process.
- When researching environmental purchasing, utilize resources and expertise available from vendors, manufacturers, government agencies, non-profits, and other organizations.
- Consider environmental and health impacts associated with a product's life cycle prior to drafting bid specifications ("product life cycle" includes raw material extraction or development, product manufacturing, transportation to market, product use, and disposal).
- Implement waste reduction activities (e.g., lease agreements that require vendors to take responsibility for products as they become obsolete; require prospective bidders to avoid excess paper and packaging in their bid and proposal submittals such as avoiding plastic covers and dividers, using both sides of paper, and using post-consumer recycled content paper; specify copiers and printers with double-sided printing capabilities).

- Begin an energy conservation program and invest in energy-efficient equipment and building design (specify EPA "Energy Star" certified equipment and require equipment installers to activate efficiency features upon product installation).

3.3 PUBLIC SAFETY

Tribal governments help ensure public safety and provide emergency planning, fire protection, and police protection. Emergency planning and response activities include analyzing community hazards, developing a local emergency response plan to prepare for and respond to oil and chemical emergencies, and responding to hazards and suppressing them. Exhibit 3-1 outlines the range of public safety activities a tribal government may undertake.

Exhibit 3-1. Public Safety



3.3.1 CHEMICAL EMERGENCY PREPAREDNESS AND PREVENTION

> **The RCRA, Superfund, and EPCRA Training Module** [http://www.epa.gov/superfund/contacts/sfhotlne/cerep.pdf] contains release-reporting requirements, gives some general information on EPCRA, and provides hotline phone numbers.

In general, tribal governments have the basic responsibility for understanding risks posed by chemicals, managing and reducing those risks, and handling emergencies on land under their jurisdiction. Some tribal governments must meet requirements both as regulated entities, and as regulators, under the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA regulates both emergency planning and the dissemination of information on certain chemicals to the public.

EPCRA and the Clean Air Act's (CAA) chemical accident prevention provisions in section 112(r), require facilities to report on hazardous chemicals they store or handle. These two laws provide an array of complementary information on what chemicals are in the community: what chemicals are present at each location, what hazards these chemicals pose, what chemical releases have occurred in the area, and, what steps industry is taking to prevent additional accidents. The information can be used to enhance the community emergency response plan and protect tribal communities from chemical hazards.

3.3.1.1 PLANNING: TRIBAL EMERGENCY RESPONSE COMMISSIONS AND OTHER OPTIONS

Eligible tribes may assume the same role as states in the development of chemical emergency preparedness and prevention programs under EPCRA and the CAA. There are several other options available to tribes to ensure effective EPCRA coverage in Indian country; these options involve working with another tribe, or a consortium of tribes, or the state within which it is located, to achieve a workable program. Every community in the United States, including Indian reservations, must be part of a comprehensive plan.

Tribal Emergency Response Committee

Under sections 301-303m of EPCRA, tribal governments that do not enter into cooperative agreements with states or other tribes establish Tribal Emergency Response Committees (TERCs) to ensure the development of an emergency planning and implementation structure sufficient to meet the reservation's needs. A TERC functions as the focal point of EPCRA compliance, regardless of how much the tribe works independently or contracts with outside agencies. If a TERC is not established, and the tribal government has not entered into a cooperative agreement to provide this function, then the tribal executive branch (this may be the

tribal chief executive or body) operates as the TERC and is responsible for the planning committee's functions.

> Visit **EPA's Chemical Emergency Preparedness and Prevention Web** site [http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/index.html] for information about chemical emergency preparedness and prevention programs and initiatives administered by EPA and other organizations. Tribes may wish to review the Gila River Indian Communities emergency planning code at the **Model Tribal Emergency Response Commission** Ordinance page [http://www.chemicalspill.org/tribal.html].

TERCs can provide training, technical assistance, and information to communities within Indian country so they know what to do in the event of a chemical accident. Additionally, TERCs establish procedures for receiving and processing public requests for information collected under EPCRA, and obtain further information about a particular chemical or facility, when needed. Finally, TERCs supervise a Local Emergency Planning Committee (LEPC). Federal funding for TERC activities may be available from EPA's Chemical Emergency Preparedness and Prevention Office or from the Federal Emergency Management Agency. See Appendix F, EPA Financial Assistance Resources.

LEPC Responsibilities

Tribal governments that establish TERCs are not required to establish a LEPC. If a TERC decides to establish a LEPC, then the LEPC could be given authority to develop a contingency plan to prepare for and respond to emergencies involving hazardous substances on the reservation. If the TERC does not establish a LEPC, then the TERC is responsible for all aspects of the emergency planning and response program outlined below.

If a tribe forms a LEPC, its membership includes, at a minimum, tribal officials such as police, fire, civil defense, public health, transportation and environmental professionals, industry representatives of facilities subject to the emergency planning requirements of EPCRA, community groups, and the news media. All members of the LEPC may be tribal members.

A LEPC-developed contingency plan should include:

- The identity and location of hazardous materials;
- Procedures for an immediate response to a chemical accident;
- Public notification of evacuation or shelter-in-place procedures;
- Industry contact names; and
- Timetables for testing and updating the plan.

In addition to requirements imposed by EPCRA and the CAA, tribal governments must comply with all applicable federal right-to-know laws. Tribal governments may require steps in addition to the ones imposed by EPCRA.

Other Emergency Response Options

Tribal governments may decide not to establish a TERC. Instead, tribal governments may decide to develop an EPCRA program through formal collaboration with another tribe or tribes, or the adjacent state(s). These collaborative EPCRA programs could be designed to meet specific tribal needs and leverage resources. For example, a TERC could implement some but not all of EPCRA's requirements, while allowing a state to implement other appropriate parts of the program through a cooperative agreement with the State Emergency Response Commission (SERC). Another option is for a tribe to authorize the SERC to perform appropriate functions of the TERC within Indian country, to establish a LEPC, or join an off-reservation LEPC, that works directly with the SERC through a cooperative agreement.

3.3.1.2 Risk Management Program

Under CAA section 112(r), all chemical facilities with processes exceeding a threshold quantity for 77 acutely toxic substances (such as chlorine and ammonia) and 63 highly volatile flammable substances (when used as fuel) must adopt a Risk Management Program (RMP). All facilities must submit a summary, with RMP, to EPA. The RMP includes:

> The **National Safety Council's Environmental Health Center Web** site [http://www.nsc.org/ehc/rmp.htm contains information on Risk Management Programs, including safety, compliance, and enforcement issues.

- The facility hazard assessments, including worst-case release and alternative release scenarios;
- The facility accident prevention activities, such as the use of special safety equipment, employee safety training programs, and process safety hazards analyses conducted by the facility;
- The past chemical accidents at a facility;
- The management system in place at the facility; and
- The facilities emergency response program.

At present, EPA has authority for implementing CAA section 112(r) for Indian country. Tribes that EPA finds eligible for treatment in the same manner as a state under the CAA's Tribal Air Rule (40 CFR Part 49) can apply for authorization to administer the RMP program. Under this

approach tribes should ensure that their chemical safety regulatory program is at least as stringent as the federal program in order to strengthen enforcement capabilities.

3.3.1.3 PROVIDING CHEMICAL INFORMATION TO THE PUBLIC

Under EPCRA, LEPCs receive hazardous chemical inventory and emergency release information submitted by facilities and have access to toxic chemical release information supplied by facilities to EPA. LEPCs can provide this information to tribal officials, tribal community leaders, and the public to aid in preparing for emergencies and managing chemical risks.

The following describes the EPCRA reporting requirements for chemicals:

- ***Hazardous Chemical Reporting***. Under EPCRA, TERCs/LEPCs receive hazardous chemical inventory information submitted by facilities and make it available to the public upon request. Facilities with chemicals that are present in excess of certain amounts are required to submit either actual copies of Material Safety Data Sheet (MSDS) or lists of MSDSs chemicals to LEPC, the TERC, and the local fire department. This reporting requirement has been in effect since October 1987. In addition, these facilities must submit annual inventories to the same agencies, which are due on March 1 of each year. TERCs/LEPCs make this information available to the public, and fire departments and public health officials use the information to plan for and respond to emergencies. Tribal governments may be subject to the reporting requirements if they have or use any of the specific chemicals in excess of the threshold amounts.

- ***Emergency Release Notification***. Under EPCRA, TERCs/LEPCs receive emergency release information submitted by facilities and make it available to the public upon request. A facility is required to immediately notify the community and the tribe (*i.e.*, the TERC and the LEPC) of a release of more than a predetermined amount of certain hazardous chemicals. Chemicals covered by this requirement include not only the 366 "extremely hazardous substances," but also more than 700 hazardous substances subject to the emergency notification requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) hazardous waste cleanup law. The emergency release notification activates emergency plans, and the information on emergency releases is considered in the LEPC planning process. Tribal governments are also subject to this notification requirement. All oil spills are to be reported to the National Response Center (NRC) at (800) 424-8802.

- ***Toxic Chemical Release Reporting***. TERCs/LEPCs, as well as the public, have access to an EPA database called the Toxic Release Inventory (TRI), which contains information on annual toxic chemical releases submitted by certain facilities. Under EPCRA, specific facilities must estimate and report each year the total amount of toxic chemicals that they release into the environment, either accidentally or as a result of routine plant operations, or transport as waste to another location. EPA's TRI Explorer offers access to TRI data to help tribes and communities identify facilities, hazardous substances, and chemical disposal or other release patterns that warrant further study and analysis.

> Combined with hazard and exposure information, **EPA's TRI Explorer** Web site [http://www.epa.gov/triexplorer/] can be a valuable tool for risk identification.

3.3.2 Fire Protection and Emergency Response

Tribal governments may be responsible for providing fire protection services to their communities. Fire protection services and responsibilities include fire response and suppression (*i.e.*, firefighting), salvage (*i.e.*, pumping water out of basements), investigation of fires, repair and maintenance of equipment, and fire prevention. Tribal fire departments may also be the first to respond to a hazardous chemical emergency (*i.e.*, hazardous response).

Some tribal governments have their own fire departments that operate on the reservation. These fire departments have their own equipment and employees and operate within the reservation boundaries. Other tribes contract with off-reservation fire departments and private companies to provide firefighting services on the reservation. Several tribes coordinate with fire departments from surrounding jurisdictions to provide "first response" and other services to reservations and the surrounding areas.

The size and type of tribal firefighting operations depend upon several factors, such as population density, cost, reservation size, the range and type of flammable objects, topography, and staffing abilities.

3.3.2.1 Fire Protection

Fire departments have a primary role in emergency planning and mitigation, including fire response and suppression, and hazardous materials response. Because fire protection activities can affect the environment, they may be subject to environmental laws and regulations, as indicated in the following list:

- Emergency planning – EPCRA
- Fire response and suppression – CAA and EPCRA
- Hazardous materials response – Resource Conservation and Recovery Act (RCRA) and Clean Water Act (CWA)

3.3.2.2 Emergency Planning

Firefighters may be appointed to TERCs/LEPCs under the emergency planning provisions of EPCRA. Tribal fire departments may also receive information about hazardous chemicals from facilities in the form of MSDSs or lists of MSDS chemicals and hazardous chemical inventory forms which are submitted to the TERC and LEPC. Tribal first responders should be properly trained to deal with emergencies involving chemical hazards.

3.3.2.3 Fire Response and Suppression

Agents used for fire suppression vary based on the location and type of fire. Halons, which are low toxicity, chemically stable compounds, have been used historically for fire and explosion protection. Halons are now known to contribute to the depletion of the ozone layer and have been phased out of production; the production and importation of new halons is banned in the United States. Recycled halon is now the only source of supply.

Firefighters use a number of traditional fire extinguishing agents, including water, carbon dioxide, dry chemicals, and foam, that are good alternatives to halons for many fire protection applications. Research has led to the commercialization of new agents and technologies, such as halocarbon compounds, inert gas mixtures, water-mist or fogging systems, and powdered aerosols. The potential environmental impacts from firefighting activities using water are soil and water contamination from runoff. Also, many conventional synthetic foams contain solvents regulated under EPCRA.

3.3.2.4 Emergency Response to Hazardous Materials Release

In the event of a spill, TERCs and LEPCs can take the steps necessary to protect public health and safety as well as the environment.

The Emergencies, Accidents, and Spills page of EPA's Solid Waste and Emergency Response Web site [http://www.epa.gov/oswer/emergencies.htm] has up-to-date information on Emergency Response – sudden threats to the public health and the environment arising from the release or potential release of oil, radioactive materials, or hazardous chemicals into the air, land, or water.

If another party is responsible for a hazardous materials spill, tribes may seek to bill the responsible party for the expenses incurred in protecting the community and the environment. In addition, reimbursement may be sought for any materials used by safety personnel to control a spill, protect the environment, and mitigate the hazard.

Depending upon the type of hazardous material released, various response techniques may be used to control the spill and minimize the impacts on human health and the environment. The key to effectively combating spills is careful selection and proper use of the equipment and materials most suited to the type of spill and the conditions at the spill site. The types of response techniques include:

Response techniques:
- Mechanical containment and recovery
- Chemical and biological methods
- Physical Methods

- Mechanical containment or recovery, such as booms, barriers, and skimmers, as well as sorbent materials, that are used to capture and store the spilled material until it can be disposed of properly;
- Chemical and biological spill containment methods such as chemical and biological agents, the use of which requires EPA or U.S. Coast Guard On Scene Coordinator authorization per the National Contingency Plan, as listed in 40 CFR 300.900; and
- Physical methods, such as natural processes of evaporation, oxidation, and biodegradation. As these processes take time, they might not be the most expeditious, depending on the type of spill.

Sorbents contaminated with hazardous materials must be disposed of according to the hazardous waste provisions of RCRA.

3.3.3 POLICE PROTECTION

Tribal police protection involves law enforcement, traffic safety, and other activities related to preservation of law and order in areas that contain tribal members. Some tribal governments have assumed police responsibilities entirely while other tribes either contract with, or rely on, BIA for this service. In either case, primary policing responsibilities include patrol, investigative/detective force, traffic regulation, and crime prevention.

3.3.3.1 FIRING RANGES

Firing practices may contaminate the soil, and possibly the groundwater, with lead from the birdshot, bullets, and bullet fragments, as well as produce airborne lead dust.

Firing ranges can install devices that intercept and collect the shot and bullets for recycling and substitute less hazardous materials (*e.g.*, plastic and steel shot) for the lead shot. To reduce and/or eliminate lead pollution, many indoor and outdoor firing ranges use bullet "traps." Bullet traps use a rubber medium to capture bullets and contain them, as well as a filter system to eliminate airborne lead dust. These traps prevent the lead pollution of air and soil, which would normally occur from a bullet's impact with metal, sand, or the ground. Most firing ranges hire salvage companies to recover, clean, and recycle the bullet traps and filter systems. The disposal of bullets and bullet fragments recovered from a bullet trap may be regulated under the hazardous waste provisions of RCRA.

EPA's current position is that firing of birdshot, bullets, and bullet fragments at firing ranges is considered to be within the normal and expected use pattern of the manufactured product, and is not a waste management activity subject to the RCRA regulations. The bullets and bullet fragments are not characterized as "hazardous wastes" because they have not been discarded. Where an imminent and substantial endangerment to health or the environment may have been created by expended shot or debris, however, remedial requirements may apply under RCRA. In addition, the remediation of lead-contaminated soil at a firing range, either for maintenance or site closure, is regulated under the hazardous waste provisions of RCRA and/or CERCLA. Under the provisions of EPCRA, firing ranges must report releases of lead dust transported by the wind. A release is reportable when more than 1 pound of lead particles smaller than 0.004 inches in diameter is released beyond the boundaries of the site or facility.

A discharge of lead shot, other ammunition, or broken targets into waters of the United States would be considered a discharge of pollutants into navigable waters and, thus, require a CWA National Pollutant Discharge Elimination System (NPDES) permit. EPA's policy on shooting

ranges is found in "Best Management Practices for Lead at Outdoor Shooting Ranges" [http://www.epa.gov/region2/waste/leadshot/].

3.3.4 POLLUTION PREVENTION AND PUBLIC SAFETY

Public safety operations, especially emergency planning and response activities, can involve tribal, industry and other community representatives. Within the public safety arena, tribal governments have responsibilities as a regulated entity, an enforcement agent, a generator of various waste streams, and a provider of quality services to the constituents they serve. Pollution prevention can help tribal governments efficiently and effectively meet the regulatory requirements associated with public safety operations, provide value added services, and protect their community from chemical emergencies. The three primary functions associated with public safety are emergency planning, fire protection and emergency response, and police protection. The opportunities for pollution prevention within these three primary functions can best be realized by examining both a list of the wastes generated and the specific services provided through each of these functions.

3.3.4.1 POLLUTION PREVENTION: EMERGENCY PLANNING

There are many pollution prevention opportunities associated with emergency planning. This is true even though no significant wastes are associated with emergency planning other than any wastes created by the clean up of a specific release.

Tribes involved in emergency planning and response can promote and use pollution prevention as a tool to better manage the risks in their communities by working with facilities to reduce and eliminate the chemicals posing the risk. Through EPCRA, tribes and communities are provided valuable information regarding the presence, quantities, and release of chemicals in their environment. This information can be used to identify prevention priorities and establish a basis for tribes, tribal members, and EPA to target and approach specific facilities.

Top Pollution Prevention Opportunities

- Encourage facilities which are required to develop risk management plans to consider pollution prevention strategies to reduce the type and quantity of chemicals stored on-site to avoid this EPCRA and CAA regulation;
- Establish a tribal pollution prevention task force to investigate ways to access federal pollution prevention resources to address chemical concerns and priorities;

- Incorporate pollution prevention requirements into Right-to-Know and other tribal laws; and
- Sponsor and/or co-sponsor pollution prevention workshops and other educational events for industrial facilities.

3.3.4.2 Pollution Prevention: Fire Protection and Emergency Response

Pollution prevention opportunities associated with fire prevention and emergency response include limiting the use and generation of waste. Fire protection services usually involve vehicle and equipment maintenance activities similar to those associated with public works and other tribal government operations. For specific guidance regarding pollution prevention opportunities for vehicle/equipment maintenance operations, please refer to Section 3.12.4.

Top Pollution Prevention Opportunities

- Incorporate pollution prevention strategies through training and response protocols that will minimize the waste generated and long-term environmental impacts associated with the response incident without compromising human health and property;
- Incorporate strategies within emergency and fire response protocols and responder training courses to maximize the containment of spilled materials and contaminated fire suppression run-off and to prevent migration to waterways, sewers, and permeable surfaces;
- Incorporate the use of reusable absorbent booms and pads for materials containment to replace clay and other absorbent materials that can only be used once. Reusable booms and pads can provide the opportunity to recover a percentage of the material released and significantly reduce the amount of waste generated;
- Consider the use of halon-free suppression materials where appropriate and develop a specific protocol for using halon suppressants only for situations where a suitable alternative is not available;
- Review training exercises and other drill activities for opportunities to substitute less hazardous and non-hazardous materials, and incorporate water reuse and conservation measures where and when the effectiveness of the training is not compromised; and
- Promote site-specific pollution prevention strategies through fire code inspections and enforcement activities.

3.3.4.3 POLLUTION PREVENTION: POLICE PROTECTION

Many activities related to police protection can produce waste, including photoprocessing wastes (fixers, developers, film cleaners, etc.), vehicle maintenance wastes, gun cleaning wastes (solvents, rags), shooting range wastes (spent casings, lead slugs, lead dust emissions), batteries, and office paper and other solid wastes.

Top Pollution Prevention Opportunities

- Consider the use of digital cameras to eliminate and/or reduce the need for photoprocessing;
- Recycle photo waste; most liquid photoprocessing wastes can be recycled through a large commercial photoprocessing company or metals reclaimer;
- Consider the use of ceramic or other non-lead bullets for training where the effectiveness of the training is not compromised. Where alternatives to lead bullets are not suitable, the use of traps and other devices should be employed at both indoor and outdoor shooting ranges to capture bullets and bullet fragments for recycling; and
- Recycle office paper, cardboard, and other significant solid waste streams.

3.4 HEALTHCARE

Tribes, the federal government (*i.e.*, the Indian Health Service), and a variety of public and private parties operate hospitals and healthcare facilities in Indian country to support the healthcare needs of tribal communities and tribal members. These operations include small hospitals, clinics, physician and dentist offices, diabetes centers, home-based care, alternative medicine, nutritional counseling, pharmacies, dental and orthodontic care, substance abuse treatment, mental health counseling, and preventive care. These operations also include ambulatory healthcare services, nursing and residential care facilities, and social assistance.

EPA's **Profile of the Healthcare Industry** [http://www.hercenter.org/links/] and the **Healthcare Environmental Resource Center** Web site [http://www.hercenter.org] provide detailed compliance and pollution prevention information on the healthcare sector. Tribes may also want to obtain information from the **Indian Health Service** Web site [http://www.ihs.gov/].

Many healthcare activities also result in the generation of waste and air or water pollution. Healthcare operations can contribute to the presence of mercury, dioxin, and other persistent, bioaccumulative toxics (PBTs) in the environment. Healthcare operations also generate a wide

variety of hazardous waste, such as chemotherapy and antineoplastic chemicals, mercury, solvents, formaldehyde, photographic chemicals, radionuclides, and waste anesthetic gases. In addition, healthcare providers produce tons of solid waste and may also own or operate hospital/medical/infectious waste incinerators (HMIWI), underground storage tanks, aboveground storage tanks, boilers, air conditioners, motor vehicle fleets, and engage in other activities associated with construction and property management. Pesticides, including but not limited to disinfectants, are also used in healthcare facilities.

Producing an exhaustive list of every healthcare activity that impacts the environment or is regulated would be extremely cumbersome and ultimately would distract the focus from those functions within the healthcare industry that create problem wastes and pollution. That said, EPA's *Profile of the Healthcare Industry* identifies key functions and activities that are the major sources of waste and pollution within health sector institutions.

After identifying environmental impacts by activity, healthcare facilities can begin to address the major waste streams and emission sources. Healthcare wastes can be categorized as follows:

- ***Municipal solid waste.*** The majority of healthcare wastes are produced under circumstances identical to restaurants and food industry facilities, hotels, and office complexes. The industry generates large volumes of solid waste (much of which could be sub-categorized as recyclable waste). A special subcategory of municipal solid waste to be considered is construction and demolition (C&D) debris.

- ***Biohazardous waste.*** Regulated under the Medical Waste Tracking Act of 1988, this healthcare waste can potentially harbor and transmit infectious diseases. This includes a wide range of materials that are considered contaminated or that pose special risks.

- ***Hazardous waste.*** To be considered hazardous waste under RCRA, waste must either be listed or characteristic. Listed wastes are specifically named in 40 CFR Part 261. Characteristic wastes are ignitable, reactive, corrosive, or toxic. There are some special waste streams that fall most logically under the heading of "hazardous" because of their unique nature and the risks inherent in each of them. The *Profile of the Healthcare Industry* refers to them as pharmaceutical waste, commingled waste (*e.g.*, commingled "biohazardous," chemical waste or mixed radioactive waste, and commingled nonhazardous and hazardous wastes), pressurized containers and ignitable compressed gas, and universal waste. In some cases, each of these "special" wastes is RCRA listed or RCRA characteristic wastes, and disposal should follow the RCRA hazardous waste requirements.

- ***Air emissions.*** At hospitals, air emissions come from boilers, air conditioning and refrigeration, HMIWI (if on site), asbestos, paint booths, ethylene oxide sterilization units, emergency generators, anesthesia, laboratory chemicals, and laboratory fume hoods. HMIWI are used by hospitals, healthcare facilities, and commercial waste disposal companies to burn hospital waste and/or medical/infectious waste. When burned, hospital waste and medical/infectious waste may emit various air pollutants, including hydrochloric acid, dioxin/furan, and toxic metals (*i.e.*, lead, cadmium, mercury).

In each case, healthcare providers may be subject to multiple federal and tribal environmental laws and regulations. Potentially applicable federal laws include: the CAA, CWA, EPCRA, and RCRA. Tribal governments should obtain EPA's *Profile of the Healthcare Industry* and review a variety of T*ribal Profile* sections, including those on Construction/Property Maintenance, Solid Waste Management, and Pesticides Management to better assess their regulatory requirements.

3.4.1 HOSPITALS, HEALTHCARE WORKERS AND EMERGENCY RESPONSE

Hospitals are vital to the success of any emergency response plan. Ambulance crews and emergency room personnel must know how to transport and treat victims of exposure to hazardous chemicals. Without such knowledge, victims of chemical accidents can contaminate emergency rooms and cause hospitals to close temporarily.

Doctors, nurses, and trained medical professionals can be a valuable resource in emergency planning and response. They can also be an important source of information about risks to the public health in their communities. Some of the ways they can participate in emergency planning include:

- Volunteering to be a health professional representative on the LEPC, or offering to assist the LEPC in its work;
- Participating in programs to train medical personnel to deal with emergencies involving chemical hazards; and
- Screening information submitted under EPCRA to determine if any acute or chronic health effects may be associated with hazardous substances on the reservation.

In a more general sense, health professionals may be approached to provide and interpret information on chemicals and their impacts on patients. The law allows health professionals to

gain access to chemical identity information, even if it is claimed as trade secret, in three different situations:

- If the chemical identity is needed for the diagnosis and treatment of an exposed person;
- If a medical emergency exists in which the chemical identity is needed to aid in diagnosis or treatment; and
- If a health professional who is a tribal government employee requests a chemical's identity to conduct preventive research studies and to render medical treatment.

Except for medical emergencies, a written statement of need and a confidentiality agreement must accompany a health professional's request for a chemical's identity.

3.4.2 POLLUTION PREVENTION AND HEALTHCARE

Within the healthcare industry, numerous opportunities exist to prevent pollution. By implementing well-planned pollution prevention strategies, facilities can improve efficiencies, save money, minimize adverse environmental impacts, and create a healthier workplace. Opportunities vary from facility to facility and relate to the volumes and types of activities. The *Profile of the Healthcare Industry* and the Healthcare Environmental Resource Center Web site [http://www.hercenter.org] provide an understanding of some of the most common pollution prevention opportunities available and highlight some examples of strategies by waste type.

The *Healthcare Profile* provides pollution prevention information on the following key topics:

- Environmental Management Systems (EMS) and EPA's "Healthcare Guide to Pollution Prevention Implementation through Environmental Management Systems," is a comprehensive resource for understanding and developing an EMS specific to a healthcare facility. This document is available at the EPA Region 2 Compliance Healthcare Web site [http://www.epa.gov/region02/healthcare/].
- Purchasing/Product Substitution/Source Reduction opportunities exist in many areas within healthcare operations. Environmentally preferable purchasing (EPP) can reduce the waste generated at a facility. The Sustainable Hospitals project is, among other things,

Web sites with resource information for source reduction include the **Hospitals for a Healthy Environment** (H2E) site [http://www.h2e-online.org/] and the Sustainable **Hospitals project** site [http://www.sustainablehospitals.org/cgi-bin/DB_Index.cgi]. H2E is designed to help healthcare facilities enhance work place safety, reduce waste and waste disposal costs and become better environmental stewards and neighbors.

designed to support the healthcare industry select products and work practices that reduce occupational and environmental hazards.

- Process changes are intentional modifications of activities that reduce pollution and there are abundant opportunities for this in healthcare operations. Some process changes with environmental benefits also have other benefits, such as cost containment or improved service or product quality. Examples of healthcare process changes include switching to digital imaging for radiology processing (reduces silver waste outputs) and improving waste segregation systems (reduces biohazardous waste outputs, increases the likelihood that wastes can be collected and handled in the most appropriate and cost-effective fashion, separating solid waste outputs and recyclable waste outputs).
- Recycling opportunities are widespread throughout most healthcare facilities. Waste volumes can dramatically be reduced if systems are in place to capture recyclable materials such as cardboard, paper, glass and aluminum beverage containers, scrap metals, wood waste, kitchen grease, and selected plastics. Opportunities also exist for reducing hazardous waste through recycling initiatives.

The treatments chosen to address health issues also can have environmental impacts and less toxic treatments, where appropriate, can prevent pollution. For example, pharmaceutical use of lindane-containing products was banned in California because residues from these products were contaminating drinking water. Because lindane can be toxic to the brain and other parts of the nervous system, the Centers for Disease Control and Food and Drug Administration permit the use of lindane-containing products for treatment of head lice and scabies with caution and only when treatment with safer alternatives has failed.

3.5 TRIBAL GOVERNMENT ENTERPRISES

Tribal government enterprises allow tribes to foster economic development while simultaneously maintaining control over the enterprises' impacts on the environment, natural resources, and tribal cultural values. Tribal enterprises provide much of the financial resources needed to manage day-to-day government operations as well as a full governmental infrastructure. Tribes around the country operate numerous facilities, such as schools, medical facilities, utility departments, businesses, factories, and other revenue producing ventures. Some tribes encourage economic development and have micro-loan organizations that provide assistance to tribal members who have business plans intended to contribute to Indian country's growing self-sustainability. The popularity of the gaming industry has provided the capital necessary to attempt other forms of economic development, and many tribes have been quite successful. Additionally, revenue sharing with non-gaming tribes has provided start-up costs and matching funds for smaller tribes that do not have casinos.

3.5.1 FORESTRY

Many tribal governments with forests on their reservation are responsible for regulating forestry operations and related activities. In other cases, forests are the responsibility of tribal members, non-tribal members, and the federal land management agencies, including the U.S. Forest Service (Department of Agriculture) and the Bureau of Land Management and the National Park Service (Department of the Interior). Regardless of regulatory responsibility, forests often contain areas of spiritual or religious value, medicinal or ceremonial plants, archaeological sites, and areas of traditional hunting, fishing and gathering use, as well as areas of scenic and aesthetic value.

Where tribes are responsible for regulating forest uses, tribes can meet their political, spiritual, social, and economic needs concurrently through sustainable forestry management – the use of forests in a way and at a rate that maintains their productivity, biodiversity, regeneration capacity, and potential to fulfill relevant ecological, economic, and social functions. For more information on sustainable forest management, visit the U.S. Forest Service Web site [http://www.fs.fed.us/]. As an economic incentive to encourage sustainable forest management, tribal forestry operations might consider certifying their management practices through one of several independent organizations [http://www.fs.fed.us/sustained/links.html]. A case study on a tribal sustainable forest management program is found at the Forest Stewardship Council's news and media site [http://www.fscus.org/news/?article=155] and an example of sustainable forest management is Menominee Tribal Enterprises "*The Forest Keepers*": The Menominee Forest-Based Sustainable Development Tradition [http://www.epa.gov/ecopage/upland/menominee/forestkeepers.pdf].

For specific information, see "Forestry Production Industry: Operations, Impacts, and Pollution Prevention Opportunities" in *The Profile of the Agricultural Crop Production Industry* at EPA's *Profile of the Agricultural Crop Production Industry* Web site [http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/crop.html].

Forestry activities can contribute to nonpoint source pollution and water quality degradation through erosion, removal of streamside vegetation, destruction of habitat, and the use of pesticides and nutrients, primarily commercial fertilizers. Additional information about these

issues is found in Section 3.7.1, Surface Water Protection and in Section 3.10, Pesticide Management.

3.5.2 GAMING

Gaming is a form of economic development that has provided income for tribes and job growth on certain Indian reservations. Some tribes currently conduct a range of gaming enterprises, including bingo, horse and dog racing, and casinos. The Indian Gaming Regulatory Act of 1988 (IGRA) regulates gaming on Indian reservations. Under IGRA, tribes must have a gaming board that creates rules and regulations, reports to the federal government, and conducts the background checks necessary to make sure the tribe's casino is in compliance with federal standards. Additionally, IGRA provides standards for compacting with state governments for gaming enterprises, and sets the appropriate taxation rates for individual gaming revenue. Finally, the IGRA requires, in part, "the construction and maintenance of the gaming operation, and the operation of that gaming [be] conducted in a manner that adequately protects the environment and the public health and safety."

The IGRA created the National Indian Gaming Commission (NIGC), an independent federal regulatory agency, with responsibility for regulating gaming activities on Indian reservations. Among its other responsibilities, NIGC is authorized to conduct investigations; undertake enforcement actions, including the issuance of notices of violation, assessment of civil fines, and/or issuance of closure orders; conduct background investigations; conduct audits; and review and approve tribal gaming ordinances. IGRA also provides the NIGC the responsibility for overseeing gaming operations conducted by tribes.

> The National Indian Gaming Commision Web Site provides information on gaming activities on Indian lands. See NIGC website at [http://www.nigc.gov/]

Gaming revenues are allocated by tribal governments for many different uses within several major use categories. Many tribes put the revenue back into the tribe's infrastructure and build administration offices, healthcare facilities, housing, and recreation sites. Other tribes distribute gaming revenue to their members directly through a "per capita" allotment process or on an "as needed" basis to members who apply. Gaming revenue proceeds are also used to encourage the development of other tribal business ventures. For some tribes, the proceeds make up a substantial portion of annual tribal revenue.

Gaming enterprises do not typically have any unique potential to impact the environment; instead, gaming operations have the potential to impact the environment in much the same way as other similar buildings – during the building construction phase and through building

operations, including dealing with stormwater and other drainage issues, and air quality impacts associated with motor vehicle traffic and boiler operations. See Section 3.6 (Construction/ Property Management) for common environmental impacts and applicable regulations associated with building construction and operation.

3.5.3 AGRICULTURE

Tribes engage in a wide array of agricultural operations. These operations include raising animals and growing fruits and vegetables for sale, as well as overseeing animal farms, medicinal herb gardens, and the production and collection of rare indigenous flora, such as blue corn and wild rice. The environmental impacts, and relevant regulations, of agricultural operations are the subject of separate EPA Sector Notebooks providing resources and other compliance assistance tools, which can be found at the EPA's Compliance Assistance Agriculture Sector site [http://www.epa.gov/compliance/assistance/sectors/agriculture.html].

> EPA's Compliance Assistance Agriculture Sector site [http://www.epa.gov/compliance/assistance/sectors/agriculture.html] provides information on environmental impacts, relevant regulations, and other compliance assistance tools.

Agricultural operations are subject to the requirements of many federal environmental statues. Under the CWA, there are five program areas that potentially affect agricultural operations, including point source discharges, storm water discharges, nonpoint source pollution, wetland regulation, and sludge management. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) has a significant impact on the day-to-day operations of may agricultural operations. Other relevant statutes pertaining to the agriculture sector include RCRA, CERCLA, EPCRA, CAA, Toxic Substances Control Act (TSCA), and Coastal Zone Management Act (CZMA). Agricultural operations should review the information found in Section 3.6.5 (Underground Storage Tanks), Section 3.6.6. (Aboveground Storage Tanks), Section 3.7 (Water Resource Management) and Section 3.10 (Pesticides) of the *Tribal Profile*. In addition, agriculture operations should review other relevant EPA Sector Notebooks, including *The Profile of the Agricultural Crop Industry*, *The Profile of the Agricultural Livestock Industry*, and *The Profile of the Agriculture Chemical, Pesticide, and Fertilizer Industry*. See Appendix I of the *Tribal Profile.*

The following presents a brief discussion of agricultural pollutants and their environmental impacts:

- ***Nutrients.*** Excess nutrients in water (*i.e.*, phosphorus and nitrogen) can result in or contribute to low levels of dissolved oxygen (anoxia), eutrophication, and toxic algal

blooms. These conditions may be harmful to human health and ecosystems and may adversely affect the suitability of the water for other uses.

- ***Sediment.*** Sediments affect the use of water in many ways. Suspended solids reduce the amount of sunlight available to aquatic plants, cover fish spawning areas and food supplies, clog the filtering capacity of filter feeders, and clog and harm the gills of fish. Turbidity interferes with the feeding habits of fish. These effects combine to reduce fish and plant populations and decrease the overall productivity of waters.

- ***Animal Wastes.*** Animal waste includes the fecal and urinary wastes of livestock and poultry; process water (such as from a milking parlor); and the feed, bedding, litter, and soil with which fecal and urinary matter and process water become intermixed. Manure and wastewater from animal feeding operations have the potential to contribute pollutants such as nutrients (*e.g.*, nitrogen and phosphorus), organic matter, sediments, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment. Decomposing organic matter (*i.e.*, animal waste) can reduce oxygen levels and cause fish kills.

- ***Salts.*** Salts are a product of the natural weathering process of soil and geologic material. In soils that have poor subsurface drainage, high salt concentrations are created within the root zone where most water extraction occurs. The accumulation of soluble and exchangeable salts (*i.e.*, metal compounds in the soil that can chemically change) leads to soil dispersion (*i.e.*, movement of soil in air and water), structure breakdown, decreased infiltration, and possible toxicity; thus, salts often become a serious problem on irrigated land, both for continued agricultural production and for water quality considerations. High salt concentrations in streams can harm freshwater aquatic plants just as excess soil salinity damages agricultural crops.

- ***Pesticides.*** The primary pollutants from pesticides are the active and inert ingredients, diluents, and any persistent degradation products. Pesticides and their degradation products may enter groundwater and surface water in solution, in emulsion, or bound to soils. Pesticides may, in some instances, cause impairments to the uses of surface waters and groundwater. Some types of pesticides are resistant to degradation and may persist and/or accumulate in aquatic ecosystems. Pesticides may harm the environment by eliminating or reducing populations of desirable organisms, including endangered species. See Section 3.10 (Pesticides) for more information.

3.5.4 TOURISM

Tribes often provide the public the opportunity to visit Indian reservations. Tourist enterprises include indoor recreation facilities – casinos, hotels, spas – and outdoor recreation facilities and activities – ski resorts, golf courses, and expeditions. While there are no potential environmental impacts or regulations that are unique to tourist enterprises, these activities have the potential to impact the environment in similar ways to corresponding non-tourist enterprises. See Section 3.6 (specifically, the subsections on buildings (3.6.3) and outdoor recreation facilities (3.6.5)) for typical environmental impacts and applicable regulations of building construction and property management.

Tribes may want to use EPA's Environmental Enrichment for the Lodging Industry: A Toolkit Web site [http://www.epa.gov/seahome/hotelsnew.html] to improve the day-to-day operation and maintenance of hospitality and food service facilities. The toolkit includes approaches that can save money, improve the quality of guest experiences, and ensure the site's sustainability as an attraction and environmental asset.

3.5.5 FISHERIES AND SHELLFISH

Tribal governments manage fisheries and shellfish resources for economic development, and to support cultural, subsistence, and religious activities. Tribes regulate and coordinate fishery and shellfish management programs within the exterior boundaries of their reservation and within specific adjudicated usual and accustomed fishing and shellfish grounds. In addition to federal and tribal law, tribes with treaties maintain guaranteed rights to harvest fish and shellfish in the places they had traditionally utilized. Some tribes also co-manage fisheries and other natural resources with states. In many instances tribes cooperate with federal, state, private, and public parties to protect, restore, and enhance the productivity and diversity of the ecosystems supporting fisheries and shellfish.

Compliance with applicable federal and tribal environmental laws, as well as effective land, water, fish and shellfish management, is important to species survival and the maintenance of sustainable fisheries and shellfish beds and productive hatchery operations.

3.5.5.1 OPERATIONAL ASPECTS

Tribes often have two types of fishery activities: (1) commercial, and (2) ceremonial and subsistence. Commercial operations are for profit – fish and shellfish are sold to buyers, who in

turn either sell directly to the public or to other commercial entities (*i.e.*, wholesalers, restaurants, other distributors). Tribes collect taxes from tribal members who sell the fish or shellfish and those taxes are returned to the tribal programs to help pay for natural resource management. Ceremonial and subsistence fishing are intended for tribal use only. For many tribes, fish and shellfish have a central role in tribal gatherings (*e.g.*, naming ceremonies, funerals, honoring elders).

Fish hatcheries produce fish for stocking in tribal and non-tribal waters. The stocks are used to rehabilitate declining populations and to provide additional fish for commercial and ceremonial and subsistence uses. Fish hatcheries need a steady source of water to sustain the operation and typically consist of ponds and tanks and tanks and cages of various capacities for hatching and rearing aquatic species. Of course, the design of each hatchery reflects a tribe's priorities, the type of fish being raised, and the fish's life cycles.

The water used to raise fish in hatcheries is returned into the stream or river from which it originated. This "wastewater" discharge, that has been in contact with cultured fish and contains hatchery fish wastes, can create a number of environmental problems. As a discharge to navigable waters of the United States, CWA NPDES permits are required generally with EPA or tribes issuing permits for discharges in Indian country and states generally issuing permits for discharges outside Indian country. EPA's NPDES program Web site [http://cfpub.epa.gov/npdes/] provides information concerning NPDES permits.

Hatchery waste products can include: uneaten food, fish carcasses, fish feces, nutrients (especially phosphorus), algae and benthic macrophytes, parasites, disease organisms, drugs and other chemicals. Solid and liquid pollutants are byproducts of raising fish in high densities within a confined facility. Although both fish and their wastes occur naturally in free-flowing systems, the unnaturally high concentrations of such wastes from fish raised in a concentrated setting can pose environmental problems. When flushed into waterways, the solids can settle beneath or downstream of the facility. These solids increase the turbidity and nutrient concentrations in streams and may decrease dissolved oxygen. The rich nutrient concentrations of phosphates and nitrates encourage the explosive growth of algae and benthic macrophytes. The growth of algae and benthic macrophytes changes the habitat and consumes oxygen in the water that other fish and plants need to survive.

Chemicals and pharmaceutical drugs used to treat fish for parasites, as well as other drugs and chemicals used in aquaculture, also flow into downstream waters. The use of settling ponds greatly reduces or eliminates water quality concerns, and is an integral part of any tribal hatchery operation. Settling ponds are vacuumed before the water is released back into the water body; vacuumed waste is then disposed of in a landfill.

3.5.6 Fuel Management and Gasoline Stations

Tribes are often responsible for fuel management. Fuels managed include: gasoline, diesel fuel, fuel oil, and, in some cases heavier grades of oils. Fuel management operations include tank and pipeline management, management of runoff and environmental controls, and management of tank filling and refueling operations. Some of the wastes commonly generated in fueling operations, include tank bottom water, tank bottom sludges, spent solvents, and waste petroleum products.

Both aboveground and underground storage tanks (AST and UST) are found at tank farms. Tanks typically are constructed of steel or fiberglass-reinforced plastic.

One of the major concerns of fuel management is associated with runoff from rainwater and other environmental controls. Care should be taken in the design of fuel management areas to minimize the potential that runoff from "dirty" areas (those areas where fuel is managed) will make its way to areas where fuel is not managed. Clean runoff is discharged directly to stormwater systems. Runoff from fuel management areas generally should be discharged to treatment units, where fuel and other contaminants can be removed before the runoff is discharged to the storm water system. The treatment units may be as simple as gravity-based oil-water separators, or they may be extensive treatment systems designed to salvage the fuel for reuse. Increasingly, environmental controls are being installed to treat other wastes generated from tank farm operations, such as tank bottoms.

Detailed information on USTs and ASTs, including the applicable federal regulations and pollution prevention opportunities is found at Sections 3.6.5 and 3.6.6.

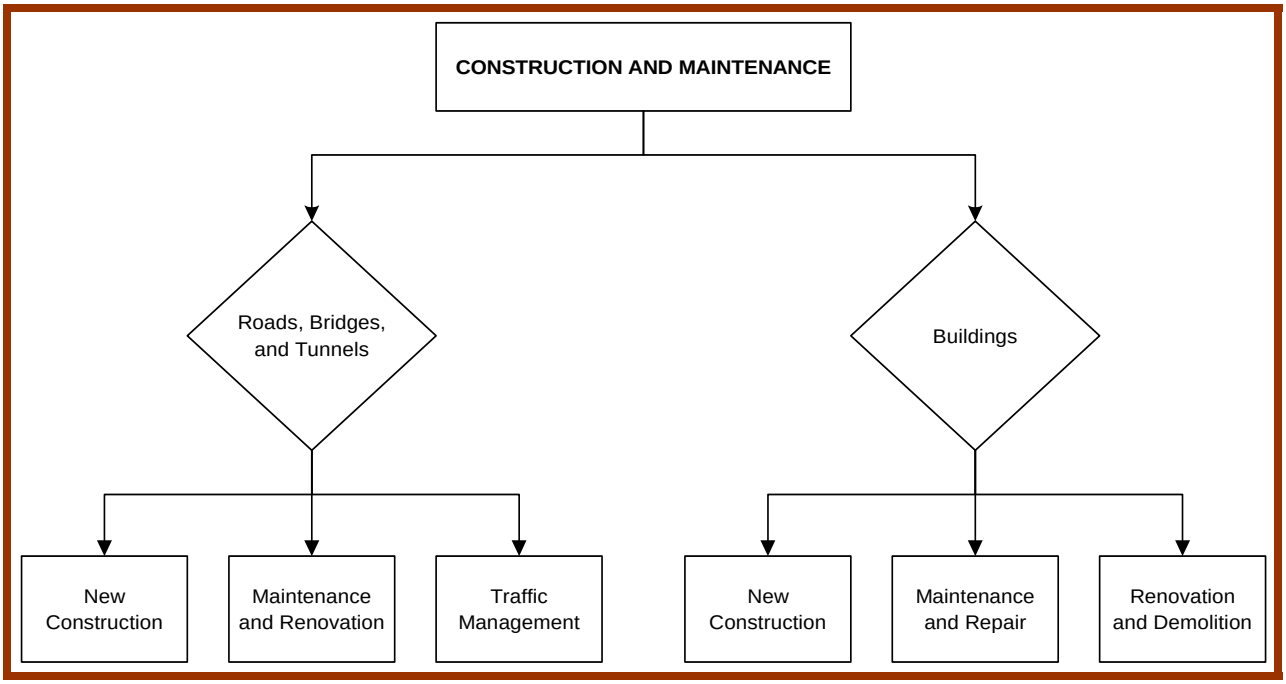
3.6 Construction/Property Management

Tribal governments may be responsible for constructing and maintaining roads, buildings, bridges, tunnels, treatment plants, and landfills, as well as for renovating and demolishing buildings. Construction and maintenance activities, which typically involve planning, coordination, and oversight by the tribal government, are essential to the infrastructure for transportation, administration, public services and housing. See Exhibit 3-2. Because many roadways, waterways and easements cross from

> EPA's Compliance Assistance Construction Sector Web site [http://www.epa.gov/compliance/assistance/sectors/construction.html] provides up-to-date information on the **construction sector**. Appendix G and H of this *Profile* provide information on green building cost savings and successes.

reservation land to federal, state, and local land, tribes have also entered into intergovernmental agreements that allocate responsibility for construction and maintenance.

Exhibit 3-2. Construction and Maintenance



3.6.1 FUNDAMENTAL ENVIRONMENTAL ISSUES OF CONSTRUCTION MANAGEMENT

It is important for tribes to engage in a dialogue with all parties involved in a construction project to ensure that the applicable environmental requirements are met. EPA's *Managing Your Environmental Responsibilities: A Planning Guide for Construction and Development* (MYER Guide) [http://www.epa.gov/compliance/resources/publications/assistance/sectors/constructmyer.html] provides a list of questions to help owners and contractors assign who is responsible for ensuring compliance with federal environmental regulations. The MYER Guide also contains self-audit checklists that will help tribes and construction companies evaluate their compliance status once a project is commenced. Finally, the MYER Guide can be used to facilitate compliance at the pre-bid, pre-construction, and construction phases of a project.

Key issues discussed in the MYER Guide are:

- Stormwater permits;
- Dredge and fill wetlands (CWA Section 404) permit requirements;
- Oil spill prevention requirements;
- Hazardous and non-hazardous solid waste requirements;

- Hazardous substances (Superfund liability) requirements;
- Polychlorinated Biphenyl (PCB) waste requirements;
- Air quality requirements;
- Asbestos requirements; and
- Endangered Species Act (ESA) requirements.

When planning and designing a construction project, tribes should consider applying "green design" principles and apply an environmental management system (EMS). That is, the tribal government should evaluate the environmental aspects and impacts of the project and establish procedures to minimize the impacts. EPA's EMS Web site [http://www.epa.gov/ems/index.htm] provides comprehensive information about processes and practices. Green design resources are available at EPA's Green Building Web site [http://www.epa.gov/greenbuilding/], the Homes Across America Web site [http://www.homes-across-america.org/], and the U.S. Green Building Council Web site [http://www.usgbc.org/].

In many cases, tribal governments hire contractors to assist or manage some operations, such as construction operations, tank monitoring or well sampling, solid waste disposal, or vehicle maintenance. Tribal governments should include reporting or monitoring methods directly in contract agreements to ensure that contractor operations comply with all federal and tribal regulations.

It is important to note that administrative activities can also affect the severity of environmental impacts, as well as the relevant regulatory burdens, related to the construction and maintenance of tribal government facilities and housing units.

3.6.1.1 LAND USE PLANNING AND ZONING

Tribal governments use land use planning and community development planning to determine the uses of their land. Once a tribe makes a zoning decision the land cannot be used for another purpose unless it is first rezoned by the tribal government.

Land use planning and zoning activities do not themselves create environmental effects. Rather, it is the results of these activities - the actual land use - that cause environmental impacts. Land use choices often determine whether natural resources are enhanced, conserved or depleted. Land used for residential, commercial, or industrial purposes can affect air, land, and water resources. Of course, abandoned sites that are restored can revitalize an area and reduce environmental risks as the site is cleaned up. By carefully considering the environmental impacts prior to making zoning decisions, the tribal government can either prepare for the impact of those decisions (*i.e.*, concurrently construct stormwater catch basins while allowing

construction of a new parking lot) or make adjustments to ensure adequate protections are in place.

3.6.1.2 National Environmental Planning Act Process and Inter-governmental Coordination

> **EPA's National Environmental Policy Act** Web site [http://www.epa.gov/Compliance/nepa/index.html] has information on **NEPA**, including definitions, information on impact statements, and details on how the EPA complies with NEPA.

Tribal governments may also directly coordinate their efforts with EPA and other federal agencies in order to comply with federal statutes and regulations. When federal dollars are used to build on tribal trust lands or a federal permit is required for the project, the federal agency providing the funds or permit may need to assess the potential environmental impacts of the proposed project under the National Environmental Policy Act (NEPA). Using the agency's NEPA implementing regulations, the responsible federal agency generally may ask the tribe to cooperate in this process and, if more than one agency is providing the funds or another agency needs to issue a permit, the other agencies may also be asked to cooperate with the NEPA assessment process. An environmental impact statement may be required in order to assess project impacts that significantly affect the quality of the human environment.

The NEPA assessment, which may be necessary when a tribal government's construction project uses federal funds or requires a federal permit, may involve such issues as water quality or quantity, wetlands, air quality, land use, threatened or endangered species, potential impacts to sacred sites and items of cultural patrimony, and traditional hunting, fishing, and gathering rights. The NEPA process includes consideration of the applicability of other environmental laws and federal executive orders so that, as appropriate, they are incorporated into the NEPA review process as early as possible. Examples of applicable laws may include the ESA, the National Historic Preservation Act (NHPA), and the National Native American Graves Protection and Repatriation Act (NGPRA).

For certain construction projects, impacts on receiving waters may be regulated under the CWA and may require the tribal government to obtain a permit for certain discharges which may include controls on discharge quantities or other control measures, including stormwater runoff controls. Air and noise impacts may be regulated under the CAA. The above impacts may also be regulated by tribal laws.

In the case of land use, tribes are generally exempt from state and local regulatory authority for lands owned in trust. However, tribes often make efforts to meet with the planning and zoning boards of surrounding state and local jurisdictions. This enables tribal planners to ensure that the

tribe will meet its needs, while simultaneously taking into account the objectives of the surrounding jurisdictions. Tribal government coordination with state and local governments may also be necessary if construction and maintenance activities affect their respective interests and responsibilities.

3.6.2 STORMWATER – APPLICATION TO CONSTRUCTION ACTIVITIES

Stormwater runoff from construction activities can significantly impact water quality. As stormwater flows over a construction site, it picks up sediment, debris, chemicals, and other pollutants. Polluted stormwater runoff can harm or kill fish and other wildlife and impact drinking water sources. Sedimentation can destroy aquatic habitat and high volumes of runoff can cause stream bank erosion.

EPA's Stormwater Discharge for Construction Activities Web site http://Epa.gov/npdes/stormwater/const has more information to address construction issues.

The NPDES Stormwater program requires operators of construction sites one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain authorization to discharge stormwater under a NPDES construction stormwater permit. Tribal governments must apply for a construction stormwater permit if they meet either of the two parts of the stormwater regulation definition of "operator." This means a tribal government should apply for permit coverage if the tribal government has operational control over either:

- The construction plans and specifications, including the ability to make modifications to those plans and specifications (*e.g.*, owner or developer of project); or
- Day-to-day operational control of those activities at a project which are necessary to ensure compliance with a stormwater pollution prevention plan for the site or other permit conditions (*e.g.*, general contractor).

The development and implementation of stormwater pollution prevention plans is the focus of NPDES stormwater permits for regulated construction activities.

EPA remains the permitting authority for most land in Indian country. For construction (and other land disturbing activities) in areas where EPA is the permitting authority, operators must meet the applicable requirements of the national EPA Construction General Permit (CGP); tribes in EPA Region 4 are covered by a region-specific construction permit. The CGP outlines a set of provisions construction operators must follow in order to comply with the applicable

requirements of the NPDES stormwater regulations. The CGP covers any site one acre and above, including smaller sites that are part of a larger common plan of development or sale, and replaces and updates previous EPA permits. Tribes with questions about stormwater requirements or permits may contact the Notice of Intent Processing Center at (866) 352-7755 for questions about filing by mail. Easy and fast online filing is available at the NPDES Electronic Stormwater Notice of Intent (eNOI) Web site [http://cfpub.epa.gov/npdes/stormwater/enoi.cfm].

3.6.3 BUILDINGS AND CONSTRUCTION

Tribal government activities related to buildings include constructing new schools, public housing, administrative facilities, and other government buildings, maintaining and repairing those buildings, renovating old buildings, and demolishing unusable buildings. Because these activities could affect the environment, they may be subject to environmental laws and regulations, as indicated in the following list:

> The **Construction Industry Compliance Assistance Center** Web site [http://www.cicacenter.org/] provides plain language explanations of environmental rules for the construction industry.

- New construction – CWA, ESA, Rivers and Harbors Act, CAA, and NEPA
- Maintenance and repair – CWA, RCRA, CAA, EPCRA, CERCLA, TSCA, FIFRA, and the Safe Drinking Water Act (SDWA)
- Renovation and demolition – RCRA, CAA, and TSCA

See, Appendix H for information on the Economic Benefits of Building Green and Appendix G for Pollution Prevention Success Stories.

3.6.3.1 NEW CONSTRUCTION

The construction of new buildings involves several activities, including clearing land, building the structure, and disposing of construction materials.

Clearing Land for Construction. Clearing land entails the removal of vegetation and existing structures to prepare a site for construction. Clearing land can impact the environment by:

- Making it more susceptible to erosion, landslides, or floods;
- Harming aquatic resources (particularly wetlands) and endangered species; and
- Increasing the flow to storm sewer systems, leading to increased potential for downstream flooding and increased stream bank erosion in receiving waters.

Stormwater runoff (which may contain sediment and construction waste) from new building construction has the potential to contaminate surface waters and must be controlled under the requirements of the NPDES stormwater program. Generally, most of the waste generated through building construction activities is non-hazardous solid waste. The disposal of these wastes may be regulated under a variety of federal and tribal laws. Hazardous construction wastes are regulated under the federal RCRA hazardous waste regulations.

Additional impacts of construction activities include dust and odors from construction traffic, air emissions, noise, and vibrations from construction equipment.

New construction may directly affect wetlands if fill material is dumped in them. Sediment from construction sites may also negatively affect the hydrologic capacity of wetlands. Wetland losses may increase downstream flooding and may impact a wide variety of aquatic and upland species. If new construction could potentially impact aquatic areas, such as wetlands, tribal governments may need to obtain a permit before beginning a construction project. The U.S. Army Corps of Engineers (Corps) regulates any dredging and general construction in, over, and under navigable waters of the United States, under Section 10 of the Rivers and Harbors Act. The Corps also regulates the discharge of dredged and fill material into waters of the United States, which include wetlands. The discharge of dredge and fill material into wetlands is regulated under Section 404 of the CWA and may require a permit. In addition, controlling construction site discharges (particularly stormwater runoff) is regulated under the stormwater provisions of EPA's NPDES permitting program, as well as local erosion and sediment control programs.

EPA's Wetlands Web site [http://epa.gov/wetlands] contains information to protect wetlands and ensure compliance with federal laws.

Endangered Species Act

The ESA provides protection for federally listed, threatened, and endangered species of plants, animals, and their habitats.

Tribal governments may need to directly coordinate construction issues with EPA and other federal

Endangered species are plants and animals that, without special protection and management, are in danger of becoming extinct. Threatened species are likely to become endangered in the foreseeable future. Additional information on endangered species is available from the U.S. Fish and Wildlife Service Endangered Species Web site [http://www.fws.gov/endangered/].

agencies in order to comply with federal statutes and regulations, including ESA and NEPA. Section 3.6.1.2 contains information on inter-governmental coordination issues.

Construction Waste Disposal

Most of the waste generated through construction activities is non-hazardous solid waste. Typical wastes generated at construction sites include concrete, steel, wood, rubber, asphalt, soil, and organic matter (*i.e.*, tree stumps). The disposal of these wastes may be regulated under a variety of federal and tribal laws. Hazardous construction wastes are regulated under the federal RCRA hazardous waste regulations. Some tribal governments have regulations regarding the disposal of non-hazardous construction and demolition debris at special construction waste landfills. These tribes may allow debris, such as uncontaminated concrete and asphalt, to be used as fill material.

Much non-hazardous construction and demolition materials from new construction (as well as renovation of roads, bridges, and buildings) can be recovered and recycled. EPA's Construction and Demolition (C&D) Debris Web site [http://www.epa.gov/epaoswer/non-hw/debris-new/index.htm] provides more information. Also see Appendix E for additional resources.

3.6.3.2 Operations, Maintenance and Repair

Tribal governments may be responsible for activities related to the operation, maintenance, and repair of buildings, including addressing indoor air quality issues, operating boilers and cooling systems, applying pesticides.

Indoor Air Quality–Lead Paint

> EPA's Lead Awareness Program Web site [http://www.epa.gov/lead/] is a comprehensive source of information on **EPA's Lead in Paint, Dust, and Soil Program**. It includes educational materials and a toll-free hotline.

The use of lead-based paint was banned in 1978; however, lead-based paint is still found in many older buildings and homes. When doors and windows are opened and closed, or painted stairs are walked upon, small amounts of lead paint dust can be released and then settle on room surfaces. Young children are particurly susceptible to the health effects of lead poisioning and pregnant women poisoned by lead can transfer lead to a developing fetus, resulting in adverse developmental effects. Since dust is continually released, damp mopping and dusting can help reduce dust accumulation and facilitate removal. Doors, windows, stairs, and other surfaces with lead-based paint that chip create more obvious problems. Vacuuming an area can remove lead-based paint chips but can also distribute lead dust unless a high efficiency

particle accumulator (HEPA) vacuum is used. Lead dust may also be present in the soil around buildings or houses. Routine maintenance of buildings and homes – painting, plumbing or electrical work, or heating duct work, and carpet removal – can also disrupt surfaces painted with lead-based paint. While ground covering can minimize the disruption of the dust, doormats should be provided to wipe the dust in soil from shoes. These are "interim controls" that tribal governments can use to help reduce exposures to lead dust.

A number of options exist for tribal governments to address lead-based paint issues. Tribal governments can replace windows, doors, or other surfaces painted with lead-based paint. During maintenance, fugitive dust can be reduced and contained by covering the area with polyethylene plastic sheeting and properly disposing of the sheeting after the work is completed. In addition, the work area should be kept wet or moist to reduce dust. Of course, workers and residents should be notified prior to any work in lead paint areas. Notification will allow residents to stay away from the building while work is conducted. Workers should wear proper personal protective equipment while conducting the work. Lead paint abatement must be conducted by persons trained and certified, and they must follow the specific work practice standards specified in TSCA 402 rules (40 CFR Section 745.227).

Prior to conducting remodeling or renovation in a building with lead paint, tribal governments should review the EPA brochure entitled *Reducing Lead Hazards When Remodeling Your Home* (EPA-747-K-91-007), available through the National Lead Information Center ((800) 424-LEAD/5323) and also online from EPA's Office of Pollution Prevention and Toxics [http://www.epa.gov/lead/pubs/rrpamph.pdf]. See section 3.6.3.3 for additional information on lead paint.

Indoor Air Quality – Mold

Exposure to mold can cause a variety of health effects and symptoms, including allergies. The key to mold control is moisture control. Fix sources of moisture problems and maintain indoor humidity below 60% relative humidity, ideally 30 to 50%. Mold problems can be hidden behind walls or in air ducts. Mold may require remediation. EPA's Indoor Air Mold Web site [http://www.epa.gov/mold] provides useful information on mold growth and cleanup options.

Indoor Air Quality – Radon

Over the past 40 to 50 years, exposure to indoor air pollutants (*i.e.*, radon) has increased, in part because of the construction of more tightly sealed buildings, the reduction in ventilation rates

EPA's **A Citizen's Guide to Radon** Web site [http://www.epa.gov/iaq/radon/pubs/citguide.html] contains information on testing, effects, and links to more sources.

(intended to save energy), the use of synthetic building materials and furnishings, and the use of chemically formulated personal care products, pesticides, and housekeeping supplies. Common effects of indoor air quality problems on occupants include headache, fatigue, shortness of breath, sinus congestion, coughing and sneezing, eye, nose, throat, and skin irritation, dizziness, and nausea.

Radon is one particular indoor air pollutant of concern associated with this issue. Radon levels can vary from structure to structure. The average indoor radon level is estimated to be about 1.3 picocuries per liter (pCi/L), and about 0.4 pCi/L of radon is normally detected in the outside air. The United States Congress has set a long-term goal for indoor radon levels to be no more than outdoor levels. While this goal is not yet technologically achievable in all cases, levels in most structures today can be reduced to no more than 2 pCi/L. EPA recommends followup radon testing or mitigation in buildings with levels of 4 or more pCi/L.

The federal government, as well as most tribal governments, do not have regulations or established enforcement capabilities regarding indoor air quality in buildings, including schools. Accordingly, at this time, tribal governments are not required to enforce any federal standards for acceptable radon levels in commercial or residential buildings, including schools. However, tribes may pass regulations recommending radon mitigation to owners of buildings. Additionally, for some schools, financial or technical assistance may be available from EPA, BIA, and OSHA.

Boiler Operations

Tribal governments operate boilers to produce steam or electricity to heat government buildings or other buildings on the reservation, including casinos. Boiler operations include storing fuels and boiler chemicals, operating the boiler, maintaining the boiler, and disposing of residuals from fuel burning. Storing fuels and chemicals can affect the environment through spills that have the potential to reach groundwater or surface waters. Operating boilers may impact the environment through air emissions from fuel burning. Coal ash from fuel burning can contaminate waterways if it contains heavy metals or other toxics and is not disposed of in a manner that prevents it from coming in contact with waterways or rain water.

The storage of liquid boiler fuel (*e.g.*, heating oil) may be regulated under the Spill Prevention, Control, and Countermeasures (SPCC) program of the CWA, which requires the preparation and implementation of SPCC Plans to ensure that containment and other countermeasures are in place to prevent oil spills that could reach navigable waters. In this context, SPPC Plans are required for facilities with an aggregate aboveground storage capacity greater than 1,320 gallons or a completely buried storage capacity greater than 42,000 gallons. The storage of chemicals may be regulated under EPCRA or Section 112(r) of the CAA (risk management plans), which

requires the development of emergency plans and reporting based on the quantity of chemicals stored. See Section 3.10.3.1.

Coal combustion byproducts (CCBs) may be either disposed of or put to beneficial use. When considered as a waste, CCBs are exempt from federal regulation as hazardous waste. For more information, see EPA's Fossil Fuels Combustion Waste page of the Special Wastes site [http://epa.gov/epaoswer/other/fossil/index.htm]. Significant environmental benefits may be derived from the beneficial use of CCBs, particularly in the use of coal fly ash as a substitute for cement in the manufacture of concrere. There are many other beneficial uses for coal combustion products, including wallboard, road base, embankments, flowable fill, structural fill, snow and ice removal, and paint. EPA's Coal Combustion Products Partnership Web site [http://www.epa.gov/c2p2/] provides more information. Air emissions from the boiler may be regulated under the CAA, which may require the tribal government to obtain a permit and meet emissions standards depending on the heat output of the boiler and date of boiler construction.

Cooling Systems

Tribal governments operate cooling systems to maintain temperature and to store food in government buildings. Cooling systems contain refrigerants, such as chlorofluorocarbons (CFCs) or ammonia. If released, CFCs harm the environment by depleting the stratospheric ozone layer. The CAA requires maintenance of cooling systems to be conducted by certified personnel who are using certified equipment and following specified guidelines for reclaiming CFCs. The storage and use of ammonia may require reporting under EPCRA or CAA Section 112(r).

Landscaping

With proper design, landscapes can add value to the local environment. During the design phase, careful consideration should be given to plant selection. For example, native plants can reduce the need for extensive pesticides and watering because they are locally adjusted to the pests and climactic conditions of the region. Landscaping during construction can reduce polluted runoff from construction sites. By installing vegetative buffers along water bodies and seeding dirt piles, construction runoff into lakes and streams is greatly reduced. Proper maintenance calls for reduced levels of pesticides and fertilizers and appropriate irrigation. Toxic quantities of chemicals from pesticides and fertilizers can seep into groundwater and leaching into waterways. Overuse of these chemicals is often complicated by over watering. Best management practices should be consulted for proper application of pesticides and fertilizers and strategies for efficient water use. EPA's GreenScapes Web site [http://www.epa.gov/epaoswer/non-hw/green/] provides more information.

Pesticide Applications

Building maintenance may entail the application of pesticides to eliminate unwanted pests, such as insects, rodents, and weeds. Frequently used pesticides include herbicides, insecticides, fungicides, and rodenticides. Pesticides are also used in landscaping for aesthetic purposes. Improper pesticide application can harm human health, causing respiratory and skin infections, and even death. In addition, improper pesticide application can destroy flora and fauna, and contaminate groundwater and surface water supplies through infiltration and runoff. Section 3.10 describes pesticide management activities.

3.6.3.3 Renovation and Demolition

The renovation and demolition of buildings can impact the environment as materials trapped within the building structure are released to the environment. For example, the removal and disposal of asbestos and lead paint can significantly affect both human health and the environment. Renovation and demolition can also produce a large and varied waste stream – Construction and Demolition (C&D) debris – that includes concrete, asphalt, wood, drywall (sheetrock, gypsum, or plaster), and asphalt shingles. C&D debris is also generated during construction of roads and other public works projects.

Asbestos

Buildings owned by tribal governments may contain asbestos or asbestos-containing materials (ACM). Buildings constructed in the 1960s are more likely to have asbestos-containing sprayed- or troweled-on friable (asbestos that can be reduced to dust by hand pressure) materials than other buildings. EPA banned the use of asbestos-containing materials in the 1970s.

> Go to the EPA's **asbestos** Web site [http://www.epa.gov/asbestos/] provides more information and links to other useful sites.

Used for insulation and as a fire retardant, asbestos and ACMs are still found in a variety of building construction materials, including pipe and furnace insulation materials, asbestos shingles, millboard, textured painted and other coating materials, and floor tiles. When undamaged asbestos is encapsulated (sealed with coating materials), asbestos fibers do not adversely affect impact human health or the environment. During renovation or demolition,

however, asbestos fibers may be released. If inhaled or ingested, these fibers can cause respiratory damage.

Asbestos is recognized as a major environmental/public health concern to schools. If a tribal government owns or operates a school building constructed or insulated with asbestos, particularly if renovations or demolitions occur that release fibers, then indoor air quality can be impaired and people can suffer severe respiratory and other health problems.

Under the Asbestos Hazard Emergency Response Act (AHERA), EPA established a comprehensive regulatory framework, within which tribal governments would inspect, manage, plan, and conduct operations and maintenance (O&M) activities and appropriate abatement responses, in order to control ACM in schools. This framework also applies to BIA and other school operators.

Some tribal governments are in the process of developing comprehensive asbestos management/ control programs and/or abatement contractor certification programs. In addition, EPA's National Emission Standard for Hazardous Air Pollutants (NESHAP) for asbestos regulates asbestos emissions during building demolition or renovation and the transport and disposal of asbestos waste. School building owners – tribes, BIA, and others – are supposed to inspect school buildings for friable and nonfriable asbestos materials. Inspection activities include reviewing building records, inspecting and sampling materials, and mapping the locations of confirmed or suspected asbestos.

Lead-Based Paint

Lead-based paint is typically found on the interiors and exteriors of buildings constructed prior to 1978. During renovation and demolition, paint removal has the potential to impact human health and the environment as fibers, dust, and paint chips are released. Paint chips and dust can cause indoor air contamination during renovation, and soil contamination from demolition or improper disposal. Assessment of lead-based paint hazards and removal of lead-based paint is regulated under TSCA. Disposal of building materials contaminated by lead-based paint is regulated under RCRA.

Demolition of buildings can cause significant levels of fugitive lead dust emissions. It is therefore very important to control and minimize airborne lead dust during building demolition. Suggestions on reducing lead hazards from demolition activities can be found in the EPA brochure entitled *Reducing Lead Hazards When Remodeling Your Home*, available through the National Lead Information Center at (800) 424-LEAD/5323. Tribal governments should contact EPA to discuss how to dispose of lead wastes, such as painted wallboard, doors and doorframes, windows, and similar materials.

Tribal governments that are uncertain about lead hazards in tribal houses or buildings, including decommissioned military housing, should contact the Office of Lead Hazard Control in the Department of Housing and Urban Development (HUD) at 888-LEADLIST ((888) 532-3547). HUD can provide tribal governments with a list of trained lead inspectors who can help determine the presence and extent of lead.

Construction and Demolition Debris

Municipal solid waste landfills are subject to EPA landfill criteria, while tribal governments mostly regulate C&D landfills. EPA's RCRA regulations (*i.e.*, the Conditionally Exempt Small Quantity Generators Rule (CESQGs), June 1996), however, do prohibit hazardous waste from being dumped in C&D landfills unless those landfills meet certain standards. As indicated above, building materials containing lead and asbestos are also regulated by EPA.

> The **Construction Industry Compliance Assistance Center** Web site [http://www.cicacenter.org/] provides plain language explanations of environmental rules for the construction industry. EPA's RCRA in Focus: Construction, Demolition, and Renovation [http://www.epa.gov/epaoswer/hazwaste/id/infocus/rif-c&d.pdf] provides information on RCRA and construction, demolition, renovation and the solid and hazardous waste regulations that may apply.

C&D debris is not federally regulated, except to the extent that solid waste landfills must follow a few basic standards outlined in RCRA Subtitle D and 40 CFR Part 257. Tribes, therefore, have the primary role in defining and regulating the management of C&D debris in Indian country. Depending on a tribe's specific definition, C&D debris can include the following discarded materials:

- Concrete, cinder blocks, drywall (sheetrock gypsum, or plaster), masonry, asphalt and wood shingles, slate, and plaster;
- Forming and framing lumber;
- Steel, stainless steel, pipes, rebar, flashing, aluminum, copper, and brass, residential and commercial steel framing, structural steel, steel utility poles;
- Brick and decorative blocks;
- Siding;

- Doors and windows;
- Plumbing fixtures;
- Electrical wiring;
- Non-asbestos insulation; and
- Wood, sawdust, brush, trees, stumps, earth, fill, and rock and granular materials.

Much non-hazardous construction and demolition materials can be recovered and recycled. EPA's C&D Debris Web site [http://www.epa.gov/epaoswer/non-hw/debris-new/index.htm] provides more information. Also see Appendix E for additional resources.

C&D debris that meets the legal definition of hazardous waste is required to be treated and/or disposed of in a manner consistent with the federal requirements for hazardous waste and any other tribal waste requirements. Examples of hazardous waste in C&D debris wastes can include:

- Waste paints, varnish, solvents, sealers, thinners, resins, roofing cement, adhesives, machinery lubricants, and caulk;
- Drums and containers that once contained the items listed above;
- Treated wood, including lumber, posts, ties, or decks, and utility poles;
- Asbestos-containing items, such as certain older types of floor tile, insulation, or other materials containing asbestos;
- Lead-based paint, or lead flashing or solder;
- Products containing mercury; and
- Other items that have inseparable hazardous constituents.

Most construction, demolition, and renovation companies – regardless of ownership – are considered CESQGs. CESQGs must comply with three basic federal waste management requirements to remain exempt from the full hazardous waste regulations that apply to generators of larger quantities of hazardous waste (Small Quantity Generators (SQGs) and LQGs)):

- Identify all hazardous waste generated on site. The relevant test procedures are described in an EPA document, Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, SW-846 [http://www.epa.gov/sw-846/sw846.htm]. Tribal environmental departments can also use their knowledge of the waste to identify hazardous waste; for example, you might know that the spent solvent you are disposing of is an ignitable hazardous waste, and therefore, you would not have to test for the solvent's flashpoint.
- Do not store more than 2,200 lbs (1,000 kg) of hazardous waste on site at any time.
- Ensure delivery of your hazardous waste to an offsite treatment or disposal facility that is:

- A federally regulated hazardous waste management treatment, storage, or disposal facility.
- A facility permitted, licensed, or registered by EPA or a state to manage municipal or industrial solid waste.
- A facility that uses, reuses, or legitimately recycles the waste (or treats the waste prior to use, reuse, or recycling). A "universal waste" handler or destination facility is subject to the universal waste requirements of 40 CFR Part 273. (Universal wastes include certain batteries, recalled and collected pesticides, mercury-containing thermostats, and mercury-containing fluorescent bulbs).

Note that tribes can seek to require CESQGs to obtain an EPA identification number and comply with certain storage standards. For more information refer to EPA's 40 CFR Parts 260 to 279 Web site [http://www.epa.gov/epaoswer/hazwaste/sqg/cesqg.htm].

3.6.4 ROADS/BRIDGES/TUNNELS

Tribal government activities related to roads, bridges, and tunnels include planning new construction, maintenance of existing infrastructure, and traffic management. Because these activities could affect the environment, they may be subject to federal environmental laws and regulations, as indicated in the following non-exhaustive list:

- New construction – CWA, ESA, Rivers and Harbors Act, CAA, NEPA, RCRA, NAGPRA, NHPA, Marine Mammals Protection Act (MMPA), and the Migratory Bird Treaty Act (MBTA), among other statutes;
- Maintenance and renovation – RCRA, CAA, and CWA; and
- Traffic maintenance and roads – CAA and CWA, including the general nonpoint stormwater runoff provisions.

Tribal governments should also be aware of the potentially applicable federal laws designed to protect worker health and safety, including the Occupational Safety and Health Act. These laws, including the Occupational Safety and Health Act, are implemented by the Occupational Safety and Health Administration (OSHA), within the Department of Health and Human Services. See www.OSHA.gov.

3.6.4.1 NEW CONSTRUCTION

Construction of new roads, bridges, or tunnels generally involves clearing land, constructing the new structure, and disposing of construction waste. The impacts and regulations of these activities are similar to those discussed previously in Section 3.6.3 for buildings.

3.6.4.2 MAINTENANCE AND RENOVATION

Maintenance and renovation of roads, bridges, or tunnels may include street sweeping, snow removal, removal and disposal of lead-based paint, and maintenance of storm sewers. Aspects of these activities may be regulated under the CAA, CWA, RCRA, and tribal solid waste disposal requirements.

Street Sweeping

Tribal governments may sweep streets or require others to do so as a condition of a contract, permit, or intergovernmental agreement. Street sweeping involves using mechanical sweepers to remove dirt, grit, and solids from road surfaces. Street sweeping reduces the concentration of pollutants in stormwater runoff and improves street appearance.

Maintenance of Storm Sewers

Tribal governments may be required to maintain storm sewers as a condition in a contract, permit or intergovernmental agreement. Maintenance of storm sewers may include catch basin cleaning, litter removal from storm channels, and maintenance of stormwater detention facilities. Catch basin cleaning and litter removal from channels protect against street flooding and remove potential pollutants from stormwater. Stormwater detention facilities and other pollutant removal structures, such as sand filters and oil and grit separators, also require frequent maintenance. Disposal of materials generated during cleaning may be regulated under tribal solid waste disposal requirements.

Snow Removal

To maintain road safety in the winter, tribal governments may apply salt and abrasives (*e.g.*, sand) and remove snow. Heavy applications of salts and abrasives may be necessary at busy intersections and steep hills. These activities can degrade water quality by increasing sedimentation and salinity in surrounding water bodies. If applied frequently or improperly, salt may leach into the groundwater and contaminate drinking water supplies.

To prevent such contamination, snow removal activities may be regulated under a tribal law. The code may require designation of sensitive areas (*i.e.*, near public water supply facilities or locations with high levels of groundwater recharge) where pollution prevention practices must be followed. Some of these practices include prohibiting the dumping of heavily treated snow

directly into water bodies or in or around drinking water supplies or landfills, proper operation of salt storage facilities to reduce potential salt-contaminated runoff, and use of alternative de-icing materials (*i.e.*, calcium magnesium acetate).

Removal and Disposal of Lead-Based Paint

Lead-based paint is typically removed from bridges by sandblasting or abrasive blasting prior to refurbishing and repainting. Sandblasting/abrasive blasting removes the existing paint with high velocity sand or synthetic particles. This process could contaminate the air with lead dust, and soil and water during disposal or spills of lead-contaminated sand/abrasive and paint chips. Where possible, blasting should take place in such a way as to contain and or prevent releases of lead-contaminated materials to the environment. RCRA and TSCA regulate the disposal of materials contaminated with lead-based paint. Prevention of lead dust releases may be regulated by the CAA. Lead-based paint is also discussed in the context of building operations and repair, Sections 3.6.3 and 3.6.4, respectively.

3.6.4.3 Traffic Management

Traffic management includes designing roads and bridges, access points, and traffic signals, and it affects the environment by impacting motor vehicle emissions. Increased access points to major roads generally lead to more traffic, while new traffic signals often lead to increase emissions from engine idling.

The Federal Highways Administration (FHWA) within the Department of Transportation and the BIA provide information to tribes developing traffic management plans. When developed, each traffic management plan would conform to a CAA Tribal Implementation Plan (TIP) or Federal Implementation Plan (FIP) applicable to the tribe's reservation. The TIP or FIP will account for the air pollution associated with the tribe's traffic management actions.

FHWA's *Transportation Planning Procedures and Guidelines* Web site [http://www.fhwa.dot.gov/flh/reports/indian/intro.htm - toc] provides guidance for tribes and BIA to use when addressing transportation issues and this document meets the intent of the Federal Lands Highways Program (23 USC 204), the Indian Self-Determination and Education Assistance Act, (25 USC. 450), the Roads of the BIA (25 CFR Part 170, and the Indian Reservation Roads Program Stewardship Plan. The document, rather than utilizing predetermined criteria that may

not be applicable to tribal needs, provides a basis for developing goals and strategies that will lead to good decisionmaking.

3.6.5 UNDERGROUND STORAGE TANKS

An underground storage tank (UST) system is a tank, and any underground piping connected to the tank, that has at least 10 percent of its combined volume underground. The federal UST regulations apply only to UST systems storing either petroleum or certain hazardous substances.

> The EPA's Underground Storage Tank (UST) Web site [http://www.epa.gov/oust] provides additional material on **USTs**.

Until the mid-1980s, most USTs were made of bare steel, which is likely to corrode over time and allow UST contents to leak into the environment. Faulty installation or inadequate operating and maintenance procedures also can cause USTs to release their contents into the environment.

The greatest potential hazard from a leaking UST is that petroleum or another hazardous substance can seep into the soil and contaminate groundwater, the source of drinking water for nearly half of all Americans. A leaking UST can present other health and environmental risks, including the potential for fire and explosion.

> EPA's Detecting Releases Web site is found at http://epa.gov/ustsystm/leakdet.htm And SPCC program found at http://epa.gov/oil/spcc.htm.

Subtitle I of RCRA contains technical and financial requirements for USTs storing petroleum or certain hazardous substances. The technical requirements are designed to reduce the chance of releases from USTs, quickly detect releases when they do occur, and cleanup releases promptly. Tribal governments with USTs are required to have:

- Upgraded all USTs to protect against corrosion, spills and overfills;
- Replaced outdated USTs with new USTs that have corrosion, spill and overfill protection; or
- Properly close all USTs by notifying EPA at least 30 days before closure, conducting any necessary site assessment and remedial action, having the tank emptied and cleaned safely, and either removing the tank or leaving it buried but filled with an inactive solid (i.e., sand).

In addition, tribal governments with USTs must demonstrate they are financially capable of cleaning up releases and compensating third parties for resulting damages. See http://epa.gov/swerust1/ustsystm/fineresp.htm

A tribe with a leaking UST is responsible for ensuring that the release is cleaned up, to restore and protect groundwater resources, and to create a safe environment for those who live or work near the site. Cleanup is essential because petroleum releases can contain contaminants like methyl tertiary butyl ether (MTBE) that can make water unsafe or unpleasant to drink. Releases can also result in fire and explosion hazards, as well as cause long-term health effects. Often the specific characteristics of the site (its type of soil, proximity to groundwater) make it a better candidate for a particular type of cleanup method. A contaminated site will need a site characterization (also referred to as a "site assessment") that can help professionals choose the best cleanup method. Professional cleanup contractors base their decisions on site-specific investigations and with local environmental agency approval. In some cases, state or federal regulators take the lead at a contaminated UST site and will make all the cleanup decisions.

For leaking USTs on tribal lands that are not owned by a tribe or that the tribe involuntarily came into possession of, the tribe may be able to receive federal cleanup assistance from EPA. In certain specific cases, EPA may be able to utilize the Leaking Underground Storage Tank Trust Fund for tanks that present a threat to human health and/or the environment. To determine if it is eligible for such assistance, the tribe should contact the EPA Regional underground storage tank people listed in Appendix A.

3.6.6 ABOVEGROUND STORAGE TANKS

EPA's SPCC Web site http://epa.gov/oil/spcc.htm provides comprehensive information on ASTs

Aboveground storage tanks (AST) are tanks or other containers that are above ground, partially buried, bunkered, or in a subterranean vault. Certain oil-containing ASTs need to meet EPA's Spill Prevention, Control, and Countermeasure (SPCC) requirements (40 CFR Part 112). The SPCC rule applies to non-transportation-related onshore and offshore facilities that could reasonably be expected to discharge oil into navigable waters of the United States or adjoining shorelines. It applies to facilities that have an aboveground oil storage capacity of more than 1,320 gallons. At regulated facilities, SPCC applies to all oil containers with a capacity of 55 gallons or greater. The SPCC rule regulates all types of oil, including petroleum oil, animal fats and vegetable oils, and other non-petroleoum oils.

The SPCC rule sets forth requirements for prevention of, preparedness for, and response to oil discharges. To prevent oil from reaching navigable waters of the United States and adjoining shorelines, and to contain discharges of oil, the regulation requires facilities to develop and implement SPCC Plans and establishes procedures, methods, and equipment requirements. A spill contingency plan is required as part of the SPCC Plan if a facility is unable to provide secondary containment (e.g., berms surrounding the oil storage tank). A copy of the entire SPCC Plan must be maintained at the facility if the facility is normally attended for at least four hours

per day. Otherwise, the SPCC Plan must be kept at the nearest field office. The SPCC Plan must be available to EPA for on-site review and inspection during normal working hours.

Each SPCC Plan, while unique to the facility it covers, must include certain elements, as outlined in the rule. To ensure that facilities comply with the spill prevention regulations, EPA regional staff may conduct on-site facility inspections. During an inspection, inspectors may ask to review the SPCC Plan and conduct a walk-through inspection of the facility to ensure that the facility has implemented spill prevention and response measures. In addition, EPA may interview facility personnel on the SPCC Plans and their role in implementing it. Additionally, regulated facilities are required to submit certain information to EPA after experiencing two or more discharges (over 42 gallons) of oil in any 12-month period or a single oil discharge of more than 1,000 gallons. These requirements are in addition to discharge notifications required under other regulations.

Tribes with ASTs should keep in mind that oil-containing ASTs can increase the risk of fire and hazards resulting from damage caused by vehicles or vandals. The SPCC rule contains provisions requiring certain security and safety features to avoid vandalism, accidents involving vehicles, and tank overfills. Tribes may additionally seek to regulate ASTs through a combination of construction, installation, operation, and maintenance requirements that are intended to prevent fires and other hazards that stem from mismanaged or substandard ASTs.

3.6.7 Outdoor Recreation Facilities (Including Stadiums and Golf Courses)

Tribal governments construct and maintain outdoor recreation facilities, including swimming pools, playing fields, and stadiums. Because these activities could affect the environment, they may be subject to environmental laws and regulations, as indicated in the following list:

- New construction – CWA, RCRA, ESA, Rivers and Harbors Act, CAA, NEPA, and NAGPRA, NHPA, MMPA, and the MBTA among other statutes;
- Maintenance and renovation – CWA, RCRA, EPCRA, CERCLA, CAA, TSCA, and FIFRA.

3.6.7.1 New Construction

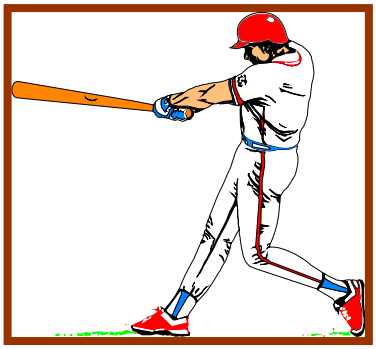
New construction of swimming pools, playing fields, golf courses, and stadiums has many of the same impacts as constructing buildings, roads, bridges, and tunnels. New construction involves

clearing and grading land, landscaping, and building the structure. Section 3.6.4.1 describes these impacts and the associated regulations.

3.6.7.2 Facility Maintenance and Renovation

Facility maintenance and renovation are performed on playing fields and golf courses, stadium buildings (including wastewater treatment plants), and swimming pools.

Playing Field and Golf Course Maintenance



Playing field and golf course maintenance may involve numerous activities, including mowing, irrigating (watering), fertilizing, resodding, applying pesticides, applying biosolids, spreading lime, and maintaining vehicles.

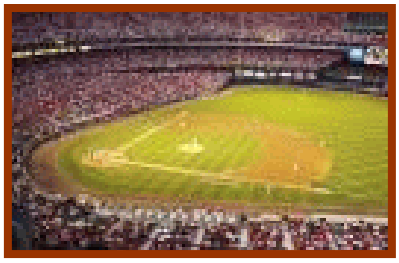
Tribal governments may conduct each of these activities to keep their playing fields in good condition for their designated use. Mowing is typically done by gasoline-powered mowers that can pollute the air with particulates, volatile organic compounds (VOCs), and noise. While mowing activities are generally exempt from EPA regulations, the engines of the mowers themselves are required to meet federal specifications designed to reduce emissions. EPA's first set of emission standards for small engines typically used in lawn and garden applications took effect in 1997. A second set of more stringent emission standards took effect in 2001 and is currently being phased in through 2007. EPA has estimated that these standards will reduce hydrocarbon emissions from these sources by over 70 percent from unregulated levels.

Activities such as irrigating, fertilizing, and applying pesticides and biosolids may affect the environment through spray drift, infiltration, or runoff, which may contaminate local waterways or cause soil erosion. If playing field irrigation leads to a direct discharge (*i.e.*, water is drained to a pipe that leads to a surface water or a stormwater system), the discharge may be regulated under the NPDES program in the CWA. If the discharge drains to a municipal sewer system, the discharge may be regulated under the pretreatment program in the CWA. Tribes that apply biosolids may establish levels of concentration that are acceptable for application. Tribes that fertilize their playing fields and golf courses with biosolids from a municipal wastewater treatment plant must comply with the biosolids management section of the CWA. Pesticide use, including storage and disposal, is regulated under FIFRA. Section 3.9.2.6 provides additional information on regulations concerning the application of biosolids while Section 3.10 provides additional information on pesticides and fertilizers.

Maintaining vehicles and equipment used for playing field and golf course care may be regulated under several environmental laws. Section 3.12 describes these activities in detail, and the applicable laws and regulations.

Maintaining Stadium Buildings

Maintenance of stadium buildings includes many of the activities related to maintenance of other buildings that are described in this section. In addition to operating boilers and cooling systems, maintenance of stadium buildings may include operating a wastewater treatment plant during stadium events; operating a large electrical system that includes capacitors and transformers; storing and using cleaning chemicals; sanding and salting, as well as removing snow from stadium parking lots; and managing non-hazardous waste streams, including food wastes.



Stadiums in Indian country are growing in popularity and may accommodate horse and dog racing, concerts, and sports attractions. Larger stadiums may have their own wastewater treatment plants to accommodate a relatively large number of users during stadium events. Operation of a stadium wastewater treatment plant has the potential to affect the environment (air and water) in the same manner as a municipal wastewater treatment plant, which is described in Section 3.9. Discharges from wastewater treatment plants are regulated under the CWA.

Stadiums that hold evening events often have extensive lighting and public address systems that require capacitors and transformers to assure the necessary electrical current. Stadiums may also have diesel fuel-fired generators for auxiliary power. Capacitors and transformers that contain PCB oils are regulated under TSCA, which may require the labeling of PCB-containing equipment. The storage of oils, as well as spills of PCB oils and oils without PCBs, including diesel fuel, may be regulated under the SPCC provisions of the CWA, depending on the total volume of oil stored at the stadium.

Maintaining stadium parking lots may involve applying salt or sand to lots or removing snow. Each of these activities may be regulated under the CWA. Stadiums use chemicals for cleaning all aspects of the stadium, including restrooms, food service areas, and seating areas. The storage and use of these chemicals may be regulated under the CAA, EPCRA and CERCLA.

Maintaining Swimming Pools

Tribal governments may operate outdoor recreation facilities that include swimming pools. Swimming pool maintenance involves treating pool water through filtration and the addition of chemicals. The use and storage of pool chemicals may be regulated under EPCRA, and the disposal of unused or spilled pool chemicals may be regulated under RCRA. The drainage and disposal of pool water by subsurface infiltration may be regulated under SDWA.

3.6.8 Vehicle and Equipment Maintenance

Tribal governments with vehicles associated with property construction and property management activities should review Section 3.12.

3.6.9 Pollution Prevention in Construction and Maintenance

The Construction Industry Compliance Assistance Web site [http://www.cicacenter.org/] provides information on **pollution prevention in construction and maintenance**.

Tribal governments may be responsible for construction and maintenance activities. Included in this category is the construction and maintenance of roads, bridges and tunnels, the construction, maintenance, renovation and demolition of structures. In some cases, these activities are conducted through contractual arrangements. A simple building/construction cycle includes the following activities:

- Pre-construction;
- Construction; and
- Maintenance and repair.

3.6.9.1 Typical Wastes Generated

Pollution prevention begins long before the first nail is driven. Tribal governments can conduct a baseline analysis of institutional issues that may affect pollution prevention/green building construction and maintenance policy implementation. Areas to examine include procurement policies, zoning, building codes and standards, operations and maintenance policies, and recycling policies. Throughout the construction and maintenance process, opportunities exist for implementing pollution prevention.

Pre-construction activities involve the preparation of a site for future development. During this phase existing vegetation and structures may be removed, creating demolition waste including

asbestos, mercury, PCB, lead based paints, and dust. Other pre-construction impacts include increased potential for storm water runoff and possible negative impacts on aquatic resources and habitat.

Construction activities may involve grading, drilling, and filling. These activities generally do not generate substantial hazardous waste but may result in habitat loss through erosion, sedimentation, and disruption of the natural environment. Building construction and maintenance activities generate wastes from paints, thinners, grease, resins and sealers, glues, cleaners, hydraulic oils, paint remover/stripper, soiled rags, and solder, as well as a host of solid wastes including paper, plastic, scrap lumber, insulation, metals, gypsum, and roofing materials.

Maintenance and repair activities involve the removal and replacement of worn or damaged surfaces, structural members and lubricating or cooling fluids. This could result in the generation of hazardous wastes such as lead based paint or asbestos, cleaning fluids, used lubricating oil, and cooling system fluids.

Construction and Demolition (C&D)

A major opportunity in the C&D industry is the recovery and reuse of materials. C&D recovery and reuse is important because a large fraction of the debris ends up in municipal solid waste landfills or in special C&D landfills, which may have the potential to contaminate groundwater. Also, each year, there is less land available for waste disposal.

Areas to examine include the type of demolition process selected, labor costs, reuse, recycling, contracting constraints, project schedules, material storage space, and marketability of materials. By reducing the amount of C&D debris that is thrown away, tribes also reduce their regulatory burden by avoiding the disposal of items that could be considered hazardous waste.

The key to reducing the amount of C&D debris is to make material recovery a part of the planning and contracting process, and make waste management and recovery plans part of the contractual scope-of-work. Recovery levels could be made an explicit criteria in the awarding of contracts. Prevailing labor rates and local market conditions will need to be considered since labor costs are viewed as the single most important barrier to increasing C&D materials recovery.

A tribe's permit department could consider connecting permit authorization with material recovery efforts. Educational outreach programs, including workshops, Web sites and informational packets, represent another method for encouraging greater participation in C&D material recovery programs.

3.6.9.2 TOP POLLUTION PREVENTION OPPORTUNITIES

- Adopt and implement a policy to encourage the use of green practices in building design, construction, and operation.
- Use "first-in, first-out" materials management.
- Segregate waste streams.
- Reduce risks of spills by controlling access to storage areas and routinely inspecting containers.
- Recycle used cleaning, lubricating, or cooling fluid.
- Use water-based paints and coatings to minimize the use of petroleum-based solvents and the hazardous air emissions associated with such solvents.
- Avoid unnecessary grading and removal of vegetative cover to minimize road runoff into surface water.
- Use waterborne or thermoplastic traffic paint.
- Consider deconstruction and reuse of existing buildings rather than demolition.
- Utilize deconstruction, or the selective disassembly of buildings, to facilitate the re-use or recycling of valuable materials.
- Use high efficiency lighting and electronic ballasts to illuminate roadways and tunnels, and install occupancy sensors to control lighting fixtures.
- Design for water conservation. Group plants with similar water needs together so they can be irrigated together and water will not be wasted on plants that do not need it. Proper watering reduces stress on plants and allow their natural resistance to withstand pest attacks without the need for pesticides.
- Employ Environmental Landscape Management (ELM). ELM is a common-sense approach that starts with healthy growing space. Select pest resistant plants, use sound planning techniques, and correctly manage the established landscape. Choose plants according to soil characteristics (pH level, moisture retention), rainfall, and sunlight conditions. Use more native plant species and reduce the use of exotics.

3.7 WATER RESOURCES MANAGEMENT

Water resources include surface waters (*i.e.*, coastal bays, lakes, rivers, and streams) and groundwater. These water resources may be used for drinking water, industrial processes, agriculture, and irrigation. Water resources also provide opportunities for recreation, such as fishing, boating and swimming. Tribes also use water resources to support and maintain traditional cultural practices and ceremonies.

> **EPA's Water** Web site [http://www.epa.gov/OW/index.html] provides access to all EPA's **water quality issues** including groundwater, drinking water, water science, wastewater management, wetlands, oceans, and watersheds.

For each of these uses, tribal governments are one of many governmental entities – tribal, state, and federal – that may be responsible for ensuring that the water is safe and available in sufficient quantities for its intended purpose. Activities related to water resources management include protecting and managing surface waters (including reservoirs) and protecting groundwater. Water resources management programs protect these waters from direct wastewater discharges and problems caused by urban and agricultural runoff. Among the most important ecosystems in terms of watershed protection are wetlands, which filter pollutants, afford protection from floods, and are home to a wide diversity of plants and animals. Also important are estuaries, which serve as both birthplace and nursery for many species of fish and shellfish. Today, the majority of watersheds in the United States have water quality problems, including excess nutrient loading and the presence of pathogens and toxic chemicals; these problems have led to habitat loss, invasive species incursion, fish kills, and can present public health threats.

Tribes have a dual role in the area of water resources management. They may develop separate water quality programs and/or seek to implement federal programs like the CWA. To date, however, most tribes do not exercise federal program authority under the CWA. Where tribes have not received authorization to implement federal programs under the CWA, EPA directly implements programs in Indian country.

In their other role, some tribal governments may be responsible for managing the water resources within their borders as part of their efforts to meet requirements in their NPDES permits for municipal wastewater treatment plants, municipal stormwater runoff, or combined sewer overflow (CSO) controls. While many water resource management activities will overlap these permit requirements, tribal governments may elect to develop water resources management programs whether or not they are required by regulation.

3.7.1 SURFACE WATER PROTECTION

Surface water problems are complex and may vary from region to region. Tribes are beginning to protect and restore watersheds using a variety of methods, including: establishing tribal water quality standards; monitoring on-reservation waters, and in some cases up-stream or other off-reservation waters, to assess water quality; identifying water quality impairment; determining necessary pollution reductions; and taking steps to protect and restore water quality through tribal authorities.

The EPA's Watershed Web site [http://www.epa.gov/owow/watershed/] provides for information on **protecting surface waters and watersheds**.

The CWA provides the basis of federal programs to protect surface water quality, which tribes are also eligible to seek to implement. Tribes may use a watershed approach, which is a management framework that focuses public and private efforts on addressing high priority problems within hydrologically defined geographic areas and considers both ground and surface water flow.

3.7.1.1 WATER QUALITY STANDARDS

Water quality standards are the cornerstone of the nation's surface water protection program and are integral to implementing the water quality framework of the CWA. The water quality standards program is authorized under Section 303(c) of the CWA (33 USC 1313(c)), and implemented through 40 CFR Part 131.

The EPA's Water Quality Standards Web site [http://www.epa.gov/waterscience/standards/tribal/] provides material on **water quality standards**. View "Our Water Our Future: Saving Our Tribal Life Forces Together," [http://www.epa.gov/waterscience/tribes/videoreal.htm], which documents the Pueblo of Acoma and the Confederated Tribes of the Chehalis Reservation efforts to develop water quality standards.

Under the CWA, water quality standards serve two primary purposes. First, they define the water quality goals for a water body. Second, they serve as the regulatory basis for controls beyond technology-based levels of treatment required by Sections 301 and 306 of the CWA. Generally, water quality standards provide a means to attain the goals of the CWA.

Water quality standards consist of three components:

- Uses of the water body (such as boating, swimming, fishing, cultural, or traditional);
- Water quality criteria (limits on pollutants and conditions that will protect the designated use); and
- An antidegradation policy (governing changes in water quality).

EPA-approved water quality standards may be adopted for all surface waters of the United States, including lakes, rivers, streams, intermittent streams, natural ponds, estuaries, near-shore coastal waters and wetlands. For tribes, two of the requirements for applying to administer the water quality standards warrant particular emphasis. First, tribes must demonstrate that they have the technical capability to administer the program or provide a plan showing how the tribe will get such capability. Second, tribes must demonstrate that they have jurisdiction over the affected water resources; this demonstration, among other things, involves delineating tribal authority for areas inside of a reservation's boundary.

Information on water quality standards and criteria for waters in Indian country is available at EPA's Web site Tribes: Water Quality Standards and Criteria [http://www.epa.gov/waterscience/tribes/]. This Web site provides information on the development of sound, scientifically defensible standards, criteria, advisories, limitations and standards guidelines under the CWA and SDWA.

3.7.1.2 WATER QUALITY MONITORING

Ambient monitoring means observing or measuring selected features of an aquatic ecosystem and is essential to surface water protection. It is performed in order to assess the health of an aquatic ecosystem and its ability to support human uses. Ambient monitoring is also used to identify problems or changes early on, provide insight into the causes of problems, and determine whether water quality goals have been achieved. Designing an effective ambient monitoring program involves four elements:

EPA's Monitoring and Assessing Water Quality Web site [http://www.epa.gov/owow/monitoring/] provides material on EPA's **water quality and monitoring activities**.

- Determining what information is needed;
- Choosing the appropriate indicators, methods, and sites for monitoring;
- Determining the time of year, day, and frequency of the monitoring to be done; and
- Assuring the quality of the results.

There are several methos to monitor water conditions:

- Chemical measurements monitor the chemical concentrations in water, sediments, and fish tissue.
- Physical measurements of general conditions, such as temperature, potential of hydrogen (pH), flow, watercolor, and the condition of stream banks and lakeshores; and
- Biological measurements of the abundance and variety of aquatic plant and animal life, and the ability of test organisms to survive in sample water.

Monitoring can be conducted in several ways – at regular sites on a continuous basis, at selected sites on an as-needed basis to answer specific questions, on a temporary or seasonal basis, or on an emergency basis. Increasingly, monitoring efforts are aimed at determining the condition of entire watersheds. This is because of increased understanding of the importance of watershed-based management, which itself reflects the interconnectedness of all types of waterbodies and a recognition of the impacts of land-based activities on the waters that drain the land, including those beneath the ground.

Tribal governments have key monitoring responsibilities and may implement monitoring programs. Pollution control decisions are based on data collected by tribes, as well as federal and state governments and private entities. EPA provides technical assistance on how to monitor, as well as how to report water quality monitoring findings to the federal government. EPA also provides grants for pollution control activities, which tribes (and states) may use to support monitoring programs.

Tribes may seek to obtain grants under Section 104 and 106 of the CWA to carry out effective water pollution control programs. Section 106 grants may be used to fund a wide range of water quality activities, including: water quality planning and assessments; development of water quality standards; ambient monitoring; development of total maximum daily loads (TMDLs); issuing permits; groundwater and wetland protection; nonpoint source control activities (including nonpoint source assessment and management plans); and watershed assessments. Section 104 grants may be used to focus on innovative demonstration and special projects. Among the efforts eligible for funding are research, investigations, experiments, training, environmental technology demonstrations, surveys, and studies related to the causes, effects, extent and prevention of pollution. See Appendix F, Funding Resources.

3.7.2 LISTING OF IMPAIRED WATERS

The CWA requires the listing of each currently impaired and threatened water body, and the setting of priorities for their cleanup; the impaired waters list is also

US Watershed Assesment Tracking and Environmental Results Tool, use to find impaired waters at http://epa.gov/waters/tmdl/expert_query.html.

called the 303(d) list, named after the section of the CWA that requires it. Generally, any water body that does not meet, or is not expected to meet, its water quality standards after application of technology-based pollution controls is considered an impaired water body. Any water body that is not impaired but which, based on expected changes in loadings or conditions, is considered a threatened water body.

Tribes may be involved in listing of impaired waters in one of two ways:

- As the entity responsible for the initial listing and biannual listing update, through authorization by EPA under the CWA.
- As a reviewer of listing decisions made by bordering tribes or states on shared water bodies.

Tribes may apply to EPA for authority for assigning priorities and developing plans to clean up the listed waterbodies. To date, however, no tribes have authority under the CWA to list impaired waterbodies. Both the initial listing and the updated listing are sent to EPA. These plans are known as TMDLs, and are discussed in Section 3.7.3. The priorities for establishing TMDLs are based upon the severity of the pollution and the designated uses of the particular waters. EPA recommends that the criteria for making priority decisions include the level of risk to human health and the environment; the degree of public interest and support; the aquatic habitat's vulnerability to pollution; and the importance of recreational, aesthetic, or economic uses.

Tribes can influence listing decisions of neighboring states by providing information about the health of a water body to the neighboring states and/or directly to EPA. The list of impaired waterbodies may include waters for which water quality problems are reported by governmental agencies, the general public, or academic institutions.

3.7.3 TOTAL MAXIMUM DAILY LOADS

A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings among point and nonpoint pollutant sources. Tribes can become involved in establishing TMDLs in three ways. First, tribes can develop EPA-approved water quality standards and develop their own TMDLs affecting the listed waterbodies on the reservation. Second, tribes may provide information and become involved in the TMDL processes and decisions with states affecting shared water bodies. Third, tribes may assist EPA in developing TMDLs for Indian country. The second and third

> EPA's **Total Maximum Daily Loads (TMDLs)** Web site [http://www.epa.gov/owow/tmdl/] provides useful guidance information.

ways are effective options for tribes to become familiar with the TMDL process and help ensure their interests are represented. TMDLs are submitted to EPA for review and approval. If EPA disapproves a TMDL, the Agency must establish TMDL within 30 days of the disapproval. The TMDL program is found in section 303(d) of the CWA and 40 CFR Part 131.

A TMDL is the sum of the allocated pollutant loads and is set at a level necessary to implement the applicable water quality standards; a TMDL includes:

- Wasteload allocations from point sources; and
- Load allocations from nonpoint sources and natural background conditions.

A TMDL must contain a margin of safety and a consideration of seasonal variations. In addition, EPA encourages authorized tribes and states to identify a monitoring plan and schedule for considering revisions to TMDLs that will be implemented over time.

3.7.4 Implementation of Watershed (Surface Water) Protection Programs

EPA's Watershed Web site [http://www.epa.gov/owow/watershed/] provides material on EPA's **watershed protection issues**.

The CWA requires that any point source discharger into surface waters obtain an NPDES permit, including any facility discharging into waters in Indian country. As discussed in Chapter 3.9, publicly owned treatment plants are required to provide at least secondary treatment for their discharged wastewater. When this level of treatment does not protect receiving waters, additional treatment must be applied in order to meet water quality standards.

Wastewater discharges from commercial/industrial sources may contain pollutants at levels that could effect the quality of receiving waters. The NPDES permit program establishes specific requirements for discharges from these sources. Depending upon the type of industrial or commercial facility operated, more than one NPDES program may apply. For example, stormwater run off from an industrial facility or from a construction site may require an NPDES permit under the stormwater program. An industrial facility may also discharge wastewater to a sewer system and be covered by the NPDES pretreatment program. Alternatively, an industrial facility may discharge wastewater directly to a surface water and need an NPDES permit issued by EPA.

Tribes may seek authorization from EPA to administer NPDES programs. To date, no tribes have been authorized. However, tribes can have a role in the permitting process through the

public participation provisions of the NPDES regulations (40 CFR Part 122). These participation provisions enable tribes to comment during the public hearings or notice and commit opportunities and appeal permit decisions. Many point source discharges remain undetected and unpermitted. Tribes can visually survey the rivers and streams of their watersheds to identify sources of pollution that are affecting their water resources. These unpermitted discharges can be brought to EPA's and the permitting authorities attention in order to stop the discharge, or to force the polluting facility to obtain a discharge permit and undergo a public comment period.

3.7.4.1 BEST MANAGEMENT PRACTICES

EPA's National Stormwater BMPs found at http://epa.gov/npdes/stormwater/ .

Best Management Practices (BMPs) may be structural (*e.g.*, stormwater detention/retention ponds) or nonstructural (*e.g.*, street sweeping) and may include managing existing sources or conduits of contamination, such as roads, bridges, and stormwater systems. These activities help tribal governments protect their water supplies, comply with stormwater permits, prevent soil erosion into water, and prevent problems associated with agricultural runoff.

Structural BMPs are designed to prevent, inhibit, or slow the rate at which stormwater runoff or spilled contaminants reach a body of water. BMPs, including extended retention ponds, wet ponds, and constructed wetlands, prevent contaminants from reaching surface waters by capturing runoff and allowing it to filter through the soil or evaporate, rather than directly flowing to a water body. Additional filtering structures include sand filters, oil and grit separators, and infiltration basins. Containment structures may require periodic maintenance to remove accumulated sediment, while filtering structures may require maintenance to remove debris and ensure efficient operation. Each of these structures helps remove contaminants (sediments, oils and greases, pesticides, fertilizers, debris) from rainwater and helps to protect the surface water for its intended use. Some structural BMPs that rely on stormwater infiltration may be subject to federal Underground Injection Control (UIC) regulations.

Nonstructural BMPs include various operational activities such as sweeping streets and maintaining or preserving grassed swales, vegetative buffer areas, and wetlands. Street sweeping protects surface waters by removing such solids as sand, debris, and litter that would otherwise be transported to the surface water during a rain event. Street sweeping also prevents contaminants that may be absorbed by sand and debris from reaching surface water.

Vegetative buffer areas are physically active controls designed and maintained to filter pollutants and thereby prevent them from reaching surface waters; vegetative buffer areas are essential to maintaining surface water quality. These areas complement passive control, such as land use or

zoning laws, which prevent activities (*e.g.*, paving, pesticide use) that could increase surface water contamination.

Wetlands are also used to help break down contaminants before they reach open bodies of water. Tribal governments may actively manage marsh areas by adding new plants and removing accumulated sediment.

Tribes may seek financial assistance from EPA and other federal agencies to assist them in protecting their water resources. EPA provides grants to tribes for the construction of wastewater and drinking water treatment facilities to develop a surface water protection program targeted at controlling pollution from nonpoint sources. See Appendix F, Financial Resources.

3.7.5 RESERVOIR MANAGEMENT

Protecting reservoirs is a key component of a tribal government's surface water protection program. Keeping reservoirs clean and free from contamination helps ensure a safe supply of drinking water. In addition, preventing debris, sedimentation, litter, chemicals, or other pollutants from entering a reservoir reduces the amount of treatment necessary for the water to meet drinking water standards. While managing reservoirs includes many of the BMPs described in Section 3.7.4.1, it also includes establishing security around the reservoir and creating buffer zones.

Reservoir security involves controls to prevent direct litter, dumping, or inappropriate use. Security measures may include fencing at the water line or fencing of a larger surrounding area. Providing limited access roads or trails in the vicinity of the reservoir is another way to protect reservoirs. While not preventing contamination, limiting access roads and trails can prevent large-scale dumping, limiting pollution to litter or human waste. Such efforts can also enhance the protection of cultural resources and hunting, fishing, and gathering sites.

3.7.6 SOURCE WATER (GROUNDWATER) PROTECTION

Tribal governments that provide or maintain drinking water supplies within their boundaries are encouraged to develop Source Water Assessment and Protection Programs. Source Water Assessment and Protection Programs help enable tribes to assess possible threats to their

EPA's Source Water Protection Web site [http://www.epa.gov/safewater/protect.html] contains a variety of information on **groundwater and sourcewater protection** to prevent drinking water contamination.

public drinking water supply sources and to develop protection measures to protect these sources against those threats.

The program begins with the assessment phase:

- Mapping of source water areas around the drinking water source;
- Identifying potential contaminant sources in the mapped protection area that may impact the drinking water supply;
- Determining the magnitude of the threat posed by the potential sources of contamination; and
- Notifying the public of the results of the assessment.

Source water protection elements are developed and implemented based on the results of the assessment. Typical Source Water protection elements may include:

- Sole source aquifer designation;
- Zoning ordinances;
- Site plan reviews;
- Design standards for new construction and operating standards for ongoing land use activities;
- Property or easement purchases;
- Public education;
- Groundwater monitoring;
- Household hazardous waste collection; and
- Integrated pest management.

Tribal governments may develop an array of regulations to enhance groundwater protection. Tribes may also want to partner with state, local, and regional planning bodies or water commissions to ensure their views are incorporated into regional watershed decisionmaking.

3.7.6.1 Elements of a Source Water Protection Plan

Sole Source Aquifer Designation

Tribes may seek sole source aquifer designations to protect drinking water supplies in areas with few or no alternative sources and where available alternatives sources would be extremely expensive. The designation protects an area's groundwater resource by requiring EPA review of

any proposed projects within the designated area that receive federal financial assistance. The program typically reviews projects such as highway construction, airports and wastewater treatment facilities, but all proposed projects receiving federal funds are subject to review to ensure they do not endanger the water source.

The program also provides for EPA review of federal financially assisted projects planned for the area to determine the projects' potential for contaminating the aquifer. Based on this review, no commitment of federal financial assistance may be made for projects "which the EPA Administrator determines may contaminate such aquifer," although federal funds may be used to modify projects to ensure that they will not contaminate the aquifer. Section 1424(e) of the SDWA addresses sole source aquifer designations.

Zoning Ordinances

Zoning and subdivision ordinances are used to direct or limit development in a wellhead protection area to can limit the number of potential sources of contamination. Zoning ordinances may restrict or regulate land uses within the protected area while subdivision ordinances are designed to limit the division of land for sale or development. See Section 3.6.1.

Site Plan Reviews

Site plan reviews require developers to submit plans for approval for development occurring within a given area. Site plan reviews help minimize the impact on a protected area by requiring compliance with protection ordinances and giving the tribal government an opportunity to review and approve development activities prior to implementation.

Design and Operating Standards

Tribal governments can establish design standards for new construction and operating standards for ongoing land use activities. Design standards can ensure that new buildings or structures placed within a wellhead protection area do not pose a threat to the water supply. For example, a tribe could develop design standards for gas stations in order to reduce runoff that could contaminate the water supply. Operating standards minimize threats from ongoing activities, such as application of fertilizers and pesticides or storage and use of hazardous materials. These standards may also include prohibition of potential pollutant sources within protected areas.

Property or Easement Purchases

Tribal governments can purchase property or property easements on land within the protected areas. These purchases can prevent future development and give the tribal government land on which to maintain vegetative buffers to help prevent contaminants from reaching the protected area.

Household Hazardous Waste Collection

As part of their wellhead protection programs, tribal governments may establish household hazardous waste (HHW) collection programs. HHW collection programs provide an opportunity for the safe disposal of oils, fertilizers, gasoline, or other household chemicals that residents might otherwise dispose of on the ground or in a landfill designed to accept only non-hazardous solid waste. By collecting and safely disposing of these materials, tribal governments prevent them from potentially reaching underground drinking water supplies. See Section 3.11.5.

Groundwater Monitoring

As part of wellhead protection programs, tribal governments may monitor the groundwater within and leading to a drinking water aquifer. In addition, a tribe with appropriate regulatory authority could require owners of businesses that have the potential to contaminate groundwater to monitor groundwater as it leaves their property. EPA regulations may require monitoring in particular circumstances (*e.g.*, underground storage tanks) and tribal governments may request property owners who participate in particular activities (*e.g.*, agricultural fertilizer/pesticide application) to periodically monitor groundwater to determine whether it is becoming contaminated. Proper sampling and well drilling techniques are important to prevent aquifer contamination.

Public Education

Tribal governments may initiate efforts to educate the public on potential threats to groundwater, on how the public's actions impact groundwater, and the need to prevent groundwater contamination. Some examples of efforts that tribes may pursue include sponsoring advertisements and radio programs, distributing fliers, posting information on community bulletin boards, and providing information at tribal meetings.

Integrated Pest Management

Integrated pest management (IPM) is another way to protect reservoirs. IPM is an approach to pest management that blends all available management techniques – nonchemical and chemical – into one strategy: monitor pest problems, use nonchemical pest control, and resort to pesticides only when pest damage exceeds an economic or aesthetic threshold. Using IPM will enable the tribal government to determine whether pesticide application is appropriate in and around groundwater and, if appropriate, which type of pesticide to apply. Additional information about IPM is found in section 3.10.6.

3.7.6.2 Underground Injection Control

> EPA's **Underground Injection Control** Web site [http://www.epa.gov/safewater/uic.html] provides material on EPA's UIC program.

The UIC program works with tribes and local governments to oversee the underground injection of waste to prevent the contamination of ground water drinking water resources. For regulatory purposes, EPA groups wastes into five classes. Classes V wells represent the category most commonly found in Indian country. They include shallow disposal systems such as dry wells, septic systems, leach fields, and similar types of drainage wells that are used to dispose of fluids into or above underground source of drinking water. The UIC regulations were revised in 1999 and additional provisions for two Class V well types were implemented. The revisions, referred to as the Class V Rule, ban the use of large capacity cesspools and motor vehicle waste disposal wells. To protect groundwater tribal governments should work with their local EPA UIC program representatives to ensure these well types are properly closed.

3.7.7 Wetlands

> EPA's Wetlands Web site [http://www.epa.gov/owow/wetlands/] provides material on EPA's **wetlands program**.

Tribal governments, in partnership with EPA and other federal agencies, may be responsible for protecting, restoring, and maintaining the chemical, physical, and biological integrity of the waters on tribal lands as part of the waters of the United States.

Wetlands vary widely because of regional and local differences in soils, topography, climate, hydrology, water chemistry, vegetation, and other factors, including human disturbance. Under the CWA, the term wetlands means "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas."

Wetlands in Indian country are both pristine and degraded and require an adaptive strategy that includes protection, restoration, and mitigation. Tribal wetlands programs typically start with determining the location, extent, and condition of a tribe's wetlands. Tribes with wetlands that are in a relatively pristine state focus on protecting the resource from potential impacts. Tribes with wetlands that have been adversely impacted focus on stopping existing degradation, restoring previously degraded wetlands, and mitigating potential future impacts on wetlands. Whether planning to address pristine or degraded wetlands, tribal wetlands programs can protect economic, ecological, aesthetic, recreational, and medicinal values.

Although many tribes have wetland programs, most have yet to develop specific wetland regulations or amend their environmental laws and regulations to include wetland and other water quality issues.

3.7.8 WATERSHED PROTECTION AND MANAGEMENT

A watershed protection approach is a strategy to effectively protect and restore aquatic ecosystems and protecting human health. This strategy recognizes watersheds as physically defined units that are functionally distinct; that requires problem solving at the watershed level, rather than at the individual water body or discharger level.

> EPA's Watershed Academy Web Online Training Web site [http://www.epa.gov/watertrain/] provides **watershed management training courses**.

Major features of a watershed protection approach are:

- Targeting priority problems;
- Promoting a high level of stakeholder involvement;
- Identifying and integrating solutions that make use available expertise and authority; and
- Measuring success through monitoring and other data gathering.

To address water resource problems more effectively, tribes both should tailor their program tp the watershed of concern and be as comprehensive as possible. Many tribal watershed approaches address natural resource issues that cross geographic, jurisdictional, and political boundaries. These approaches recognize the need for water supply, water quality, flood control, navigation, hydropower generation, fisheries, biodiversity, habitat preservation, and recreation. In addition, the issues of cultural values and sacred sites are important to tribal watershed management.

Tribes can support and facilitate many of the management activities likely to be taken by watershed programs outside of Indian country. Tribes may also want to partner with regional planning bodies or water commissions to ensure their views are incorporated into regional/watershed decision-making. The following steps provide a comprehensive approach to watershed protection:

- Scoping (identify issues and stakeholders);
- Assessment (acquire and analyze data);
- Synthesis (integrate results of the assessment);
- Management solutions (develop options for improving conditions);
- Implementation (implement selected option(s)); and
- Adaptive management (monitor conditions and modify plans).

3.7.9 POLLUTION PREVENTION AND WATER RESOURCES MANAGEMENT

The best way to protect water quality is to avoid polluting water in the first place. When pollution reaches surface or underground waterways, it can have many adverse effects, including impacts on drinking water sources. Water resource management approaches vary from community to community depending on various factors such as the source of water, size and population of the community, needs of the population, and the water supply system integrity. For example, water conservation may be a very high priority for some tribes, while other tribes may enjoy an abundance of source water. But in all cases, there is a need to protect water resources and manage them wisely.

As with other tribal government activities, by incorporating pollution prevention criteria into the decisionmaking processes, tribal decision makers and water resource managers can:

- Help prevent and reduce waste and pollution;
- Prevent and reduce potentially harmful chemical exposures to employees and members;
- Reduce risks of accidents and releases; and
- Prevent or reduce potential liabilities and regulatory compliance burdens, while providing service delivery and cost savings to their organizations, customers and communities.

Programs that focus on municipal and industrial pollution prevention help prevent or reduce water pollution. Development of tribal source-water management programs can help achieve CWA and SDWA goals. Tribal education and outreach attempts can extend not only to members, but to non-members as well. Extension to non-members provides an opportunity to familiarize non-members around a reservation with the tribe's role in managing and protecting resources, and the tribal interest in working with the larger community to conserve natural resources.

3.7.9.1 TYPICAL WASTES GENERATED OR LOSSES CONTRIBUTING TO POLLUTION

Overall (affecting surface and groundwater)

- Releases into stormwater sewer systems of hazardous substances such as used oil or household or yard chemicals;
- Industrial site releases;
- Runoff of pesticides, fertilizers, and herbicides (impacts include degradation of stream banks);
- Lack of education, awareness, and participation (public and private sector) in programs for collection, recycling, and disposal of household hazardous waste materials;
- Lack of education, awareness, and participation (public and private sector) in water protection and conservation activities; and
- Combined sewer overflows discharging excess wastewater, including untreated human and industrial waste, toxic materials, and debris.

Additional for Surface Water

- Lack of residential and commercial development stormwater management controls;
- Flood control projects that impair water quality; and
- Soil runoff from construction and other sites.

3.7.9.2 Top Pollution Prevention Opportunities – Outreach & Promotion

Overall (surface and groundwater)

- Develop local stormwater management and pollution prevention programs;
- Develop source water (groundwater) protection programs such as the EPA's Source Water Assessment and Protection Program [http://www.epa.gov/safewater/protect.html];
- Develop household hazardous waste collection initiatives;
- Require pollution prevention BMPs as a permit condition under the CWA. Tribes could design BMPs on a case-by-case basis or develop generic BMPs that would be applied to all facilities in a given industrial category;
- Set protective limits for reduction of discharges to wastewater treatment plants;
- Set protective limits for discharges of hazardous substances and petroleum storage;
- Adopt landscaping codes (*e.g.*, institute irrigation restrictions);
- Establish different pricing plans for households and businesses to reduce demand and remove unwanted subsidies;
- Investigate reduced water use projects (*i.e.*, ultra-low flush "toilet voucher programs," low flow shower heads, sprinkler systems that are sensitive to rainfall, etc.);
- Establish programs to conduct in-home water audits, leak repairs, and subsidized retrofits with water conserving fixtures;
- Limit or exclude industrial discharges to septic systems through design review; and
- Work with EPA UIC representatives to properly close endangering Class V well types.

Additional for Surface Water

- Develop local surface water protection programs;
- Use local plants and establish sustainable water collection systems;
- Develop erosion and sediment control programs; and
- Set protective discharge limits for stormwater controls.

3.7.9.3 Top Pollution Prevention Opportunities – Internal Tribal Government Operations

Overall (surface and groundwater)

- Conduct leak detection programs and perform plumbing fixture retrofits;
- Upgrade water meters to ensure accurate readings (use water inventory meter and retrofit programs);
- Develop BMPs for tribal government internal operations, in order to lead by example;
- Integrate water conservation into new facility design;
- Set protective limits to reduce of internal discharges to wastewater treatment plants;
- Set protective limits for internal discharges of hazardous substances and petroleum storage;
- Limit or exclude internal discharges to septic systems;
- Use water recycling for golf courses, parks, landscaping, schools, firefighting, fountains, street sweeping, vehicle washing, and irrigation;
- Adopt EPA's Water Efficiency Program [http://www.epa.gov/owm/water-efficiency/], to reduce the need for wastewater treatment facilities, maintain stream flows and health aquatic habitats, and reduce the energy used to pump and treat water; and
- Increase pervious surface areas by integrating low impact development techniques.

Additional for Surface Water

- Reconstruct or upgrade wastewater treatment plants;
- Investigate wetland mitigation banking opportunities;
- Set protective internal discharge limits for stormwater controls.

3.8 WATER SUPPLY

Many tribal governments are responsible for operating public water systems (PWSs). A regulated PWS is any water system that makes water available for drinking to 15 or more connections, or regularly serves an average of 25 individuals daily at least 60 days out of the year. PWSs are designed to provide and maintain reliable, safe, high-quality drinking water to consumers in their homes, at work, at school, at restaurants, roadside rest stops, and any other place the PWS makes water available to the public.

EPA's Ground Water and Drinking Water Web site [http://www.epa.gov/safewater/tribal.html] provides material on EPA's **tribal drinking water program**.

There are three types of public water systems:

- A **Community Water System (CWS)** supplies water to the same residential population year-round. Examples include cities, towns, and rural water systems.
- A **Non-Transient Non-Community Water System (NTNCWS)** regularly supplies water to at least 25 of the same people at least six months per year – but not to their residences. Examples include schools and factories that have their own water supply.
- A **Transient Non-Community Water System (TNCWS)** provides water to at least 25 different people a day for six months out the year (typically in a place where people do not remain for long periods of time.) Examples include restaurants, rest stops, and campgrounds that have their own water supplies.

The SDWA, giving EPA the authority to protect the public from chemical, physical, radiological, and microbiological contaminants in their drinking water. EPA has used this authority to develop regulations establishing maximum contaminant levels (MCLs) for many substances that can be harmful in drinking water and treatment technique regulations requiring public water systems to remove or inactivate other substances found in their source water. Other SDWA regulations are intended to protect the quality of source water and to ensure treated drinking water remains safe until it is delivered to consumers.

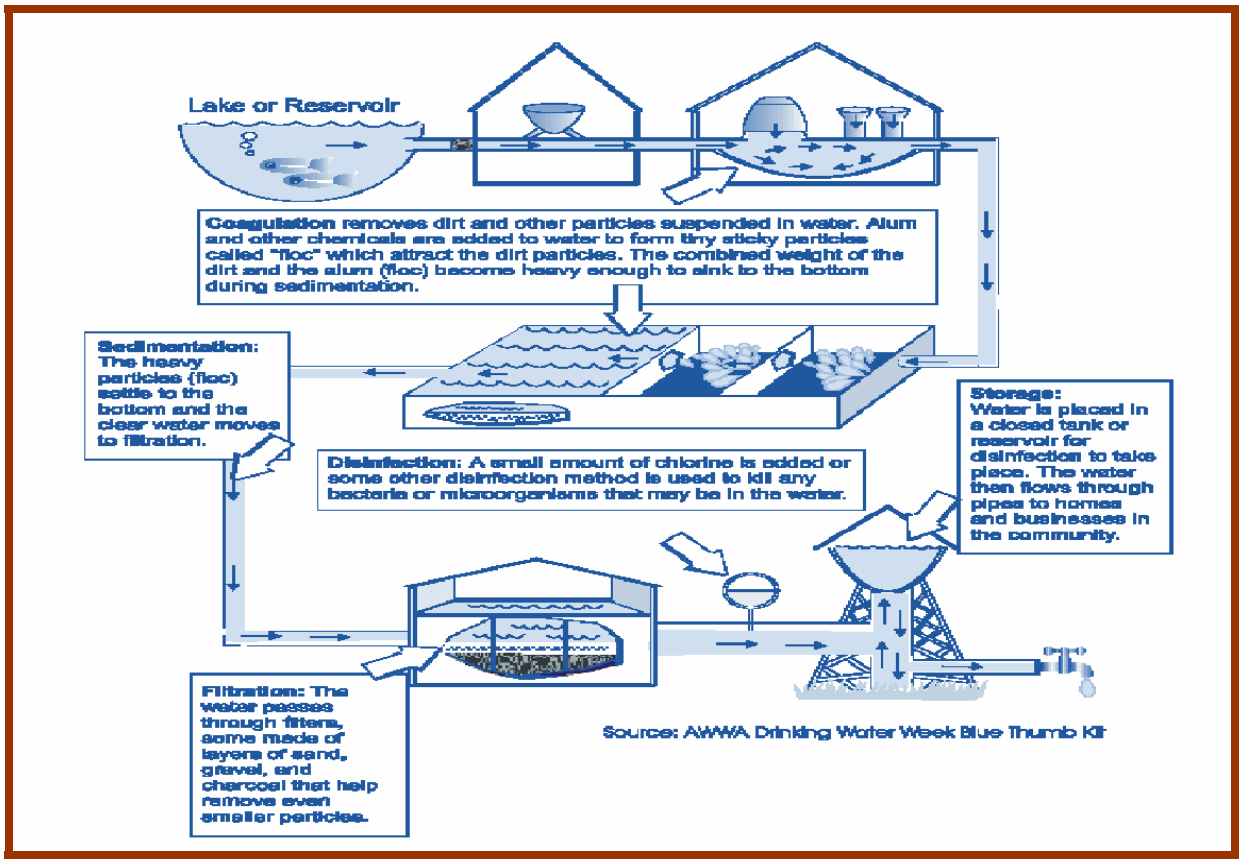
Tribal PWSs are required to comply with all drinking water regulations that apply to their systems. They are also responsible for ensuring that the required water samples are collected and tested, and that the results of those tests and other required reports are sent to EPA, or to the tribal regulatory office if the tribe has been approved to exercise primary enforcement authority ("primacy") for its drinking water program. To date, only the Navajo Nation has been approved for primacy. EPA administers the drinking water program for all other tribes.

The drinking water requirements can be found at 40 CFR 141. The rules applicable to a particular public water system can vary depending on the PWS's size (number of people it serves) and type (community, non-transient non-community, or transient non-community), and

the type of source water (groundwater or surface water) the PWS relies upon. Tribal PWS operators should contact EPA or its circuit riders to make sure they have correctly identified the requirements that their systems must meet.

The operations necessary to provide and maintain reliable drinking water include water treatment and water distribution, and are discussed in detail below. A Typical Water Treatment Plant is displayed in Exhibit 3-3 below.

Exhibit 3-3. Typical Water Treatment Plant



3.8.1 WATER TREATMENT

EPA's Safe Drinking Water Tools for PWS provide "One"-stop knowledge portal to improve PWS operation.

The amount and type of treatment applied by a PWS varies with the source water type and quality. Drinking water can come from either surface water or groundwater sources. Water pumped from wells drilled into underground aquifers - geological formations containing water - is called groundwater. Many, but not all, groundwater systems can satisfy all federal drinking water requirements without applying any treatment. Water that is pumped and treated from sources open to the atmosphere, such as rivers, lakes, and reservoirs, is known as surface water.

Surface water sources, which are more exposed to contaminants in stormwater runoff and to microbiological contaminants, typically require more rigorous treatment. More than 90 percent of tribal PWSs use groundwater sources, but the approximately 75 tribal PWSs that use a surface water source are often the tribal systems serving the largest populations. Improper operation of these large systems could put thousands of people at risk of illness or death.

Because water from both surface water and groundwater sources can become contaminated if it is not protected, a PWS must shelter its water source from chemical spills, human activities that can degrade water quality, and careless sanitary procedures. It is easier and more cost-effective for a PWS to start with relatively clean water. Cleaning up contaminated source water and making it safe to drink can be complicated, costly, and sometimes impossible. See Section 3.7.1

Once the quality of its source water has been determined, a PWS should consult with EPA and its partners to develop an appropriate treatment process, or "treatment train." A typical treatment train for PWSs that use surface water sources will include screening at the point of intake to strain out large objects and fish; presedimentation to allow many suspended solids to settle out of the source water by simple gravity; coagulation/flocculation/sedimentation to cause more of the suspended solids, chemicals, and impurities to settle out of the water; filtration to remove finer suspended particles and larger microbial contaminants; and disinfection to kill or inactivate microscopic organisms that can cause disease.

3.8.2 WASTE DISPOSAL

Tribal PWSs should note that some treatment processes or technologies can produce waste products or waste streams that are themselves regulated. Settling ponds are intended to capture solids and chemicals removed from the source water and chemicals used to trigger coagulation and flocculation. Residual wastes can collect in filter media where they can become trapped or released as backwash during filter cleaning operations. The type of waste generated depends on the treatment technology selected and can also be affected by the quality of the source water. While the treatment trains used by tribal PWSs typically will not generate hazardous wastes, a tribe should work with EPA or its circuit riders to identify potential waste products and streams and to determine if they must be handled in accordance with the requirements of RCRA and the CWA. EPA can also help the tribe determine the best waste disposal option based on the system's treatment train, the type of waste or wastewater generated, and level of contaminants present in the waste streams.

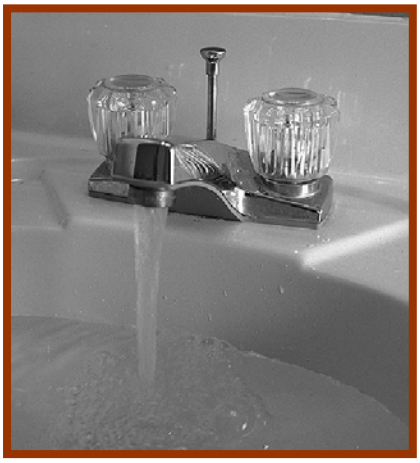
3.8.3 STORAGE AND MANAGEMENT OF DISINFECTING CHEMICALS

Brief explanations

- Emergency Release Notification (EPCRA Section 304)
- Hazardous Chemical Inventory and Reporting (EPCRA Sections 311 and 312)
- Risk Management Planning (CAA Section 112 (r))

A tribal PWS that disinfects its water is likely to use, and have on site, chlorine, chloramines, or chlorine dioxide. These are the most commonly used disinfection agents because they effectively kill or inactivate biological contaminants in source water and remain in the treated water to prevent recontamination in the distribution system. If the disinfecting PWS is large enough to store or use a specified amount of these chemicals, it will be subject to the applicable planning and reporting requirements of OSHA, EPCRA, FIFRA (if using chlorine or other registered pesticides) and Section 112(r) of the CAA. The PWS should investigate disinfection technologies before deciding which method to use, and contact EPA if it has any questions.

3.8.4 WATER DISTRIBUTION



Distribution systems deliver drinking water from the treatment plant to the consumers. A distribution system can include storage facilities or tanks, water mains, service lines (lines from water main to the building or property being served), and the associated valving and accessories. The distribution system must maintain adequate and constant water pressure to prevent contaminants from being drawn into the pipes, and must maintain a disinfectant residual to ensure that microbial contamination does not occur after water leaves the treatment plant.

Distribution systems can be contaminated through cross-connections. A cross-connection is defined as an actual or potential connection between a potable supply of water and a non-potable supply and are typically due to poor plumbing practices. Cross-connections allow the entry of contaminated water from sources such as an adjacent sewer pipe, an industrial source, or stormwater runoff. The contaminant enters the distribution system if the pressure of the polluted source exceeds the water pressure in the distribution system. This action is called backflow and may be due to backpressure or back siphonage. Cross connections lie dormant until backflow occurs. Cross connections controls to prevent distribution system contamination can be found in a variety of regulations, standards, and codes, including plumbing codes, health codes, and

building codes. These vary widely throughout Indian country. Tribal PWSs should check with their EPA Regional Office for more information.

3.8.5 OPERATIONS AND MAINTENANCE

Proper operation and maintenance (O&M) is essential to ensuring that a PWS effectively and efficiently provides safe drinking water to its consumers. Ensuring that the entire *water system infrastructure* (*i.e.*, storage, treatment facilities, and distribution systems) is properly maintained can prevent entry and growth of microbiological contaminants in the distribution system and preserve the system's overall structural integrity. Proper O&M can also result in lower costs to the PWS. These O&M costs include:

- The cost of labor (including training of operators);
- Energy costs;
- The cost of rehabilitating or replacing equipment;
- Chemicals costs;
- The cost of waste disposal;
- Safety and security costs; and
- Other miscellaneous costs like insurance and taxes.

Operator certification information is found at http://epa.gov/safewater/opcert/opcert.htm

A preventive maintenance program will allow a tribal PWS to maximize the usefulness of equipment and piping, help avoid problems, and cut down or delay rehabilitation or replacement costs. Some key items and equipment that should be included in a preventive maintenance program include:

- Monitoring equipment calibration;
- Pump inspection and maintenance;
- Inspection and maintenance of disinfection system;
- Valve inspection and maintenance;
- Maintenance and repair of water mains and storage tanks or reservoirs;
- Distribution system flushing;
- Cross connection and backflow prevention;
- Distribution system piping repair or replacement; and
- Safety (confined space measures, lockout/tagout procedures, oxygen deficiency hazard measures).

The above list is not all-inclusive and tribal PWSs should tailor their preventive maintenance programs to meet their specific needs. In implementing a preventive maintenance program, a tribal PWS should follow manufacturer equipment instructions and recommendations, plumbing, electrical, and building codes, proper engineering and construction practices, safety standards, MSDSs, and any other applicable requirements (including permits). Tribal PWSs should contact their EPA Regional Office for more information on developing and implementing a preventive maintenance program, including system-specific O&M issues.

Sanitary Surveys help to ensure proper PWS operation. A sanitary survey is intended "to evaluate and document the capabilities of the water system's sources, treatment, storage, distribution network, operation and maintenance, and overall management to continually provide safe drinking water and to identify any deficiencies that may adversely impact a public water system's ability to provide a safe, reliable water supply." Sanitary surveys are indispensable for ensuring the delivery of safe water on a sustainable basis. When conducted properly and with appropriate follow-up, sanitary surveys can:

- Reduce the risk of waterborne disease;
- Provide an opportunity to educate system operators; and
- Identify systems needing technical or capacity development assistance.

EPA's sanitary survey resources are located at http://epa.gov/safewater/dwa/resources.

3.8.6 SAFETY AND SECURITY

A tribal PWS must comply with safety requirements like any other work environment. For example, the use of hazardous chemicals, such as chlorine for disinfection, at a PWS would require MSDSs. Extreme caution should always be exercised by anyone performing O&M procedures. Safety procedures such as confined space, trench shoring (for excavations), and lock-out/tag-out should always be used. Other regulations may also apply.

Security practices should also be incorporated into the every day business functions of a tribal PWS. Activities such as fence cutting and lock picking, previously dismissed as harmless, may be indications of more serious threats to the PWS. Tribal PWSs must be prepared to respond to threats, as well as a wide range of emergencies, such as natural disasters. Improved security preparations provide for a more effective and efficient response. A tribal PWS should contact EPA for more information on tools, training, and technical assistance pertaining to water system security and emergency response. For more information, see http://cfpub.epa.gov/safewater/watersecurity/index.cfm

3.8.7 SAFE DRINKING WATER ACT COMPLIANCE

Tribal PWSs are responsible for complying with SDWA requirements with respect to water quality, treatment techniques, recordkeeping, and reporting. As part of those regulations, water supply facilities are required to sample and analyze the water for specific chemicals and microbiological organisms to ensure that applicable treatment techniques are followed and the MCLs are not exceeded. Tribal PWSs are in violation and may be subject to fines and other penalties if any of the following occur:

- The system exceeds an MCL;
- The system fails to comply with a treatment technique;
- The system fails to monitor for contaminants;
- The system fails to report monitoring results to the Primacy Agency; or
- The system fails to provide the appropriate public notification.

All tribal PWSs also must maintain records, including sample analyses, actions taken to correct violations, sanitary surveys of the system, and variances or exemptions granted to the system.

Drinking water standards and MCLs are found at EPA's Ground Water and Drinking Water Web site [http://www.epa.gov/safewater/standards.html].

When MCLs are exceeded, tribal PWSs must notify EPA, or their tribal regulatory office if they have been granted primacy. A PWS that exceeds an MCL is also required to notify its consumers of the violation. The public notification requirements are based on the severity of the violation. Generally speaking, if the contaminant at issue can make people sick immediately, the notification must be made within 24 hours. EPA's Final Drinking Water Public Notification Regulations Web site [http://www.epa.gov/OGWDW/pws/pn/rulefact.html] provides more information.

In addition, every CWS is required to provide its customers annual Consumer Confidence Reports that describe the quality of the system's water source, identify any regulated contaminants detected in the drinking water, and note any violations of drinking water standards. For more information, go to EPA's Consumer Confidence Report (CCR) Web site [http://www.epa.gov/safewater/ccr/index.html] provides additional information.

For more information about any issues related to supplying public drinking water, please contact your Regional EPA Tribal Drinking Water Coordinator listed in Appendix B.

3.9 WASTEWATER MANAGEMENT

Some tribal governments are responsible for designing, planning, constructing, financing, operating, and maintaining wastewater treatment plants. Other tribes may run regional wastewater treatment plants for service areas exceeding their reservation and enter into service contracts with regional authorities or individual users. In both cases, tribes are responsible for the conveyance systems that transport wastewater to the treatment plant and discharge storm water runoff to nearby water bodies.

> EPA's Tribal PWSS and UIC Web site [http://www.epa.gov/safewater/tribal/history.html] provides material on EPA's **Wastewater** point sources programs, including pipes, ditches, and sanitary or storm sewers. EPA's **Clean Water Indian Program** page [http://www.epa.gov/owm/mab/indian/index.htm] provides additional information.

A publicly owned treatment work (POTW) consists of the wastewater treatment plant and a collection system that transports sewage to it. A collection system can be either of two types (or some combination of the two):

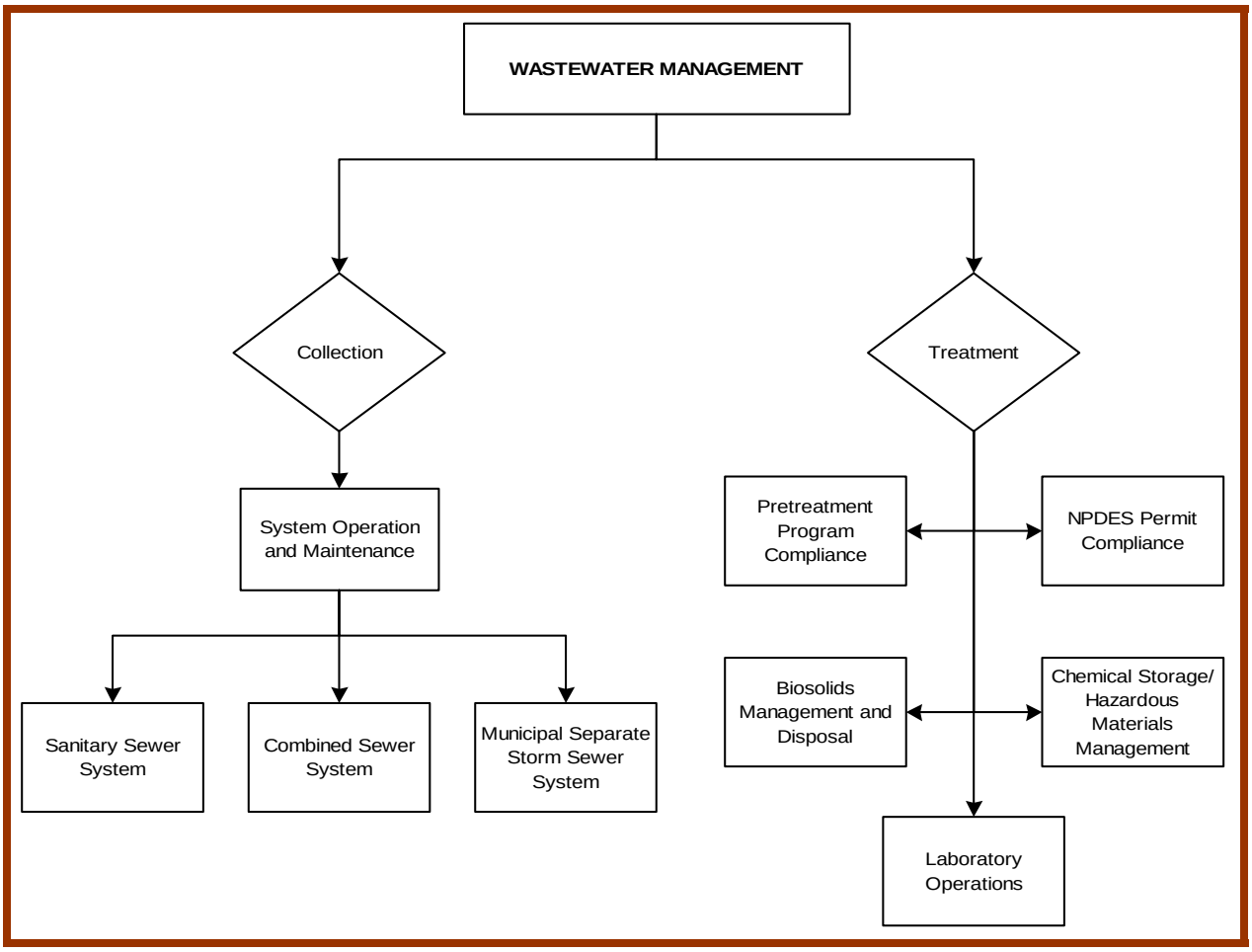
- Separate sewer systems that are designed to convey only municipal sanitary sewage and industrial wastewater.
- Combined sewer systems that are designed to convey storm water runoff in addition to municipal sewage and industrial wastewater.

A third type of conveyance system – a municipal separate storm sewer system (MS4) – conveys storm water runoff directly to nearby waters rather than to a POTW.

> EPA uses a broad definition of "**municipal**" to define municipal sewer systems – conveyances that are owned or operated by a state, city, town...or other public body having jurisdiction of disposal of sewage, industrial wastes, stormwater, or other wastes, including...an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

Overall, POTWs are responsible for collecting, treating, analyzing, and discharging wastewater received from separate sanitary or combined sewer systems, as well as for disposing of sewage sludge, or "biosolids," generated during the treatment process. A POTW must comply with its NPDES permit, including requirements for industrial pretreatment, compliance monitoring, and proper use or disposal of biosolids. A POTW is also responsible for laboratory operations, chemical storage and hazardous materials management, and vehicle and equipment maintenance. Exhibit 3-4 presents common wastewater management operations.

Exhibit 3-4. Wastewater Management



3.9.1 OPERATION AND MAINTENANCE OF SEWER SYSTEMS

A tribal government may be responsible for operating and maintaining three types of conveyance systems:

- Separate Sanitary Sewer Systems;
- Combined Sewer Systems; and
- Municipal Separate Storm Water Systems.

These systems may be regulated under the NPDES, pretreatment, or storm water provisions of the CWA and 40 CFR Section 122.26. EPA generally is the permitting authority when NPDES or other permits are required in Indian country under federal environmental laws.

3.9.1.1 SANITARY SEWER SYSTEMS

Some tribal governments design, construct, operate, and maintain sanitary sewer systems to convey wastewater from homes and businesses to wastewater treatment plants. Some tribal governments install new sewer lines, clean blocked lines, repair leaky lines, maintain root control, repair manholes, operate and maintain pump stations, and conduct all maintenance activities necessary to prevent overflows and ensure that wastewater is conveyed to the treatment plant. Other tribes contract with outside suppliers to utilize sewer systems already in place in neighboring governments.

Maintaining sanitary sewer systems is a significant responsibility for tribal governments. Leaks or the infiltration of wastewater into the sewer system can occur through cracks and improperly sealed pipe joints. Overall, this "infiltration and inflow" (I/I) raises the volume of wastewater in sewers and lowers system capacity. During significant rainfall events, the sewer system cannot carry the excess wastewater, and flooding can occur. Diluted and untreated sewage can back up through manholes and into basements, spill into storm drains and creeks, and wash up onto beaches. To ensure maximum system capacity and to prevent these "sanitary sewer overflows" (SSOs), tribal governments must undertake active monitoring and preventive maintenance programs to identify and repair leaky sewer lines, as well as conduct any major upgrades or restorations.

Sanitary sewer capacity is reduced by groundwater seepage through **leaky pipes and storm water flow,** through **leaky and missing manhole covers**, and **domestic and industrial roof drains**. While much of the leakage occurs in main trunk sewers, more than 50 percent of groundwater seepage in certain areas may come from holes in pipes on private property.

EPA's Sanitary Sewer Overflow Material is found at http://epa.gov/npdes/sso

Tribal governments that operate POTWs are required to report all overflows and flooding from either sanitary or combined sewage systems so that repairs can be made and preventive action can be taken, to minimize environmental and human health impacts.

SSOs, whether caused by excessive I/I, inadequate capacity, blockages, or equipment failure, impact the environment through the discharge of raw sanitary sewage. These discharges often result in direct human exposure to raw sewage, as well as surface and groundwater contamination. SSOs are unpermitted, illegal discharges under the CWA and may subject the tribal government to enforcement action by EPA or the tribal regulatory authority.

3.9.1.2 Combined Sewer Systems

> **EPA's CSO** Information is available at http://epa.gov/npdes/cso.

Although limited in number, some tribal governments maintain combined sewer systems (CSSs) that are designed to carry sanitary sewage, industrial wastewater and storm water runoff to the POTW. During periods of heavy rainfall or snowmelt, the wastewater volume in a CSS can exceed the capacity of the system. CSSs, therefore, are designed to overflow and discharge excess wastewater directly to nearby water bodies. These discharges are called combined sewer overflows (CSOs).

Tribes with CSSs have operation and maintenance responsibilities similar to those for separate sanitary sewer systems, such as installing new sewer lines, cleaning blocked lines, and inspecting for and fixing leaks and infiltration. However, their most important activity is controlling CSOs, which contain not only storm water, but also untreated human and industrial waste, toxic materials, and debris. EPA's Combined Sewer Overflows (CSOs) section on the NPDES page [http://cfpub.epa.gov/npdes/home.cfm?program_id=5] provides material on CSOs.

3.9.1.3 Municipal Separate Storm Sewer Systems

> EPA's Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s) Web site [http://cfpub.epa.gov/npdes/stormwater/munic.cfm] provides information on MS4s.

Although rare in Indian country, some tribal governments also are responsible for operating and maintaining municipal separate storm sewers (MS4s). MS4s are designed to convey storm water from impermeable areas to bodies of water. In conveying storm water directly to streams, rivers, and lakes, MS4s also transport oil, grease, pesticides, herbicides, dirt and grit, all of which have the potential to reduce water quality. Tribal government operations related to operating and maintaining storm sewer systems include clearing blocked sewer lines, preventing contaminants from entering the storm sewer system, constructing storm water controls, and sampling and analyzing storm water discharges. In addition, tribal governments can reduce the volume of silt and solids being transported to the sewer systems and reduce water contamination by cleaning streets, removing wastes, and cleaning sewer screens.

Medium and large MS4 operators are required to submit comprehensive permit applications and are issued individual permits. Regulated small MS4 operators have the option of choosing to be covered by an individual permit, a general permit, or a modified Phase I MS4 individual permit. Tribal governments responsible for operating and maintaining MS4s submit permit applications to EPA.

3.9.1.4 SEWER LINE REPAIR/REPLACEMENT

Separate, combined, and storm sewer systems require repair to eliminate conditions that impede their ability to convey sewage and storm water flows. Sewers and other collection system components, such as manholes, pump stations, and siphons, must be repaired or replaced to address structural failure, infiltration (leakage of groundwater into pipes), exfiltration (leakage of sewage out of pipes), and blockages. In combined sewers, flow regulators must be repaired when they fail to divert combined wastewater flows at the intended flow rates. Portions of a sewer system may need to be replaced to address inadequate capacity, which can result in separate sewer system overflows during periods of high flow. Repairs may involve replacing individual pipe sections, replacing entire sewer segments, or repairing existing sewers. Grouting leaking joints, lining existing sewers, and rebuilding or lining manholes and other structures all may be necessary.

Separate and combined sewer system repairs can impact the environment through the discharge of raw sewage around the line or system component being repaired. Repairs of separate, combined, and storm sewers also can affect the environment through erosion and sedimentation, which take place as a result of excavation, stockpiling, and backfilling, or through the discharge of sediment-laden water from the repair excavation. Guidance on sewer maintenance activities is often included in a tribal government POTW's NPDES permit.

3.9.2 WASTEWATER TREATMENT

Some tribal governments may be responsible for wastewater treatment. POTWs are responsible for the treatment, analysis, and discharge of wastewater received from sanitary or combined sewer systems, and the disposal of sludge generated from the treatment process.

Activities at a POTW may include:

- Operating and maintaining the plant to ensure that discharges meet the facility's NPDES permit requirements and limitations;
- Overseeing a pretreatment program to prevent industrial discharges from causing interference or pass through, sludge contamination, or the plant to violate its permit;
- Sampling and analyzing wastewater and sludge prior to discharge or disposal to meet NPDES monitoring requirements;

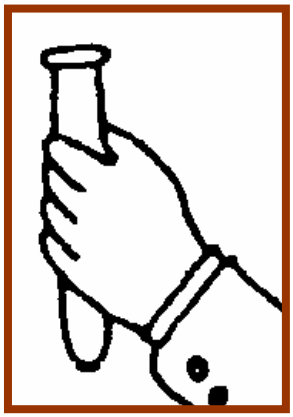
- Managing biosolids from the treatment processes by landfilling, land application, surface disposal, incineration, or composting; and
- Maintaining records and submitting discharge monitoring reports (DMRs).

Because these activities could affect the environment, they may be subject to environmental regulations as indicated in the following list:

- Wastewater treatment process – CWA;
- NPDES permit compliance – CWA;
- Wastewater treatment plant effluent injection - SDWA;
- Laboratory operations – CWA and RCRA;
- Pretreatment program – CWA;
- Biosolids management and disposal – CWA, RCRA, and CAA; and
- Chemical storage/hazardous materials management – EPCRA, CERCLA, and CAA

EPA's information on wastewater treatment plants is found at http://cfpub1.epa.gov/npdes/home.cfm?program_id=13.

3.9.2.1 Wastewater Treatment Process



Municipal wastewater (sewage) treatment is defined as primary, secondary, or tertiary according to the extent of pollutant removal and the mechanisms (physical, biological, or chemical) through which pollutants are removed. Primary treatment consists primarily of physical processes (settling or skimming) that remove a significant percentage of the organic and inorganic solids from wastewater. Secondary treatment depends on biological action to remove fine suspended solids, dispersed solids, and dissolved organics by volatilization, biodegradation, and incorporation into sludge. In addition, secondary treatment satisfies much of the oxygen demand of the pollutant(s). Tertiary (advanced) treatment uses a variety of biological, physical, and chemical treatment approaches to reduce nutrients, organics, and pathogens.

Tribes with wastewater treatment facilities may use "biogas," a product of anaerobic digestion, either offsite or within the plant to improve the energy efficiency of wastewater treatment processes. Biogas, a gas composed of methane, carbon dioxide, hydrogen sulfide, and other minor gaseous compounds, has about 60 percent of the heat value of natural gas. If the gas is not used, it can be flared, which may be regulated under the CAA.

3.9.2.2 NPDES PERMIT COMPLIANCE

Tribal governments with wastewater plant operations and/or a collection system (sanitary or combined) that conveys wastewater to a POTW are responsible for complying with applicable federal and tribal regulations. Proper operation and maintenance are critical for sewage collection and treatment because the environmental impacts from these processes can severely degrade water resources and, ultimately, human health. For these reasons, POTWs receive NPDES permits to ensure compliance with federal regulations.

EPA's NPDES Web site offers a wide array of material on this permit program. See [http://epa.gov/npdes]

NPDES permits, issued by EPA or an authorized tribal government, establish effluent limits, including type and quantity restrictions, and pollutant monitoring, recordkeeping, and reporting requirements. Each POTW (or other dischargers into surface water) that intends to discharge into the nation's waters must obtain an NPDES permit prior to initiating its discharge. To date, no tribe is authorized to issue NPDES permits.

To comply with the NPDES permit, tribal governments are responsible for implementing an NPDES monitoring program at their POTWs. To comply with the program, POTWs must collect samples of effluent discharges at the frequencies and locations specified in their permits and submit monitoring reports to EPA or a tribe that is authorized to administer the NPDES program. Sampling and analysis are conducted to verify that the amounts and types of pollutants discharged from wastewater treatment systems meet the NPDES permit limits. The NPDES permit specifies the parameters that must be monitored, which vary by plant. The primary parameters in NPDES permits for POTWs include flow, biochemical oxygen demand (BOD), pH, fecal coliform, residual chlorine, and suspended solids. A NPDES permit may include other parameters, such as bioassay toxicity tests and metals.

If a POTW meets the NPDES permit requirements, the systems usually are operating properly. Failure to comply with permit requirements can result in permit suspension, increased monitoring requirements, increased inspections, and/or issuance of fines or other penalties by EPA or the relevant tribal government regulatory agency.

3.9.2.3 LARGE CAPACITY SEPTIC SYSTEMS

> **EPA's Septic System** information is available at [http://epa.gov/owm/septic]

Some tribal facilities rely on on-site waste water treatment systems and large capacity septic systems to treat wastewater, facilities with on site systems may include casinos, housing clusters, schools and other public buildings, day care centers, gymnasiums, and shopping areas. A septic system is considered a Large Capacity Septic System (LCSS) if it receives solely sanitary waste either from multiple dwellings, or from a non-residential establishment, where the system has the total capacity to serve 20 or more persons per day. LCSSs are regulated as Class V wells under the federal Underground Injection Control (UIC) Program [http://www.epa.gov/safewater/uic/classv/class5_types_lcss.html]. Although LCSSs can be individually permitted, the majority of LCSSs, are "authorized by rule" provided they meet minimum federal requirements. "Authorized by rule," means that an individual permit is not required.

EPA does not have permit requirements for septic systems used by single-family homes or non-residential septic systems receiving solely sanitary waste that serve fewer than 20 persons per day. However, if these systems are improperly sited, operated or maintained they can threaten water quality. EPA has the authority to address malfunctioning systems on a case-by-case basis.

The minimum federal requirements for LCSSs are:

- The owner or operator is required to submit basic inventory information to EPA or tribe with primary control; and
- The injectate cannot endanger an underground source of drinking water (USDW).

Inventory information includes: facility name and location, owner/operator name and address, nature and type of injection well, and operating status. A complete discussion is found on EPA's Minimum Federal Requirements for Class V Wells page of the UIC Program Web site [http://www.epa.gov/safewater/uic/cl5oper/cl5minreq.html].

The second minimum federal requirement prohibits injection that allows the movement of fluids containing any contaminants (such as nutrients, pathogens, solvents or heavy metals) into an USDW if the presence of that contaminant may cause a violation of any primary drinking water regulation or adversely affect public health.

If the LCSS is designed, operated, and maintained properly, they generally should not endanger USDWs. To get more information on LCSS in your area contact your regional UIC program representative. See [http://www.epa.gov/safewater/uic/pdfs/rpt_uic_nationaldirectory2004v5.pdf].

3.9.2.4 Laboratory Operations

Some POTWs analyze wastewater samples and sludge at on-site laboratories. Laboratory procedures must comply with approved methods and meet NPDES monitoring requirements. Chemicals used in the laboratory include acids (*e.g.*, sulfuric, hydrochloric, nitric), bases (*e.g.*, sodium hydroxide, potassium hydroxide, sodium azide solution), and others (*e.g.*, chlorine, ferric salts, carbon disulfide, benzene). The quantity of wastes generated depends on the number and types of tests performed. The storage and disposal of some wastes generated from laboratory activities may be regulated under the hazardous waste provisions of RCRA.

POTWs are responsible for operating the wastewater laboratory safely. To prevent laboratory accidents, chemicals should be stored in a properly ventilated and well-lit room. All bottles and reagents should be clearly labeled and dated. Volatile liquids that can escape as a gas, such as ether, must be kept away from heat sources, sunlight, and electrical switches. Cylinders of gas being stored should also be capped and secured to prevent rolling or tipping.

3.9.2.5 Pretreatment Program

Under the pretreatment regulations (40 CFR 403), POTWs are required to develop and implement local pretreatment programs. Through this program, the POTW is directly responsible for the regulation of certain industrial users discharging to the wastewater treatment system. Information on pretreatment programs can be found at the Pretreatment Program section on the EPA's NPDES Web site [http://cfpub.epa.gov/npdes/home.cfm?program_id=3].

3.9.2.6 Biosolids Management and Disposal

Some tribal governments are responsible for managing and disposing of sewage sludge (*i.e.*, biosolids). Biosolids are a primary organic solid product produced by wastewater treatment processes that can be beneficially recycled (the fact that biosolids can be recycled does not preclude their disposal). These tribal governments must follow the federal sludge management program (40 CFR Part 503), which establishes requirements for the final use or disposal of biosolids when biosolids are:

Biosolids (or sewage sludge) are defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in treatment works. See [http://epa.gov/owm/mtb/biosolids/index.htm]

- Applied to land to condition the soil or fertilize crops or other vegetation grown in the soil;
- Placed on a surface disposal site for final disposal; or
- Fired in a biosolids incinerator.

A fourth disposal option is landfilling. If biosolids are placed in a municipal solid waste landfill, the landfill owner/operator is responsible for ensuring that the biosolids meet the provisions of 40 CFR Part 258.

3.9.2.7 CHEMICAL STORAGE/HAZARDOUS MATERIALS MANAGEMENT

> ***Is it a Regulated Chemical?*** Appendices A and B of 40 CFR Part 355 list EPCRA EHSs. 40 CFR Part 302 lists CERCLA hazardous substances.

If storing or using *specified amounts* of certain hazardous chemicals, a tribal government may be subject to planning and reporting requirements of EPCRA and Section 112(r) of the CAA. Hazardous chemicals may be used in various wastewater collection and treatment operations, such as disinfection as part of the treatment process, or cleaning and other maintenance activities. Specifically, chlorine and sulfur dioxide are commonly used in the disinfection (chlorination/dechlorination) process. Additional chemicals may be used in laboratory procedures to analyze wastewater samples. Facilities must generally submit hazardous chemical inventory and emergency release information as provided in RCRA, CAA, and EPCRA. See section 3.3.1 (Chemical Emergency Preparedness) and section 3.10.4.1 (Risk Management and Prevention Planning).

3.9.3 STORM WATER DISCHARGES

Some tribal governments have enacted storm water discharge programs. Storm water discharges are generated by runoff from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow events. These discharges often contain pollutants in quantities that could adversely affect water quality. Many industrial/commercial storm water discharges are considered point sources and require an NPDES permit. The primary method to control storm water discharges is through the use of best management practices. Information on BMPs is found in section 3.7.4.1 and at http://epa.gov/npdes/stormwater.

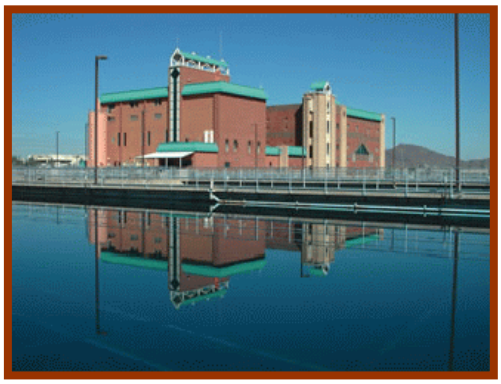
Polluted stormwater runoff is a leading cause of impairment to water bodies. Over land or via storm sewer systems, polluted runoff is discharged, often untreated, directly into local water bodies. When left uncontrolled, this water pollution can result in the destruction of fish, wildlife, and aquatic life habitat; a loss in aesthetic value; and

threats to public health due to contaminated food, drinking water supplies, and recreational waterways.

Under the CWA, the NPDES Stormwater Program is a comprehensive two-phased national program for addressing the non-agricultural sources of stormwater discharges, which adversely affect the quality of our nation's waters. The program uses the NPDES permitting mechanism to require the implementation of controls designed to prevent harmful pollutants from being washed by stormwater runoff into local water bodies.

As indicated in Section 3.6.2, Stormwater, the NPDES stormwater program requires operators of construction sites one acre or larger (including smaller sites that are part of a larger common plan of development) to obtain authorization to discharge stormwater under an NPDES construction stormwater permit. Tribal governments must apply if they meet either of the two parts of the stormwater regulation definitions of "operator."

3.9.4 Other Operations That May Be Regulated



In addition, POTWs may be regulated for pesticide management. POTWs may use pesticides, particularly herbicides, to control weed growth and maintain the plant site. Activities related to pesticide use and storage may be regulated under the provisions of FIFRA, EPCRA, or Section 112(r) of the CAA. See Section 3.10 for more information on pesticide management.

3.9.5 Pollution Prevention in Wastewater Management

A substantial amount of the pollution generated by wastewater management activities can be prevented. In preventing pollution, wastewater treatment plants can serve as role models for their residential, commercial, and industrial customers; they can also help or require dischargers to reduce their own toxic discharges to sewers through education, on site assistance, and regulatory programs.

3.9.5.1 Typical Wastes Generated

Sewer line and wastewater treatment operations and maintenance are key to ensuring proper treatment of wastewater and protection of the environment. Unintended releases of partially

treated or untreated sewage can result from leaks from pipes or sewers and inadvertent discharges to waterways.

The *wastewater treatment* process involves treating both the liquid and solid factions of wastewater. In doing so, various chemicals may be added to either the solids or the liquids to produce an appropriate product meeting discharge requirements. By products of the treatment process can include flared methane, bar screen waste, and grit chamber material.

3.9.5.2 Pollution Prevention Opportunities In Wastewater Management

Keep harmful chemicals out of the sewer lines and protect line workers, the plant, and the public's investment. Work closely with pollution prevention programs, economic development commissions, and pretreatment programs.

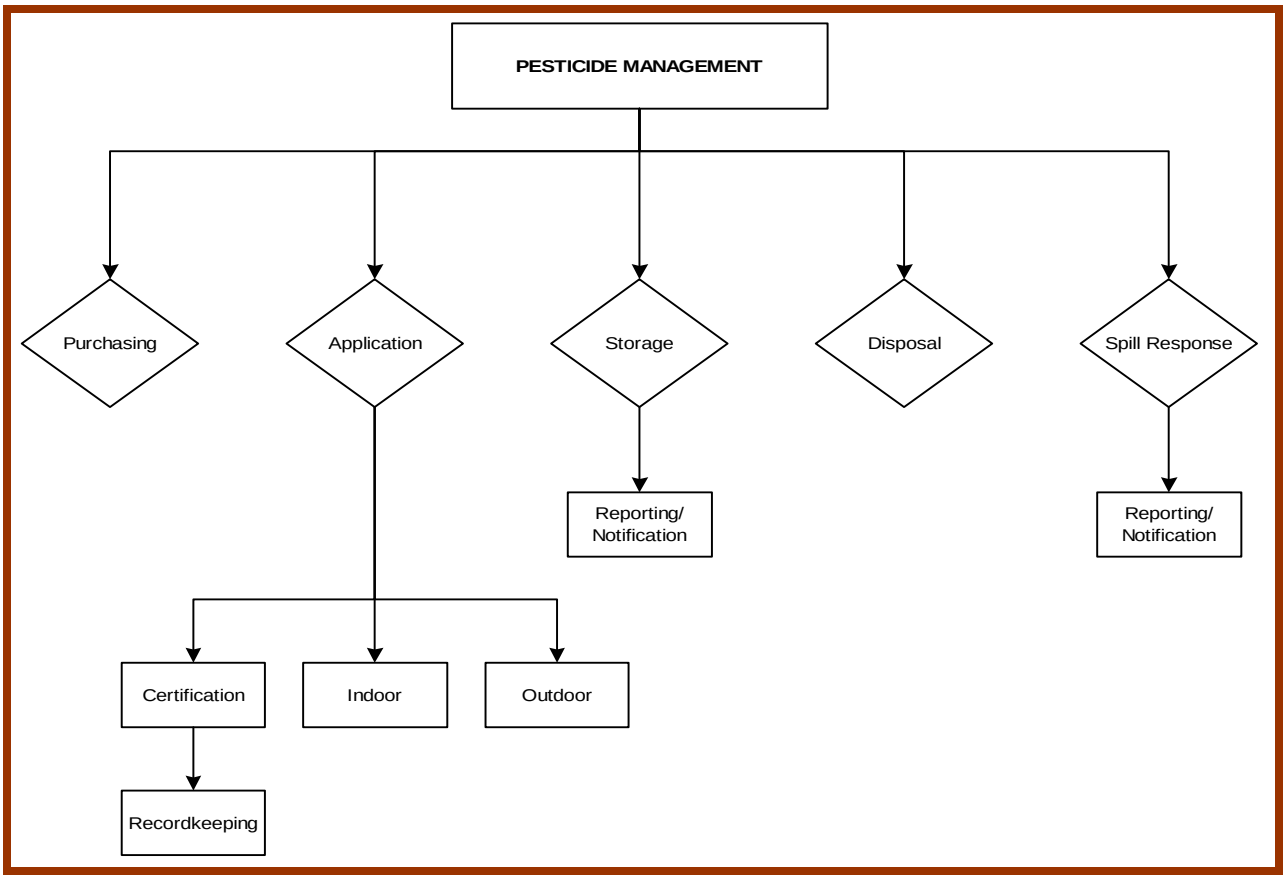
- Institutionalize a preventive maintenance program to predict problems before they occur instead of reacting to them after their occurrence.
- Design, implement, and evaluate sewage acceptance procedures, including provisions for spill prevention, discharge limitations, hauler performance guarantee, and enforcement or permit revocation.
- Explore, evaluate and implement alternatives to existing wastewater treatment processes, such as ultraviolet radiation or osmosis, to avoid using toxic chemicals such as chlorine and sodium hypochlorite.
- Reuse or recycle solids (*e.g.*, primary scum) and secondary screenings in areas such as landscaping. Check tribal regulations for any special requirements for disposal in Indian country and state and local regulations for any special requirements for disposal outside of Indian country.
- Post and track statistical control tools to inform all employees of the plants target operating level and the actual operating level.
- Establish a screening mechanism for procuring chemicals that evaluates non-toxic alternatives and reduces chemical dependence, thereby lowering hazardous waste use and avoiding hazardous waste generator status.
- Be innovative in use and reuse of energy, such as fuel cells operating from methane, participating in the United States Department of Energy's (DOE) Building Technologies Program, including using heating/air conditioning controls and room sensors in buildings. See [http://www.eere.energy.gov/buildings/program_areas/index.html].
- Use alternative transportation, such as bicycles, at the facility. Offer transit subsidies, telework, and flex-schedules for employees.

3.10 PESTICIDE MANAGEMENT

Some tribal governments may engage in pesticide management, which includes applying, storing, and disposing of pesticides. Exhibit 3-5 presents activities associated with pesticide management.

> EPA's Pesticide Web site [http://www.epa.gov/pesticides/] and **Tribal Pesticide Program** Web site [http://www.epa.gov/oppfead1/tribes/] provides information about EPA's **pesticide program. EPA's National Agriculture Compliance Assistance Center** Web site [http://www.epa.gov/agriculture/] is another useful resource.

Exhibit 3-5. Pesticide Management



Because these activities could affect human health and the environment, they may be subject to federal environmental laws and regulations, as indicated in the following list:

- Application – FIFRA, CWA and ESA;
- Storage – FIFRA, EPCRA, CERCLA, and CAA;

- Disposal – FIFRA, CWA, and RCRA; and
- Spill/Release Response – EPCRA, CERCLA, AND CAA.

Regardless of who is responsible for pesticide regulation, tribes should understand that misuse of a pesticide could cause damage to non-target species (*i.e.*, humans, pets, or other animals and plants). Pesticide labels, which describe when and under what conditions pesticides can be applied, mixed, stored, loaded, or used, should be followed strictly to prevent indoor pollution and potential hazards to humans and animals. In addition, federal labeling requirements establish worker protection standards, which include information on restricted entry intervals after pesticide usage and personal protective equipment requirements.

3.10.1 PURCHASING PESTICIDES

Purchasing includes the acquisition of pesticides and the equipment used to mix, load, and apply pesticides. Although these purchases are generally not regulated directly by federal environmental laws, purchasing decisions can impact the environment. Restricted use pesticides, which may be highly toxic, must only be purchased and used by applicators certified as competent to handle such pesticides. See Section 3.10.2.4 for information on restricted use pesticides.

The purchase of pesticides sold in returnable containers will eliminate a tribe's need to dispose of the containers, which could be a regulated hazardous waste under RCRA; by returning the containers to the dealer, tribes also reduce their environmental footprint and risk. In addition, a tribe may elect to purchase certain types of equipment that apply pesticides more efficiently, thereby conserving resources, and reducing the environmental impacts of pesticide application. Tribes also need to keep abreast of timetables for pesticides being phased out under re-registration actions.

3.10.2 APPLYING PESTICIDES

Pesticide application methods and practices depend largely upon the nature of the application. Pesticides may be applied indoors (*e.g.*, housing units, schools, other buildings) or outdoors (*e.g.*, solid waste management units, parks, aquatic uses, wetlands, open range, roadsides, right of ways, agriculture enterprises, recreational areas, and other tribal lands). Additionally, a wide range of household products contain pesticides, such as cockroach sprays and insect repellents, which can be applied without training as long as the label requirements are followed. However, "restricted use" pesticides can only be applied by certified individuals.

The hundreds of application methods available can be categorized into three major types:

- Sub-surface application methods, including injecting the pesticide into the ground to control subterranean insects (*i.e.*, termites, grubs, and nematodes) and other sub-surface methods, such as incorporating the pesticide into the soil;
- Surface applications, which include applying pesticides, repellants, disinfectants, or mildewcides directly to surfaces (*e.g.*, applications to floorboards, structures, animals or insects, crack/crevices); and
- Aerial application, including application via aircraft, back packs, and spray booms to apply pesticides to trees, row crops, and open range, or fumigants to control mosquitoes and wood-boring insects, such as termites.

Pesticides come in many forms, including gases, sprays, dusts, granulars, baits, and dips. Pesticide-related activities are primarily regulated under FIFRA, which requires that pesticide application occur in a manner consistent with product label instructions. All pesticide management operations must comply with federal pesticide use requirements unless EPA grants an emergency exemption from the requirements (40 CFR166). The application of pesticides may also be regulated under the CWA if the tribal government develops BMPs that are included in its stormwater or wastewater discharge permit.

3.10.2.1 APPLYING PESTICIDES INDOORS

Indoor pesticide application can occur in agricultural and non-agricultural areas and in any type of structural or industrial area requiring pest management, including grain silos. Applicators must follow label requirements for both general and restricted use pesticides. Applicators applying pesticides indoors must follow guidelines listed under 40 CFR 171, regulating the use of pesticides in, on, or around the following structures:

- Food-handling establishments;
- Human dwellings;
- Institutions (*e.g.*, schools, hospitals, offices, warehouses, public buildings); and
- Industrial establishments (*e.g.*, warehouses and grain elevators, and any other structures and adjacent areas, public or private).

The potential environmental impacts from indoor pesticide application are air pollution and exposure of people, non-target animals, and plants.

3.10.2.2 APPLYING PESTICIDES OUTDOORS

Tribal governments may be responsible for supervising the use of restricted pesticides in the following areas or during the following activities:

- Forests, nurseries, and forest seed producing areas;
- Commercial or private agriculture operations;
- Ornamental trees, shrubs, flowers, and turf producing areas;
- Livestock operations;
- Maintenance of roads, electric power lines, pipelines, railway rights-of-way, or other similar areas;
- Eradication of noxious weeds, mosquitos, other aquatic pests, and invasive species;
- Maintenance of irrigation canals; and
- Recreation or other outdoor areas.

Liquid spraying is one of the most common methods of applying pesticides to outdoor areas; it may be conducted by aerial spraying, tractor spraying, spray rigs, air blasters, hand spraying, or other liquid spray devices. The potential environmental impacts from outdoor pesticide application are human exposure and air, soil, and water contamination.

The application of certain pesticides may destroy or adversely affect endangered or threatened species of fish, wildlife, or plants, and their habitats. Tribal governments must comply with applicable requirements under the ESA. Tribal governments can work with EPA's Endangered Species Protection Program to learn more about the protection of endangered species from the use of pesticides.

Outdoor pesticide activities are regulated under the label requirements and application provisions of FIFRA. FIFRA also establishes worker protection standards designed to protect agricultural workers and pesticide handlers. These include posting warning signs in areas where pesticides have been applied, restricting entry intervals after pesticide usage, and requiring the use of personal protective equipment. See Section 3.10.4.

EPA's Endangered Species Protection Program Web site [http://www.epa.gov/espp/] provides more information on **species protected** from the dangers of pesticides.

3.10.2.3 Cleaning Application Equipment

While there is no way to completely remove all traces of a pesticide from application equipment, at the end of each application, several steps can be followed to protect the pesticide applicator, the environment, and to ensure that the equipment is left as clean as possible. The steps are:

- Read and follow all label directions to determine whether personal protection equipment is required and to determine how best to clean application equipment and dispose of rinsate (the washwater that contains small amounts of pesticide residue); and
- Ensure proper disposal of the rinsate.

Depending on the type of application equipment, the following steps should be considered and used:

- Rinse the inside and outside of the tank with clean water;
- Put in a moderate amount of clean water and spray it out. A small amount of liquid detergent added to the water will help clean the inside of the sprayer system;
- Clean the nozzles, nozzle screens, and suction screens with compressed air or a soft brush; and
- Closely monitor the activities of the pesticide applicator.

3.10.2.4 Certifying Applicators

Pesticide products are categorized as restricted, general use, or unclassified. A product is classified as a restricted use pesticide when the product meets certain criteria indicating that it poses a threat to humans, non-target organisms, or the environment, and labeling cannot sufficiently mitigate the hazard. For restricted use pesticides, special training in handling and applying the pesticide is necessary to ensure its safe use. Under FIFRA's regulations, the sale of restricted use pesticides is limited to certified applicators for use by those applicators or persons under their direct supervision. Applicators and supervisors of restricted use pesticides must be certified under Section 11 of FIFRA. Applicators who use restricted use pesticides must be certified to use pesticides by demonstrating competency in specified areas:

- Label and labeling comprehension;

- Safety techniques;
- Environmental awareness;
- Pest identification;
- Pesticide application;
- Equipment use;
- Application techniques; and
- Laws and regulations.

EPA's Restricted and Canceled Uses Web site [http://www.epa.gov/pesticides/regulating/restricted.htm] provides more information and a list of restricted use pesticides.

The use of unclassified products is not limited in any manner, except in cases where a product label limits the use to a specific group (*i.e.*, veterinarians).

3.10.2.5 KEEPING RECORDS

Tribal governments who use certified pesticide applicators must keep and maintain various restricted use pesticide records. The records must include the types, amounts, uses, dates, and places of application of all restricted use pesticides. Tribes should keep records of the pesticide application method and pounds of pesticides use per acre and per crop. The records should also include information on the weather conditions and soil moisture when application occurred.

3.10.3 WORKER PROTECTION

Pesticides are designed to (in most cases) kill pests. Many pesticides can also pose risks to people. EPA's Worker Protection Standard (WPS) are designed to protect agricultural workers from the effects of exposure to pesticides (40 CFR Part 170). The WPS standard is aimed at reducing the risk of pesticide poisonings and injuries among agricultural workers and handlers of agricultural pesticides. The WPS contains requirements for:

EPA's Worker Safety and Training Web site [http://www.epa.gov/pesticides/health/worker.htm] provides safety standards information and **EPA's WPS Training** site [http://www.epa.gov/oppfead1/safety/workers/training.htm] provides important training information.

- Pesticide safety training;
- Notification of pesticide applications;
- Use of personal protective equipment;
- Restricted entry intervals following pesticide application;
- Decontamination supplies; and
- Emergency medical assistance.

Training is essential for the proper use of pesticides and is key to the success of the WPS. To protect the health and safety of workers and handlers, employers are responsible for training them in the safe use of pesticides. Employers may either train their workers and handlers, or hire employees who have already been trained. Either way, employers must ensure that their employees understand the basic concepts of pesticide safety. Employees need to be trained by qualified trainers and must have the opportunity to ask questions during the training session.

3.10.4 STORING PESTICIDES

Tribal governments may be responsible for storing any unused or excess pesticides. The recommended procedures and criteria for proper storage apply to pesticides that are classified as highly toxic or moderately toxic and have DANGER, POISON, or WARNING written on their labels. FIFRA defines adequate storage as placing pesticides in proper containers and in safe areas to minimize the possibility of an accidental release that could result in adverse effects on the environment.

EPA's Pesticides, Storage, and Disposal information for tribe businesses, household consumers, farmers, and other users can be found at http://epa.gov/pesticides/regulating/storage.htm.

Storage sites should be in a dry, well ventilated, separate area where fire protection is provided and special safeguards are in effect. . Identification signs should be posted to provide notice of the contents and hazardous nature of the pesticide. Potential environmental impacts from pesticide storage are air, soil, and water contamination from accidental releases, as well as human and animal toxic exposure. Because pesticides are typically stored in large quantities for future use, accidental releases may be large and have immediate, serious, and detrimental effects on the surrounding environment.

Temporary storage of highly toxic or moderately toxic pesticides may occur at isolated sites and facilities where it is unlikely they will encounter conditions that may cause a release. Each container should be stored with the label plainly visible, and the container should be inspected for corrosion and leaks. If a tribe stores or uses specified amounts of certain pesticides, it may be subject to the planning and reporting requirements of EPCRA and Section 112(r) of the CAA. These requirements are described below.

3.10.4.1 Risk Management Planning (CAA Section 112(r))

Under Section 112(r) of the CAA, facilities that any of 140 regulated substances in a single process are required to develop risk management programs and to summarize these programs in risk management plans by June 21, 1999 (40 CFR Part 68). EPA will notify the public of risk management plans, which are intended to prevent accidental releases of regulated substances and to reduce the severity of those releases that do occur. At present, EPA implements CAA section 112(r) for Indian country and will continue to do so in areas where tribes are not authorized under the Tribal Air Rule. EPA has been working with industry groups to develop model risk management programs. To review the model program, refer to EPA's Chemical Accident Prevention and Risk Management Planning Web site [http://www.epa.gov/ebtpages/enviriskmanagement.html]. See Section 3.3.1 Chemical Emergency Preparedness and Prevention for additional information.

> At present, EPA has established a list of 140 regulated substances that fall under the Risk Management Planning regulations of the CAA. These substances were published in the *Federal Register* on January 31, 1994; EPA amended the list by rule, published on December 18, 1997. EPA may further amend the list in the future as needed.

3.10.4.2 Notification of a Canceled or Suspended Pesticide

Under FIFRA, EPA or a registrant can cancel or suspend the registration of a pesticide or withdraw authorization for a specific use of a pesticide. In such situations, EPA will request that all entities having supplies of that pesticide notify the Agency. If a tribal government has any canceled or suspended pesticides, it must notify the EPA of the amount. EPA will respond with specific directions concerning handling of the pesticide.

3.10.5 Disposing of Pesticides

Pesticide management includes the disposal of excess pesticides that cannot be stored for later use or are no longer needed. Pesticide disposal can involve incineration, chemical degradation, burial in a specially designated landfill, or well and soil injection. The potential environmental impacts from pesticide disposal are air, soil, and water contamination from releases and accidental exposure of humans and animals. The environmental implications are the same as for the application process, except that the concentration of the pesticide may be stronger because of the quantity and mass of the disposed pesticide. The disposal of pesticides is a critical process; if not properly conducted it can have immediate detrimental effects on the environment.

Pesticide labels outline proper disposal guidelines. FIFRA, RCRA, and the CWA all regulate these practices. Disposal activities may require notifying EPA or a local solid waste disposal facility (landfill or incinerator).

Before disposing of excess pesticide, the tribal government should consider two options:

- Store and reuse any leftover portion at the prescribed dosage rates; and
- Return any excess to the manufacturer or distributor for relabeling or reprocessing into other materials.

3.10.6 POLLUTION PREVENTION IN PESTICIDE MANAGEMENT

Reduction in the use of pesticides in tribal government operations can be achieved by using Integrated Pest Management (IPM). IPM utilizes regular monitoring to determine if and when treatments are needed. It employs physical, mechanical, cultural, biological, and educational practices to keep pest numbers low. Least-toxic pest control methods are used as a last resort. These alternative methods result in decreased use of pesticides.

Many of the tips listed in Section 3.10.6.2 may not initially appear to be related to pesticide pollution prevention. However, the use of the tips will result in lowered reliance on pesticides by making plants healthier, and healthy plants are better able to withstand pest invasions. Although IPM reduces reliance on pesticides, some pesticide use may still be necessary. In these cases, pesticides should be used properly and safely.

3.10.6.1 TYPICAL WASTES GENERATED

The following list presents typical waste generated during pesticide management and ways to handle them:

- Empty containers, including bags, drums, bottles, and cans. Containers should be triple rinsed or "jet rinsed" prior to disposal. Tripled rinsed containers should be crushed or punctured to prevent reuse. Containers can be reduced in quantity by buying in bulk; however, never buy more than is needed. When possible, purchase in recyclable containers that can be returned to dealers;
- Excess mixture (*i.e.*, the diluted pesticide left over in the spray tank). The best disposal method is to use it on a site;

- Excess product (*i.e.*, the unused pesticide no longer needed due to a change in procedures or because the pest problems are solved). The best disposal method is to find someone who can use it;
- Rinse water from containers and application equipment. This rinse water can be added to a tank and used; and
- Expired pesticides resulting from poor inventory management or from improper storage. Contact the vendor to inquire if the manufacturer will take back the product. If returns are not possible, the pesticides should be disposed properly and in a manner consistent with RCRA's hazardous waste provisions.

3.10.6.2 Top Pollution Prevention Opportunities

The following recommendations can help tribal governments achieve reductions in pesticide and herbicide applications and maintain regulatory compliance associated with chemical use, storage, and disposal.

- ***Design for water conservation.*** Group plants with similar water needs together so they can be irrigated together, and water will not be wasted on plants that do not need it. Proper watering will reduce stress on plants and allow their natural resistance to withstand pest attacks without the need for pesticides.
- ***Employ Environmental Landscape Management*** by selecting pest resistant plants, using sound planting techniques, and correctly manage the established landscape. Choose plants according to soil characteristics, rainfall, and sunlight conditions. See Section 3.6.9.2
- ***Avoid monocultures.*** Monocultures (single-species planting, such as large areas of grass) are very susceptible to infestation since most pests are host-specific. Growing different species together prevents pests from readily spreading.
- ***Reduce water runoff*** by building retaining walls, which direct water to a dry well or other areas to collect and percolate through soil. If pesticides are used, this will reduce the likelihood of contaminating nearby water bodies
- ***Use proper mowing practices.*** Mow grass with sharp blades. A dull blade rips grass making larger wounds and increasing susceptibility to disease pathogens. Sharp blades increase equipment efficiency and reduce wear on equipment. Never cut more than one-third the height of the grass at a single time.
- ***Scout the landscape regularly*** to learn which plants have problems. Most plants (except grass) seldom have more than one major pest problem. Scouting identifies problems early and facilities solving problems using IPM without resorting to pesticides.

- ***Use pesticides only when needed***, not on a prescribed schedule. Use spot treatment instead of treating the entire area.
- ***Correctly identify insects prior to treatment***. Less than 1 percent of all insects are harmful to plants. Take care not to harm beneficial insects.
- ***Use least toxic pest control methods***:
  - Horticultural oils;
  - Insecticidal soaps;
  - Natural enemies such as:
    - Pathogens, like as Bacillus thuringiensis, which infects and controls caterpillars;
    - Predators, such as purple martins, praying mantises, lady beetles, beneficial nematodes, and spiders;
    - Parasites, such as parasitic wasps;
    - Diatomaceous earth;
    - Boric acid;
    - Pyrethrins;
    - Insect growth regulators, which halt or interfere with the development of an insect before it matures;
    - Pheromones, which disrupt normal mating behavior by stimulating breeding pests and luring them into traps;
    - Insect traps; and
    - Mechanical treatments, such as cultivating to control weeds; hand picking of pests off plants, and sticky traps.
- ***Buy pesticides only in small quantities*** and store them carefully in labeled, airtight containers. Plan your purchases so pesticides do not expire.
- ***Understand that pest eradication*** is generally an unrealistic management objective. An attempt to totally eliminate a pest is likely to result in excessive pesticide application.
- ***Outsource pest control services*** and write IPM requirements into the specifications.
- ***Keep clutter, excess water sources*** (*e.g.*, drips or standing water in plants), ***and food waste minimized*** to discourage pests from entering buildings.

3.11 SOLID WASTE MANAGEMENT

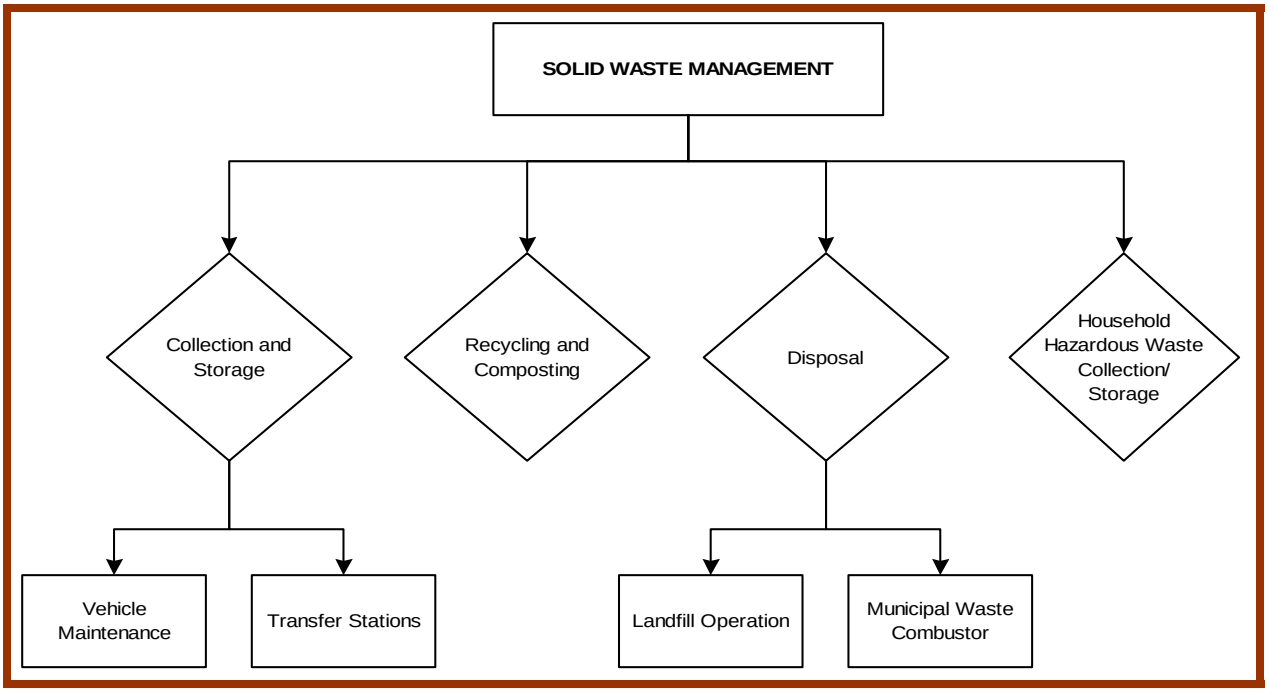
> EPA's Waste Management in Indian Country Web site [http://www.epa.gov/epaoswer/non-hw/tribal/index.htm] provides information about **EPA's tribal solid waste program**.

Tribal governments may engage in solid waste management within their jurisdiction. Some tribes conduct waste management operations (*e.g.*, waste collection and disposal) directly. Other tribes contract those services to private parties or enter into agreements with neighboring state or local governments. Proper management of solid waste is critical to public health and community resources. Exhibit 3-6 presents activities associated with solid waste management.

Because these activities could affect the environment, they may be subject to the following environmental regulations:

- Collection and storage – CWA;
- Composting – EPCRA, CERCLA, and CAA; and
- Disposal – RCRA, CWA, and CAA.

Exhibit 3-6. Solid Waste Management



3.11.1 INTEGRATED SOLID WASTE MANAGEMENT

Integrated solid waste management involves using a combination of techniques and programs to manage a community's waste stream. To account for the variations in waste streams between communities, tribal government planners can tailor integrated waste management systems to fit their specific local needs. EPA suggests using the following priorities – in order – as tools to help set goals for integrated waste management systems and meet specific tribal needs.

- Source reduction (waste minimization and prevention);
- Recycling; and
- Disposal.

Information on developing an integrated solid waste management plan (and many other waste issues) can be found at EPA's Waste Management in Indian Country Web site [http://www.epa.gov/tribalmsw/resource.htm].

Integrated solid waste management programs typically begin with waste audits – an assessment of the tribal waste stream.

3.11.1.1 WASTE AUDITS

A waste audit is a formal, structured process used to quantify the amount and types of waste generated by a tribal government, a tribal facility, or tribal members. A tribe's waste audits should assess and account for the amount of materials purchased, used, recycled, and disposed of. Information from audits will help identify current waste practices and how they can be improved. A waste audit includes four steps:

- Describing current purchases, use and disposal requirements and methods;
- Identifying amounts and types of materials generated, including those to target for source reduction;
- Estimating cost savings; and
- Implementing and monitoring the program.

Audits can be done on any type of waste (*e.g.* paper and office waste, municipal waste, commercial and industrial waste, construction and demolition waste). There are a number of different ways to conduct a waste audit, such as visual waste audits, waste characterization, and desktop audits. The type of audit used depends on the type of waste, where it is to be conducted

(tribal school, tribal housing, or other tribal facilities or operations), and what a tribe wants to get out of the audit. Audits help managers determine the most appropriate and effective source reduction programs for their community. Waste audits are a key to establishing waste and source reduction programs.

3.11.1.2 WASTE REDUCTION

Waste reduction, also known as source reduction or waste prevention, means using less material to get a job done. Waste prevention methods help create less waste in the first place – before recycling. Because it avoids recycling, composting, landfilling, and combustion, source reduction can help reduce waste disposal and handling costs. An example of source reduction is buying products that use less packaging (buy larger containers or refill containers with bulk purchases). It also conserves resources.

Tribal governments can establish waste reduction goals that require a percent reduction in the solid waste stream before a particular year. Tribes can also encourage programs that are directed at conserving resources and reducing solid waste generation, thereby helping to mitigate the burden of collection, processing, and disposal practices. There are many ways tribes can modify their current practices to reduce waste generation; potential activities include:

Incentives for Waste Reduction

"Unit pricing" and "pay as you throw" programs utilize economic incentives to create less waste. The programs charge for the collection of municipal solid waste – ordinary household trash – based on the amount thrown away. This creates a direct economic incentive to recycle more and to generate less waste. EPA's Pay As You Throw Web site [http://www.epa.gov/epaoswer/non-hw/payt/intro.htm] provides information about this program and links to related topics. Another method would be to provide a location for reuse (extra lumber, leftover paint, toys, windows).

Paper Products

- Reduce office paper waste;
- Use recycled paper, make double-sided copies;
- Replace hand towels and other disposables with hand dryers or cloth towel machines and reusable hardware.

Buildings, including Casinos

- Participate in an integrated waste management program;
- Replace disposable kitchenware with reusable cups, plates, knives and forks;
- Request used pallets;
- Install refillable shampoo and soap dispensers;
- Recycle bingo cards or purchase reusable ones;
- Use recycled plastic for benches, signs, and other fixtures;
- Explore collection and reuse of restaurant grease as biodiesel; and
- Develop compost programs and use mulch in landscaping.

3.11.2 Collecting and Storing Municipal Solid Waste

Solid waste management begins with the collection and storage of solid waste. Collection involves either picking up the waste at or near the point of generation (*e.g.*, curbside or backdoors) or gathering it from drop-off locations (such as community dumpsters or transfer stations). "Storage" of waste at an interim site, prior to recycling or final disposal, should be as brief as possible to discourage the formation of odors and the breeding of unwanted pests (*i.e.*, rats, flies).

RCRA defines **solid waste** as any garbage or refuse; sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility; and other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities. The main constituent of the latter group is municipal solid waste, which includes paper and paperboard, yard waste, wood, metal, glass, food waste, plastics, rubber, leather, textiles, household hazardous waste, and miscellaneous inorganic waste.

3.11.2.1 COLLECTION

Tribal governments use an array of methods to collect solid waste, including the following:

- Curbside or front yard collection, where containers are placed at the curb or front yard;
- Backyard collection, where containers are carried from backyards by collection crews; and
- Drop-off stations, where residents deliver solid waste to a specified site, such as a transfer station, local dumpster, or the disposal site itself.

Most activities undertaken during collection are not regulated by any particular federal environmental statute. Federal guidelines for the collection and storage of residential, commercial, and institutional solid waste are found at 40 CFR Part 243, but are not binding upon tribal governments. Of course, there may be tribal environmental or health codes that pertain to the collection of solid waste.

3.11.2.2 STORAGE/OPERATION OF TRANSFER STATIONS

Once the solid waste is collected, the tribal government or other collection entity may have to store the waste at an interim location prior to recycling or final disposal. If necessary, such storage usually occurs at a transfer station. A transfer station is a facility where wastes are transferred from smaller collection vehicles to larger transport vehicles, such as trucks, tractor-trailers, railroad gondola cars, or barges. These larger vehicles then transport the waste to its final destination.

Not all tribal governments have transfer stations. In small communities in which the nearest landfill is within 10 to 15 miles, compactor trucks take solid waste directly to the landfill. If stations are used, collection crews take waste to the transfer stations where it is weighed and either temporarily stored or moved directly into a larger vehicle.

These activities may impact the environment if waste is not contained and is carried away from the transfer station by wind or stormwater runoff. In addition to tribal building and health codes, the operation of transfer stations may be regulated under the tribal government's solid waste ordinance, as well as by any existing CWA NPDES stormwater or CSO permit conditions. Storage should be on a short-term basis only and should prevent the waste from being released to the environment. In some conditions, improper storage could be deemed disposal and could trigger more stringent regulation of the waste.

3.11.3 RECYCLING AND COMPOSTING

3.11.3.1 RECYCLING

> EPA's **Resource Conservation Challenge** Web site [http://www.epa.gov/epaoswer/osw/conserve/priorities/msw.htm] provides material on pollution prevention in construction and maintenance.

Recycling, the next level of the integrated solid waste management hierarchy, is the process by which materials are collected and used as raw materials for new products. Recycling includes collecting recyclable materials, separating materials by type, processing them into a form that can be sold as scrap material, and purchasing and using goods made with reprocessed materials. Recycling prevents potentially useful materials from being landfilled or combusted, and allows disposal capacity to be preserved, while saving energy and natural resources. Similarly, composting can play a key role in diverting organic waste away from disposal facilities.

By definition, recycling does not occur until someone transforms or remanufactures the material into a usable or marketable product or material. Tribes can locate markets for its recyclable materials or place that responsibility with the entity responsible for collecting recyclables. This process is similar to marketing any product or commodity and involves four distinct steps:

- Determining the possible uses of the end product;
- Identifying potential markets;
- Marketing the product; and
- Developing a collection and transfer system.

Recycling is best when it is as "clean" and separated as possible. In rural areas, recycling can be very successful when tribes use the process to make a final "product" that is then sold within the community. In more urban settings, tribes can participate in partnerships that accomplish recycling in the general scrap market, and do not necessarily lead to a single, identifiable product.

The major environmental impact associated with recycling is the volume of waste diverted (reduced) from landfills or incineration. This diversion extends the life of landfills and limits the volume of wastes being combusted. The most significant environmental impact from these activities is resource conservation; however, these activities can also significantly reduce criteria (*i.e.*, carbon monoxide, particulate matter) and toxic (*i.e.*, dioxin) air pollution.

Federal environmental statutes do not directly regulate the recycling of typical solid wastes (*e.g.*, paper, plastic, glass, aluminum). Used oil recycling, however, is regulated under 40 CFR Part

279, which establishes standards for used oil generators, collection centers, transporters and transfer facilities, processors and re-refiners, burners of off-specification used oil, used oil fuel marketers, the use of used oil as a dust suppressant, and used oil disposal. Used oil generated by households is exempt from these requirements but still is prohibited from being released into the environment.

Many tribal recycling ventures focus on collection in tribal government offices, as well as in business enterprises, including casinos and hotels, and homes on the reservation. These efforts are part of the tribes' integrated solid waste management plan and not only reduce waste and energy usage, but also provide an employment source. Tribal recycling programs can also cover non-members.

3.11.3.2 COMPOSTING

EPA's Composting information is available at [http://epa.gov/compost].

Composting is a process of aerobic biological decomposition of organic materials to produce a stable and usable organic topsoil that does not require disposal. Resources used to create the final compost product originate from the roughly 25 percent of the municipal solid waste stream that is organic material (*i.e.*, food waste/scraps, yard and lawn clippings). If paper waste is included, almost 60 percent of the municipal solid waste can be composted. EPA's Composting Web site [http://www.epa.gov/msw/compost.htm] provides useful information.

Three primary activities are associated with composting:

- Collecting/receiving wastes for composting;
- Processing the wastes (*e.g.*, decomposition); and
- Marketing.

Tribal governments can collect or receive wastes for composting from a variety of sources, including tribal business ventures, including casinos, hotels, and schools. Tribal governments may have active yard waste collection programs, complete with trucks that vacuum up leaves. Other tribes may have separate yard waste pickup as a part of recycling programs or drop-off stations for yard wastes. Significant composting wastes also result from recyclable material separation and processing. Once recyclable materials are removed from the solid waste stream, the remaining wastes may be suitable for composting. For example, one southern tribe composts nearly 1,200 pounds of food waste per day from its casino and restaurants. The tribe distributes the final product to landscapers, nurseries, and homes both on and off the reservation.

During the processing or decomposition stage of composting, the tribal government may need to adjust the physical and chemical properties of the waste to make it more amenable to composting. For example, it may shred or grind the waste into a smaller particle size, alter the carbon-to-nitrogen ratio, or add water to the waste. All of these activities are designed to facilitate decomposition. Depending on the types and amounts used, chemicals added to alter the properties of the composted waste may be regulated under EPCRA, FIFRA, or Section 112(r) of the CAA (risk management plans). Composting that occurs outside may create nuisance odors. Tribal ordinances may address odor problems.

A key aspect of composting programs is the concept of biosolids recycling. Sewage sludge biosolids are solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a wastewater treatment plant. The requirements for land application of biosolids at 40 CFR Part 503 pertain to materials derived from biosolids (*e.g.*, biosolids that have undergone a change in quality through treatment, such as composting, or by mixing with other materials, such as wood chips, municipal solid waste, or yard waste). These regulations specify pollutant limits, management practices, operating standards, monitoring requirements, and recordkeeping and reporting requirements.

Composting of household organic materials is not regulated by any major federal statutes. Tribes can establish composting programs or ordinances. Composting is encouraged if tribes create markets for the compost by using it in landscaping or specifying its use at tribal facilities. Composting can also address odor problems and promote best management practices that minimize fire risks.

3.11.4 Disposal Through Landfilling and Waste Combustion

3.11.4.1 Disposal

Tribal governments may dispose of solid waste that is not recyclable, compostable, or considered household hazardous waste. The two primary types of disposal practices are landfilling and municipal waste combustion (incineration), which may employ conventional techniques or a "waste-to-energy" approach.

Landfilling and waste combustion provide the last level of the solid waste management hierarchy because they manage waste that cannot be reduced or recycled. Some tribes might choose landfilling as their principal method of managing waste, while other tribes may choose to send their waste to a municipal waste combustor. Disposal decisions are made based on a variety of factors, including cost, land availability, population characteristics, and proximity to waterbodies.

3.11.4.2 LANDFILL OPERATION

Some tribal governments own and operate solid waste landfills for final disposal of the municipal solid waste generated within their jurisdictions; other tribes manage waste for surrounding jurisdictions. Solid waste landfills provide an engineered facility for the long-term containment of solid waste and involve the following activities:

> EPA's MSW Disposal Web site [http://www.epa.gov/epaoswer/non-hw/muncpl/disposal.htm] provides information on solid waste landfills and solid waste combustion and incineration facilities.

- Receiving and depositing solid waste into the landfill;
- Controlling disease vector (pest) populations;
- Managing/monitoring landfill gas production, leachate, and stormwater; and
- Recordkeeping.

Most landfills include a large disposal area that contains numerous smaller cells. Solid waste is deposited in these cells daily, compacted using specially designed bulldozers, and then generally covered with either a thin layer of soil or some alternative cover. The landfill owner and operator should control the flow of solid waste into the facility to exclude materials such as hazardous waste or other materials that should be managed elsewhere or could be recycled to make the landfill safer and preserve capacity. Once a cell is full, it is covered with a final cover designed to limit infiltration and pest populations, as well as to provide a base for subsequently placing and growing vegetation on the landfill.

Landfill operations are subject to the minimum criteria for municipal solid waste landfills found at 40 CFR Part 258. These criteria address location restrictions, operating criteria, design criteria, groundwater monitoring and corrective action requirements, closure and post-closure care requirements, and financial assurance criteria. If a municipal solid waste landfill subject to

this rule does not meet the requirements, it is considered an open dump, which is prohibited under Section 4005 of RCRA.

Under the CAA, landfills are subject to air emission guidelines (40 CFR Part 60.30c) and a NESHAP for emissions from landfills (40 CFR Part 63 Subpart AAAA). In addition, landfills may be regulated under prevention of significant deterioration (PSD), nonattainment area provisions, and new source performance standards (NSPS) programs.

Landfills do have drawbacks, such as the fact that they eventually leak and can cause environmental hazards and public nuisances (*e.g.*, odors and pests). Successful maintenance and landfill operation requires continuous budgeting for leak repair and general upkeep, and for eventual closure.

Tribal governments must monitor groundwater in close proximity to a tribally run landfill. They may also be required to employ a series of wells and pipes to extract the landfill gas that is created as solid waste decomposes in a landfill. This gas consists of about 50 percent methane (CH_4), the primary component of natural gas, about 50 percent carbon dioxide (CO_2), and a small amount of non-methane organic compounds. Instead of allowing landfill gas to escape into the air, it can be captured, converted, and used as an energy source. Using landfill gas helps to reduce odors and other hazards associated with these gas emissions, and it helps prevent methane from migrating into the atmosphere and contributing to local smog and global climate change. Stormwater runoff associated with landfills may be regulated under the CWA stormwater provisions.

3.11.4.3 MUNICIPAL WASTE COMBUSTION – SPECIFICALLY DESIGNED COMBUSTION FACILITIES

An alternative method to managing solid waste is combustion, which involves the incineration of all or a portion of the solid waste stream. Combustion should take place in specially designed solid waste combustion facilities and residual ash should be disposed in a landfill which may be a hazardous waste landfill depending upon the composition of the ash.

When choosing to use municipal combustion, tribal governments can retrofit existing facilities, build new facilities, or enter into partnerships with other tribes or state and local governments. If a new facility is built, the builder must site, design (incorporating elaborate air pollution controls), permit, and construct the combustion facility. Once a combustion facility is in place, the tribal government must ensure its proper operation, provide a relatively constant flow of waste as a feed stream,

and manage and dispose of the residual ash. Most new incinerators have the capacity to recover and reuse the energy released during combustion (the "waste-to-energy" process).

Municipal waste combustion is regulated primarily under the CAA (40 CFR Part 60), which establishes guidelines and standards of performance for both large and small municipal waste combustors, as well as standards of performance for incinerators. Regulations under RCRA would only apply if the facility receives and burns hazardous waste. Other CAA regulatory programs to which combustion may be subject are PSD, nonattainment provisions, NESHAPs, and NSPS.

The disposal of residual ash from the combustion of municipal waste, including fly ash and bottom ash, is regulated under RCRA and the law where disposal will take place. Generally, these two types of ash are combined and then disposed of either at a municipal landfill or a special ash landfill. Under RCRA, each facility must determine whether the combined ash constitutes a hazardous waste and, if so, the ash must be managed as a hazardous waste. If the ash is not a hazardous waste, it can be managed under tribal or state law, which may allow disposal in a solid waste landfill or provide for disposal in an ash monofill (or impose other special requirements).

Certain forms of combustion and burning such as bonfires and backyard burning should not be used as they put toxic substance into the air. They also may violate certain provisions of the CAA.

3.11.4.4 Municipal Waste Combustion – Backyard Burning

Burning of household waste is a long-standing practice in many rural areas, including Indian country and Alaskan Native villages. New research, however, shows that it is a major source of toxic emissions, including dioxin, sulfur dioxide, lead, and mercury, that damage both human health and the environment. Open burning of household waste creates significant amounts of dioxins due to the low combustion temperatures, poor air distribution, and the presence of chlorine, which is found in almost all household waste components. Backyard burning of household waste is one of the largest known sources of dioxin in the nation.

Controlling backyard burning and reducing combustion-related toxic emissions is particularly important to tribes and tribal members. Toxic emissions from backyard burning accumulate in the food chain by settling on feed crops, which are then eaten by

domestic meat and dairy animals. These pollutants also accumulate in the fats of animals, and then in tribal members when meat, fish, and dairy products are consumed. In addition, toxic emissions can cause immediate and long-term damage to the lungs, nervous system, kidneys, or liver, especially in children, the elderly, and those with preexisting respiratory conditions. Finally, ash from backyard burning also is likely to contain toxic pollutants, such as mercury, lead, chromium, and arsenic, which can contaminate vegetables if scattered in gardens. Children can also accidentally swallow contaminated dirt on their hands while playing near discarded ash.

More information can be found at EPA's Backyard Burning site [http://www.epa.gov/msw/backyard/].

Tribes can regulate tribal member backyard burning by establishing and enforcing regulations and ordinances. EPA, on the other hand, does not generally regulated residential backyard burning. While tribal regulation may be available, providing and promoting safer waste management alternatives is essential to reducing backyard burning. Tribes can educate tribal members about the health and environmental dangers of backyard burning. Tribes can also promote alternatives to leaf, brush, and trash burning by establishing solid waste collection programs and encouraging tribal members to compost and reduce, reuse, and recycle.

3.11.5 Household Hazardous Waste Collection and Storage

Tribal governments may sponsor basic household hazardous waste collection programs. These programs may be single-day or continuous events that provide for the safe collection, identification, sorting, storage, and disposal or reuse of household hazardous waste. Such programs may be operated by the tribal government or administered under a contract with a waste management firm. The materials collected during a household hazardous waste collection program may be recycled (*e.g.*, used oil), used as a waste fuel (*e.g.*, solvents), or disposed of properly at hazardous waste facilities.

Common Household Hazardous Wastes include: oil-based paint and varnish, paint and varnish remover, pesticides, insecticides, herbicides, motor oil, brake fluid, fuels, antifreeze, oven cleaners, drain cleaners, bleach, solvents, pool chemicals, mothballs, dye, nail polish, photo chemicals, toilet cleaners, fertilizer, metal polish, floor cleaners, wood strippers, muriatic acid, creosote, sealants, and both household and automotive batteries. See [http://epa.gov/msw/hhw.htm]

Household hazardous waste poses an environmental and health risk when managed improperly. These products may contain toxic substances that can be released when they are poured down the sink, sewer, onto the ground, or when they are landfilled or incinerated. The dangers of such disposal methods may not be immediately obvious, but certain types of household hazardous waste have the potential to cause physical injury to sanitation workers; contaminate septic tanks

or wastewater treatment systems if poured down drains or toilets; and present hazards to children and pets if left around the house. Thus, many tribal governments have established household hazardous waste collection, storage, and disposal programs.

Under federal regulation, the collection, transportation, storage, treatment, and disposal of household hazardous waste are exempt from the regulations applicable to commercial hazardous waste. In addition, resource recovery facilities that manage municipal solid waste are not subject to hazardous waste regulations (with the exception of ash that exhibits a hazardous characteristic, such as toxicity) if they meet specified conditions. Tribes may develop laws that regulate the disposal of household hazardous waste, including requiring the separation of waste streams.

3.11.6 Partnership in Solid Waste Management

Many tribal governments partner with other tribes, as well as state and local governments to manage solid waste. These partnerships help tribes supplement and combine resources to effectively establish, manage, and maintain municipal solid waste management projects. Partnerships offer a variety of benefits, including:

- Implementation of projects that otherwise might be too costly to an individual tribe;
- Pooling of financial and administrative resources for purchase of equipment and machinery;
- Opening up a variety of waste management opportunities to promote health and safety on the reservation;
- Reduction of capital costs associated with recycling centers, landfills, and storage facilities;
- Job creation for tribal members that participate in the partnership; and
- Increase in ability to comply with all applicable regulations.

Tribes interested in partnerships should contact EPA or contact other tribes directly.

3.11.7 Hazardous and Non-Typical Waste

Hazardous waste, including industrial wastes and toxic chemical waste, is governed by RCRA standards (40 CFR Parts 264 and 265). Tribes cannot be authorized by the EPA to administer and enforce a hazardous waste program under RCRA. Several tribes do, however, partner with EPA, states and local governments to provide hazardous waste clean up and storage services.

In Indian country, generally EPA issues permits to facilities that treat, store, and dispose of hazardous waste under RCRA. Permits for Treatment Storage and Disposal (TSD) facilities are designed to control the operations at the facility, and include requirements for:

- Site security, personnel training, and emergency procedures;
- Waste analysis, handling and recordkeeping;
- Technical standards for tanks, containers, impoundments, and other units;
- Financial assurance;
- Groundwater monitoring; and
- Closure.

TSD facilities are designed to protect soil, groundwater, and air resources by establishing minimum management standards and precautions. An EPA training module on RCRA Treatment, Storage, and Disposal Facilities (TSDFs) [http://www.epa.gov/epaoswer/hotline/training/tsdf05.pdf] provides an introduction to the TSDF standards in 40 CFR part 264/265, Subparts A through E.

3.11.8 Other Operations That May Be Regulated

Another operation associated with solid waste management is pesticide application. Pesticides may be used in solid waste management activities to control weed growth and control disease vectors. Activities related to pesticide use and storage may be regulated under the provisions of FIFRA, EPCRA, or CAA Section 112(r). Section 3.10 provides information on pesticide management.

3.11.9 Pollution Prevention in Solid Waste Management Operations

Numerous opportunities exist for pollution prevention in solid waste management operations. As the lead department for "putting waste in its place," tribal solid waste departments can show their commitment to waste reduction by ensuring that their operations prevent pollution and comply with the applicable environmental regulations. Solid waste managers engage in a range of activities, most with the potential to cause pollution. These can generally be categorized as follows:

EPA's National Waste Minimization Program provides information on ways to promote waste reduction. See http://epa.gov/wastemin

- Source reduction;
- Collection and storage;

- Processing – recycling and composting;
- Disposal; and
- Household hazardous waste.

With the exception of source reduction, each category generates wastes as described below.

3.11.9.1 Typical Wastes Generated

Curbside *collection* or drop off facilities are provided for solid waste and recyclables, and other materials and special wastes. Key wastes generated by collection operations include used motor oil and filters, antifreeze, batteries, parts washer solvent, used hydraulic oil, tires, used vehicles and vehicle parts, and air emissions.

The *processing* of recyclables at material recovery facilities, solid waste at transfer stations, and yard waste at compost sites, often generates waste. Key wastes include dust from compost sites, hydraulic oil, site runoff, recycling residues, electrical transformers, and spilled fuels.

Waste *disposal* includes landfill and waste-to-energy facility operations. Key landfill wastes include leachate and air emissions. Key waste-to-energy facility wastes include bottom ash, fly ash, bulky materials, air pollution control residues, air emissions, and wastewater.

Tribal governments that operate household hazardous waste collection operations typically assume generator status for household materials upon acceptance at the collection point. Problematic wastes include PCBs and mercury from fluorescent ballasts and lights, paints, and computer monitors.

3.11.9.2 Top Pollution Prevention Opportunities

Overall

Perform a waste audit - understand the waste stream in order to identify high priority items for source reduction and reuse (*e.g.*, textiles, yard waste, construction and demolition material).

Collection

- Establish a "take back" program with motor oil suppliers to provide re-refined oil;
- Use in-line oil filters to reduce frequency of oil filter disposal;
- Capture and recycle on site spent antifreeze;
- Convert parts washer to aqueous-based systems or biodegradable solvents;
- Convert fleet to natural gas as feasible;
- Maximize collection efficiency (minimize trips) by using route management software and multi-purpose vehicles;
- Recycle tires and utilize retread tires where appropriate;
- Specify tires for maximum durability; and
- Replace mercury thermometers in clinics and/or provide thermometer exchange for residents.

Processing

- Establish a preventative maintenance program for all major pieces of equipment to minimize potential fluid discharges.
- Capture and recycle spilled hydraulic oil using oil absorbent material.
- Minimize recycling residues through on-going education of customers, limits on compaction equipment, and employee training.
- Maximize acceptability of compost products by minimizing heavy metal content of source materials, including pretreatment requirements for industrial contributors and increased frequency of street sweepings.

Disposal

- Minimize landfill site runoff by capturing and recirculating leachate and developing effective stormwater management plans.
- Capture and reuse methane gas generated at landfill sites.
- Minimize hazardous nature of incinerator ash by implementing battery recycling and household hazardous waste collection programs.

Household Hazardous Waste

Educate household hazardous waste participants to "use it up," provide a waste exchange for unopened materials, and bulk containerize latex paint for reuse or resale.

Other

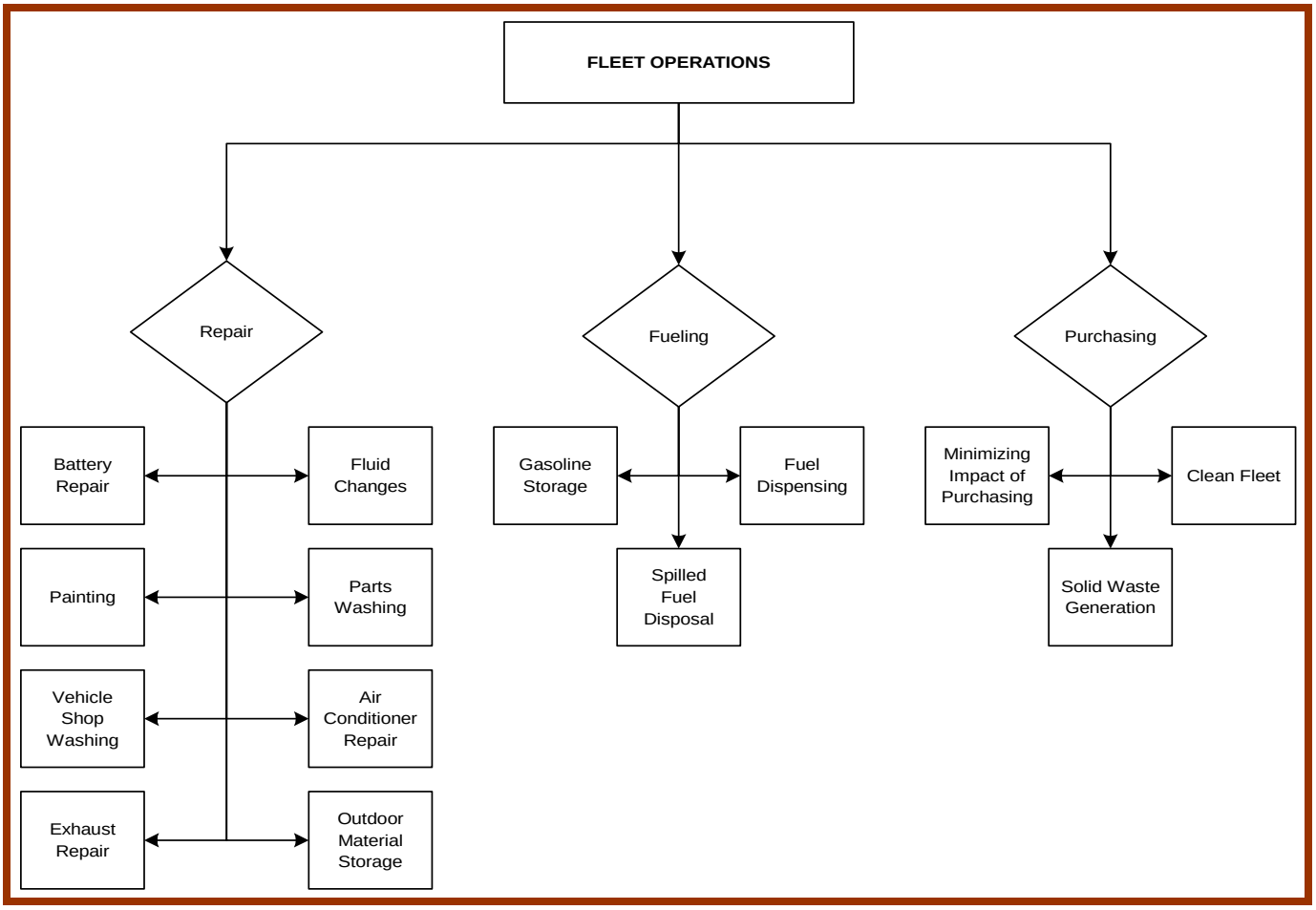
- Establish a preventative maintenance program for electrical equipment and require equipment vendors to take back all devices with mercury switches or PCB transformers;
- Replace USTs with above ground tanks with proper containment systems; and
- Minimize pesticide usage through litter prevention, site management, and integreated pest management programs.

3.12 VEHICLE/EQUIPMENT MAINTENANCE

Tribal governments may operate, maintain, and purchase motor vehicles and equipment to perform government services. Vehicles range from school buses, fire engines, snowplows, and heavy construction equipment to automobiles used by police and fire departments and government officials. Equipment may include pumps, tools, and boilers. Exhibit 3-7 shows the different types of fleet operations, including vehicle repair shops, fueling stations, and purchasing operations.

The **National Automotive Environmental Compliance Assistance Center** [http://www.ccar-greenlink.org/] provides information about maintenance and compliance.

Exhibit 3-7. Vehicle Fleet Activities



3.12.1 VEHICLE REPAIR SHOPS

Vehicle repair shops conduct several activities that could affect the environment; these activities may be regulated under the following federal environmental laws:

- Fluid changes – RCRA, SDWA, and CWA;
- Parts washing – RCRA, CAA, and CWA;
- Battery maintenance – RCRA and CWA;
- Air conditioner repair – CAA;
- Vehicle and shop floor washing – CWA;
- Exhaust system repair and replacement – CAA;
- Painting – RCRA and CAA; and
- Outdoor material storage – CWA and RCRA.

Exhibit 3-8 illustrates some typical auto shop activities and provides an illustration of activities that are not in compliance.

Exhibit 3-8. Repair Shop Activities

3.12.1.1 CHANGING VEHICLE FLUIDS

Changing vehicle fluids includes oil, transmission, and break lubrication, as well as antifreeze. Changing fluids also involves storing both new and waste fluids and managing or disposing of waste fluids. Fluids generally are drained from the vehicle to a pan or bucket placed below the vehicle. Full pans or buckets are then dumped into a larger container, such as a 55-gallon drum, UST, or AST, prior to off-site disposal. The potential environmental impacts from fluid changes are soil and water contamination from spills or improper disposal. Disposal of these fluids by infiltration through shallow disposal systems is prohibited by the SDWA's Class V rule.

Storage of new materials may be regulated under the SPCC provisions of the CWA, which require development of a spill prevention plan that generally includes a requirement to provide secondary containment for all tanks and drums. Storage, recycling, and disposal of waste fluids are regulated under the used oil provisions of RCRA. The used oil provisions require used oil to be stored in structurally sound containers labeled with the words "used oil only" and ultimately

recycled or burned for heat. Fluids disposed of or spilled in floor drains or surface drains or otherwise released from the facility property are regulated under the NPDES, pretreatment, or stormwater provisions of the CWA. These provisions require notifying EPA or the treatment plant about oil spills, complying with permit provisions, and preventing untreated fluids from reaching surface waters. Fluids stored in underground tanks are regulated under the UST provisions of RCRA, which require that the tanks maintain spill prevention and leak detection devices and be made of specified structurally sound materials.

3.12.1.2 Washing Vehicle Parts

Washing vehicle parts consists of immersing the small parts, such as nuts, bolts, or carburetor pieces, into a solvent bath of chemical or water-based solvent or spraying them with a chemical or citrus-based solvent. Washing vehicle parts also may include spraying shop rags with solvent and rubbing the solvent on the part to clean it. Chemical solvent washers often consist of a metal sink attached to a 20-gallon drum of solvent. When the solvent is no longer usable, the drum is replaced. Water-based solvent washers consist of an enclosed bath with high-pressure sprayers. The use of chemical solvent washers is regulated under the cold solvent bath section of the CAA, which requires sink lids to be kept closed and specifies additional practices to minimize the release of hazardous air pollutants. The disposal and recycling of used chemical solvent are regulated under RCRA, which specifies disposal methods. The disposal of wastewater from water-based solvent washers is prohibited from injection under the SDWA and may be regulated under the pretreatment program or NPDES programs of the CWA. The disposal of solvent-contaminated rags may be regulated under RCRA.

3.12.1.3 Maintaining Vehicle Batteries

Maintaining vehicle batteries includes testing, changing, storing, and disposing of new and used vehicle batteries. The storage of batteries may be regulated under the NPDES stormwater provisions of the CWA, which require that batteries be contained and covered to prevent potential leaks from coming in contact with stormwater. Disposal of batteries may be regulated under RCRA, which requires that batteries either be returned to a supplier or recycler or meet stringent disposal requirements.

3.12.1.4 Repairing Air Conditioners

Repairing vehicle air conditioners includes adding, removing, and recycling CFC refrigerants, as well as performing general maintenance on vehicle air conditioners. These activities are regulated under the CAA provisions designed to prevent ozone depletion by requiring the

capture and recovery of used refrigerants, the use of certified recycling equipment, and the training and certification of operators.

3.12.1.5 Washing Vehicles and Shop Floors

Washing vehicles and shop floors including spraying water and detergent on vehicles and floors and discharging the washwater through a drain to a septic tank is prohibited under SDWA. Some facilities may dump used washwater on the ground outside of the facility, which is generally improper. Washing vehicles and shop floors may be regulated under the pretreatment program or NPDES program of the CWA. These sections may require the facility to obtain permits, install oil and water separators, or comply with other provisions designed to prevent contaminated wastewater from reaching the environment.

3.12.1.6 Repairing or Replacing Exhaust Systems

Repairing or replacing exhaust systems consists of repairing or replacing catalytic converters. Any work that affects vehicle emissions is regulated under the CAA, which requires that records be kept of all converter repair and replacement, and specifies procedures for ensuring that removed converters are properly replaced.

3.12.1.7 Painting Vehicles

Vehicle painting includes overall body painting, touch up, paint and thinner mixing, and unusable paint and thinner disposal. Vehicle painting often is conducted in an enclosed room or booth that has positive pressure ventilation to ensure that paint fumes leave the room, rather than being inhaled by the painter. To minimize air pollution, air filters are placed in the vents and changed regularly. Vehicle painting also includes changing and disposing of these filters. If significant quantities of paints containing hazardous materials are used or if the tribal government is located in a designated geographic area, air emissions from painting operations may be regulated under the CAA, which may specify the type of ventilation system required and the frequency for changing the filters. The disposal of air filters used to filter emissions from paints containing hazardous materials, disposal of many unusable paints, and disposal of spent thinners is regulated under RCRA. Preparing a vehicle for painting (*e.g.*, stripping, sanding) may also be regulated under RCRA because such activities may result in the generation of a hazardous waste.

3.12.1.8 Storing Materials Outside

Due to space and safety concerns, many vehicle repair shops store drums of used and new fluids, hazardous materials, batteries, vehicle parts, or other wastes outside of the shop. The storage of any materials that could reach waterways through spills or stormwater runoff are regulated under the NPDES direct discharge or stormwater discharge provisions of the CWA, which require that the facility prevent these materials from coming in contact with stormwater.

3.12.2 Fueling Stations

Tribal governments operate and maintain vehicle-fueling stations to provide fuel to their vehicles. Because these activities could affect the environment, they are regulated under environmental laws and regulations, as indicated below.

- Fuel storage – CWA and RCRA;
- Fuel dispensing – CAA; and
- Disposal of spilled unusable fuel – RCRA and SDWA

3.12.2.1 Fuel Storage

Vehicle fuels, including gasoline, kerosene, and diesel fuel, are stored in underground or aboveground storage tanks that are connected by piping to a fuel-dispensing unit. The operation and maintenance of these tanks may be regulated under the SPCC section of the CWA, which requires development and implementation of spill prevention plans and secondary containment for aboveground tanks, and/or under the UST section of RCRA, which specifies structural, monitoring, and leak detection requirements for underground tanks. See Section 3.6.5.

3.12.2.2 Fuel Dispensing

Fuel dispensing units used at tribal government facilities are similar or identical to those used at retail service stations and could emit organic vapors to the atmosphere. In some areas, dispensing is regulated under the CAA, which may require the dispensing units to have vapor recovery systems at the point of fueling and at the location where the aboveground or underground fuel storage tanks are filled. In addition, fuel-dispensing units are required to dispense fuel at a prescribed gallons-per-minute rate to prevent spills.

3.12.2.3 Disposal of Unusable Fuel

In the course of fueling or fuel loading operations, fuel may be spilled. Fuel that cannot be dispensed into a vehicle for use must be disposed of properly. The disposal of this fuel may be regulated under RCRA, which sets requirements for handling, storage, and ultimate disposal of hazardous wastes. A repair shop may be required to report any spill to tribal authorities.

3.12.3 Purchasing

Purchasing includes the acquisition of vehicles, equipment, and materials. The purchasing of clean fuel vehicles for tribal governments with large vehicle fleets may be regulated under the CAA. Other purchasing decisions, such as the purchase of hazardous or water-based solvent, can directly impact whether the fleet operations are subject to additional environmental requirements.

3.12.4 Pollution Prevention in Vehicle/Equipment Maintenance

Pollution prevention opportunities abound in the area of vehicle and equipment maintenance. Usually, three factors contribute to the level of success of a pollution prevention plan. The first factor involves auditing current procedures, researching pollution prevention opportunities, and committing to make appropriate and beneficial changes. This step requires researching alternative products and funding equipment purchases. The second factor is funding. Generally, present funding can be reappropriated in a phased plan to purchase new equipment, products, and/or contract services. The third factor deals with the regulatory requirements and contract services available based on the facility's location. Some facilities base their decisions for a pollution prevention plan on the regulatory requirements contained in RCRA, OSHA, and/or tribal regulations.

Pollution prevention technology implemented under this approach will enhance the safety of workers, improve regulatory compliance, and may lower the operating costs of the facility. There are many options for pollution prevention, depending on the waste stream's characteristics and regulatory requirements. Some of the best ideas for pollution prevention can come from mechanics who perform the tasks every day, but changing old habits is the key to pollution prevention success. The remainder of this section highlights pollution prevention options by waste stream.

3.12.4.1 Typical Wastes Generated

- Cleaning solvents;
- Anti-freeze/coolant;
- Used/soiled shop rags;
- Unrecovered Freon from air conditioners;
- Oil/lubricants; and
- Scrap metal.

3.12.4.2 Parts Cleaning Systems

There are many different types of parts cleaning systems. Some utilize a pump to circulate cleaning solvent/solutions. These machines can be managed by the facility or contracted to a service that maintains the system and hauls away any generated wastes. The type of system and the solvent/solution (*e.g.*, organic based, aqueous, citrus based) used in the system will determine the applicable regulatory management requirements and pollution prevention opportunities. Some systems have a distiller to clean the solvent and a reservoir tank to hold the waste that is "cooked" out, while others utilize filters to extract impurities. Protecting the integrity of the cleaning solvent/solution in order to extend its life and reduce disposal quantities is pollution prevention. For example, it may be possible to avoid reaching a regulated threshold by managing system use, including purchasing a different system or altering filter types. Also, there are aqueous-, semi-aqueous, and citrus-based systems that offer unique opportunities for pollution prevention. With any of these types of systems, it is important not to introduce any non-compatible solvents/solutions into them that would cause them to become regulated hazardous waste.

Some Factors to Consider in a Filtered System

- Utilizes non-chlorinated solvents in the system;
- Has a high flash point solvent of more than 140 degrees;
- Has a closing lid for when the system is not being used to reduce evaporation and air emissions;
- Can meet all regulatory requirements regarding disposal of filters; and
- Meets OSHA safety requirements.

Some Factors for Aqueous Solution Systems

The system cleans to the standard required for the part to function properly;
There will be minimal regulatory restrictions if disposal of the solution is required; and
A balance needs to be maintained for the bioremediation in the system to work properly.

Key Tips. Maintain the solution/solvent integrity to extend the solution/solvent life and increase the frequency of filter replacement to reduce disposal costs of solvent/solution. Let the part sit in the washbasin and drip dry to reduce solvent "drag out" loss. Choosing aqueous systems may reduce regulatory requirements all together.

3.12.4.3 Pressurized/Aerosol Cleaners

Chlorinated solvents/solutions should not be used in any application to clean parts. Avoid using any aerosol cleaning products that are not RCRA approved. The use of these types of solvents/solutions can cross contaminate fluids and make them regulated under RCRA and increase OSHA requirements. Solvent/solutions purchased in bulk and applied with self-pressurizing applicators will reduce the use of the product and waste containers. Pre-cleaning with a putty knife and wire brush and utilizing recyclable shop rags will also reduce disposal cost and excess use of solvents/solutions. Verify compatibility of the with the parts washer's solvent/solution. Aqueous solutions may be the best option when utilized properly. There are pre-cleaning solvents/solutions that can affect the parts washing tank if, after use, further cleaning of a part is required in that system. Eliminate overuse and set standards on the amount of cleaning required for the particular part to function properly.

Some Factors to Consider in a Self-pressurizing System

- Use of non-chlorinated solvents.
- Solvent/solution is compatible with the parts washer.
- Solvent/solution's contents affect on RCRA/OSHA regulatory requirements.
- Does the manufacturer/supplier offer system product support and/or training?

Key Tips. Utilizing a scraping device and/or wire brush, recyclable shop towels, and a non-regulated RCRA solvent/solution will reduce usage and hazardous waste regulatory requirements. Solvents/solutions with low VOC and low toxic contents produce fewer emissions that are harmful to the employee.

3.12.4.4 ANTI-FREEZE/COOLANT

Using manufacturer-specified antifreeze/coolant is required to maintain warranties and extend the life of the vehicle/equipment. Antifreeze/coolant can be recycled in various ways, to manufacture specifications and for reuse on site. The facility should verify that the vehicle/equipment warranty would be honored if this reused antifreeze/coolant were utilized. One method to recondition used antifreeze/coolant is to utilize a mobile service to perform on-site recycling at your facility. Verify that the service is licensed, and have a neutral third party laboratory test results to demonstrate the system works, and guarantees the product. Another approach is to purchase and use an on-site recycling machine. This allows full management of the system's use and the quality of the product it produces. Either one of these will reduce new product purchases and associated RCRA disposal costs, as well as ensure a readily available product.

Some Factors to Consider in Choosing the Best Method for the Facility

- Verify warranty coverage of the vehicle/equipment for the system/service chosen.
- Verify disposal approval for filters generated from the recycling system.
- See if bulk containers for used/recycled anti-freeze are available and proper storage can be achieved.

Key Tip. Whatever method is chosen, tribes should make sure testing and warranties of the system's product are backed, and the manufacturer of the vehicle/equipment allows for the use of the reconditioned anti-freeze/coolant.

3.12.4.5 SHOP RAGS

Do not use disposable shop rags. Obtain and use reusable rags, contract with a company to deliver clean (reusable) rags and pick up dirty (reusable) rags. Verify that the service selected has an approved method and facility for recycling the rags. The only exception to utilizing a service is if the facility's nonregulated waste is disposed of at a waste-to-energy plant that can incinerate waste rags. Remember, never use chlorinated solvents regardless of the recycling/disposal method.

3.12.4.6 Air Conditioning

There are several manufacturers that have different machines that will recover Freon from a system for off-site recycling. Other machines recover and recycle the Freon and then place the recycled Freon back into the repaired unit. These types of machines reduce new Freon purchases and disposal costs associated with the management requirements of the waste stream. If the repair of air conditioners is performed offsite, tribes should verify that the company handles generated waste consistent with applicable regulations.

Some Factors to Look for in Selecting a Machine

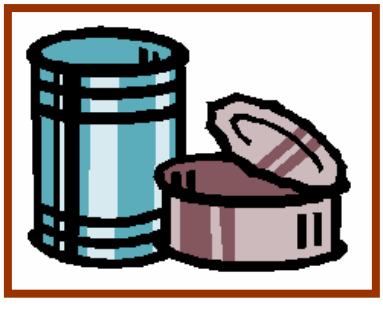
- Is regulatory approved and registered?
- Is backed by third party test results verifying efficiency?
- Has factory warranty and supplier training?

3.12.4.7 Lubricating Oils

There are several types of lubricating oils in the various types of vehicles/equipment in use today. Changing these oils should be performed as determined by use and not according to specific dates. If the vehicle/equipment is underutilized and/or is only needed for a specific task, changing the oils by a timed date is a waste of resources. Synthetic oils generally have a longer span of time for use before a change is required. When choosing the correct lubricant, verify warranty approval and track the miles/hours of use of the product in the vehicle/equipment. Check various disposal options to see if refining of the waste oils is available over fuel blending for incineration. Keep non-compatible oils separate from one another to reduce possible cross contamination and increased disposal cost.

3.12.4.8 Metal Recycling

Most replaced parts are made of metal. Some metal parts must be exchanged for the new part when purchased. Many parts can be recycled, saving the facility disposal costs. Lead tire weights, broken engine brackets, nuts and bolts, and body parts are just a few that have value for



recycling. Set up places to store the recyclable metal, preferably out of the weather, and contract with a scrap dealer to pick up the recycled parts at the facility on an as needed basis. Some scrap dealers will supply the container to the facility for the storage of the metal to be recycled. The scrap dealer may require separation of the different metals.

CHAPTER 4. SUMMARY OF FEDERAL AND TRIBAL REGULATORY PROGRAMS

> There are more than a dozen major federal environmental laws applicable to Indian country. See [http://epa.gov/compliance/basics/laws.html].

This chapter discusses the federal regulations that may apply to tribal government operations. The purpose of this chapter is to highlight and briefly describe the applicable federal requirements and to provide citations. This chapter also discusses EPA's role in directly implementing and enforcing federal environmental laws in Indian country and the process through which tribal governments can assume responsibility for implementing certain federal environmental programs.

In addition to the federal environmental programs discussed in this chapter, tribal governments may use their own inherent authority to develop environmental laws.

4.1 DIRECT FEDERAL IMPLEMENTATION OF ENVIRONMENTAL LAWS IN INDIAN COUNTRY - EPA'S ROLE AS REGULATOR

Environmental program responsibility requires capability and significant resources, among other things. Tribal governments do not always find it practical to assume full responsibility for EPA programs. Based upon a variety of factors, often including program costs, assistance and maintenance costs, and availability of technical expertise, tribal governments may focus on certain high-priority activities, but may decide not to assume an entire regulatory program. When tribes decide not to undertake certain activities under EPA's programs or not to apply for entire programs, EPA will seek to directly implement the environmental programs, as appropriate. EPA may also directly implement certain environmental management programs where federal statutes preclude tribal eligibility.

4.2 TRIBAL ASSUMPTION OF FEDERAL ENVIRONMENTAL PROGRAMS

In the EPA Indian Policy, EPA announced its support for tribal assumption of environmental programs under federal statutes, stating, among other things, that "[t]he Agency will recognize tribal governments as the primary parties for setting standards, making environmental policy decisions, and managing programs for reservations, consistent with Agency standards and regulations."

Three environmental statutes - the Safe Drinking Water Act (SDWA), the Clean Water Act (CWA), and the Clean Air Act (CAA) - explicitly authorize EPA to "treat tribes in the same manner as states" (TAS) for purposes of implementing various environmental programs. In addition, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) explicitly include a provision that affords tribes substantially the same treatment as states with respect to certain provisions of the Act, while the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) also provides a role for tribes. Although the Toxic Substances Control Act (TSCA) and the Emergency Planning and Community Right-to-Know Act (EPCRA) do not explicitly provide for TAS, EPA has taken the position that it has the discretion to approve tribes to implement certain programs in the same manner as states in order to fill gaps in how the statutes are implemented in Indian country.

For tribes to assume many of EPA's regulatory programs, they generally must go through the TAS process and meet the following criteria:

- The tribe must be federally-recognized;
- The tribe must have or be able to exercise substantial governmental powers;
- The tribe must have or have been delegated jurisdiction over the area in question; and
- The tribe must be reasonably expected to have the capability to effectively implement a program.

In general, once a tribe has been deemed eligible for one EPA program, it need only establish that it has jurisdiction and capability for each subsequent program. If a tribe does not have capability, it must have a plan for acquiring capability over time. A capability showing is required because each program may require different skills and activities to provide protection that meets the requirements of specific statutes and regulations.

Perhaps the most important of the tribe-specific eligibility criteria is whether the functions to be exercised by a tribe are within the applicant tribe's jurisdiction. EPA asks tribes that are applying for regulatory programs to demonstrate in their applications that they have adequate jurisdiction over the areas to be regulated. Under principles of federal Indian law, tribes generally have inherent sovereign authority to regulate both their members and land held in trust (although specific statutes may have affected this general principal for some tribes). Depending on the scope of the application, EPA may also need to evaluate whether a particular tribe has jurisdiction over nonmember activities on nonmember-owned fee lands within the boundaries of an Indian reservation. Jurisdiction over nonmember activities on fee lands may come from two potential sources: a tribe may have inherent authority over these activities; or Congress may, by statute, delegate federal authority to a tribe. Tribal applications for authorization to administer the program are sent to EPA's Regional Administrators.

EPA has made a number of "treatment in the same manner as a State" determinations for tribes, most of which involved findings that tribes are eligible for grants under the CWA. EPA has approved twenty-seven tribes to set water quality standards under section 303 of the CWA. One tribe has received primacy under the SDWA. Five tribes have received program approval under the CAA. Approximately 30 tribes operate pesticide certification or enforcement programs authorized by FIFRA under cooperative agreements with EPA.

4.3 THE CLEAN AIR ACT

The CAA is designed to "protect and enhance the nation's air resources so as to protect the public health and welfare and the productive capacity of the population." The CAA directs EPA to establish national standards for ambient air quality and for EPA, tribes, and states to implement, maintain, and enforce these standards through a variety of mechanisms; tribes are expressly eligible for TAS. CAA regulations appear at 40 CFR Parts 50-99. EPA's Tribal Air Web site [http://www.epa.gov/air/tribal/] provides information about CAA issues affecting tribes. The *Clean Air Act Tribal Authority Rule* establishes eligibility requirements for TAS, EPA's Tribal Air Program Resources site [http://www.epa.gov/air/tribal/airprogs.html] provides information.

For training, technical information, and resources related to the CAA, see Appendix E.

- **National Ambient Air Quality Standards.** EPA establishes national ambient air quality standards (NAAQSs) to limit levels of "criteria pollutants:" carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide. Geographic areas that meet NAAQSs for a given pollutant are designated as attainment areas; those that do not meet NAAQSs for a given pollutant are designated as non-attainment areas. Under Section 301 of the CAA, tribes may, but are not required to, apply to develop a Tribal Implementation Plan (TIP) to identify sources of air pollution and to determine what reductions are necessary to meet federal air quality standards. Revised NAAQS for particulates and ozone became effective in 2004.

- **New Source Performance Standards.** EPA establishes New Source Performance Standards (NSPS), which are nationally uniform emission standards for new and modified stationary sources falling within particular industrial categories. NSPSs are based on the pollution control technology available to that category of industrial source (see 40 CFR Part 60).

- **National Emission Standards for Hazardous Air Pollutants.** EPA establishes National Emission Standards for Hazardous Air Pollutants (NESHAPs) to control particular

hazardous air pollutants (HAPs). Section 112(c) of the CAA directs EPA to develop a list of sources that emit any of 188 HAPs and to develop regulations for these categories of sources. To date, EPA has listed 185 source categories and developed a schedule for establishing emission standards. The emission standards are developed for both new and existing sources based on "maximum achievable control technology" (MACT). MACT is defined as the control technology that achieves the maximum degree of reduction in the emission of HAPs, taking into account cost and other factors.

- **Mobile Sources.** Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes, as well as small engines, like lawn mowers, and large stationary engines used in industry and pipelines. EPA uses technology forcing emissions requirements, reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps, among other mechanisms, to regulate mobile air emission sources. While almost all mobile source regulation is reserved exclusively for EPA, eligible and approved TAS tribes may participate in enforcing mobile source enforcement through vehicle inspection and maintenance programs; states are required to participate in such programs.

- **Sulfur Dioxide/Nitrogen Oxide Emissions.** Title IV of the CAA establishes a sulfur dioxide/nitrogen oxide emissions program designed to reduce the formation of acid rain. Sulfur dioxide releases can be reduced under a "cap and trade" program by granting to certain sources limited emissions allowances, which are below previous levels of sulfur dioxide releases. Commercial electric generators (natural gas, oil or coal fired) are the primary subjects of this title. Tribal governments that own and operate municipal waste combustors, sewage sludge incinerators, or large boilers/generators may be subject to these requirements. Tribal governments with these types of sources may choose to seek to obtain federal regulatory authority over this program.

- **Major Source Permit Program.** Title V of the CAA requires that all "major sources" (and certain minor sources) of air pollution obtain an operating permit, and such sources may be required to submit information about emissions, control devices, and the general process at the facility in the permit application. Permits may limit pollutant emissions and impose monitoring, record keeping, and reporting requirements. One purpose of the operating permit is to include in a single document all air emissions requirements that apply to a given facility. Tribal governments may apply for eligibility to issue and monitor Title V permits.

- **Stratospheric Ozone Protection.** Title VI of the CAA is intended to protect stratospheric ozone by phasing out the manufacture of ozone-depleting chemicals and restricting their use and distribution. The production of "Class I" substances, including 15 kinds of

chlorofluorocarbons and chloroform, was phased out (except for essential uses) in 1996. EPA's Stratospheric Ozone Information Hotline, at (800) 296-1996, or the Ozone Depletion Web site [http://www.epa.gov/ozone/], provides general information about regulations promulgated under Title VI of the CAA.

- **Risk Management Planning Section 112**(r) of the CAA mandates a federal focus on the prevention of serious chemical accidents that could affect public health and the environment. Under these requirements, facilities must identify and assess their chemical hazards and carry out certain activities designed to reduce the likelihood and severity of accidental chemical releases. Information summarizing these activities is available to tribes, the public, and all other stakeholders. Using this information, tribes and tribe members can work with industry to reduce risks to the community from chemical accidents.

In the broadest sense, risk management planning relates to tribal emergency preparedness and response, to pollution prevention at facilities, and to worker safety. In a more focused sense, it forms one element of an integrated approach to safety and complements existing industry codes and standards. The risk management planning requirements build on the Occupational Safety and Health Administration's (OSHA) Process Safety Management Standard.

- **CAA Implementation in Indian Country**. EPA is authorized to directly implement the CAA in Indian country. However, over 100 tribes are now pursuing the development of air quality management programs, and many more have expressed an interest. Many tribes are monitoring their air for a variety of pollutants, from ozone and particulate matter, to mercury and acid rain, as well as developing emission inventories to understand the sources of air pollution on the reservations. Some tribes have been approved to implement CAA provisions and are developing TIPs to address violations of air quality standards; such tribes expect to apply for approval to run ongoing programs in the near future. Other tribes are developing operating permit programs for both major and minor sources of air pollution.

Many are actively participating in partnerships with EPA and state regulators to address air quality problems that cross jurisdiction boundaries. An example of these partnerships is air toxics risk assessments being done cooperatively in the Phoenix area by three tribes and the State of Arizona. In addition, as many as 70 tribes are active partners in regional haze planning organizations, and around 100 tribes participate in the Western Regional Air Partnership.

4.4 CLEAN WATER ACT

The primary objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters. Pollutants regulated under the CWA are classified as either "toxic" pollutants; "conventional" pollutants, such as biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, oil and grease, and pH; or "nonconventional" pollutants, including any pollutant not identified as either conventional or priority. The CWA is implemented via several regulatory programs, including:

- **National Pollutant Discharge Elimination System Program.** The CWA regulates both direct and indirect discharges. The National Pollutant Discharge Elimination System (NPDES) program (CWA Section 402) controls direct discharges into navigable waters. Direct discharges come from "point sources" which are defined as any "discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fixture, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged." These include discharges of industrial and municipal wastewater, as well as storm water conveyed through a municipal separate storm water system (MS4). EPA's NPDES Web site [http://cfpub.epa.gov/npdes/] provides technical and regulatory information about the NPDES permit program, which controls water pollution by regulating point sources (*e.g.*, pipe, ditch) that discharge pollutants into waters of the United States.

  NPDES permits, issued by either EPA or an authorized tribe (or an authorized state or U.S. territory) contain industry-specific, technology-based and water quality-based limits, and establish pollutant monitoring, record keeping and reporting requirements; to date, EPA has not authorized any tribes to administer the NPDES program. A facility that proposes to discharge into the nation's waters must obtain a permit prior to initiating a discharge. The permit will set the conditions and effluent limitations under which the facility may discharge.

  An NPDES permit may include discharge limits based on tribal water quality standards that are established under the CWA, and which are designed to protect designated uses of surface waters, such as supporting aquatic life or recreation. These standards, unlike the permit technology-based standards, generally do not take into account technological feasibility or costs. Water quality standards may vary from site to site, depending on the use classification of the receiving water body. When establishing water quality standards

and associated water quality criteria, tribes may elect to follow EPA guidelines, which propose aquatic life and human health criteria for many of the 126 priority pollutants.

- **Combined Sewer Systems Permit Provisions.** NPDES permits for municipalities with combined sewer overflow (CSO) must conform to EPA's CSO Control Policy. The permitting provisions include minimum technology-based controls that can reduce the prevalence and impacts of CSOs and that are not expected to require significant engineering studies or major construction. Communities with combined sewer systems are also expected to develop long-term CSO control plans that will ultimately provide for full compliance with the CWA, including attainment of water quality standards. EPA's CSO Web site [http://cfpub.epa.gov/npdes/home.cfm?program_id=5] provides technical and regulatory information about CSOs.

- **Storm Water Discharges.** EPA's Stormwater Program [http://cfpub.epa.gov/npdes/home.cfm?program_id=6] is part of the NPDES program and is designed to regulate the discharge of contaminated stormwater (and contaminated discharges from storm sewers that are only supposed to discharge storm water) into navigable waters.

  EPA implemented the storm water program in two phases. Phase I of the stormwater program applies to medium (serving a population from 100,000 to 250,000) and large (serving a population greater than 250,000) municipal separate storm sewer systems (MS4), certain industrial facilities, and any construction activity disturbing at least 5 acres (large construction sites). Covered MS4, industrial facilities, or construction activity must apply for and obtain an NPDES storm water permit. Phase I began in 1990.

  Phase II of the stormwater program applies to small (serving populations under 100,000) MS4s and construction activity disturbing at least 1 acre and less than 5 acres (small construction sites). Covered MS4 and construction activity should obtain a stormwater NPDES permit for construction. This may be accomplished by submitting a Notice of Intent to EPA to be covered under a national general storm water permit. Phase II began in 1999.

  The term MS4 does not solely refer to municipally owned storm sewer systems, but rather is a term with a much broader application that can include departments of transportation, colleges and universities, sewer districts, hospitals, military bases, and prisons. An MS4 also is not always just a system of underground pipes - it can include roads with drainage systems, gutters, and ditches. The regulatory definition of an MS4 is provided in 40 CFR

122.26(b)(8). EPA's Stormwater Program site [http://cfpub.epa.gov/npdes/home.cfm?program_id=6] provides general stormwater information and the Stormwater Phase II Compliance Assistance Guide [http://www.epa.gov/npdes/pubs/comguide.pdf] also provides information.

- **Pretreatment Program.** The CWA also requires EPA to promulgate regulations that restrict discharge of wastewater indirectly through sewers to publicly-owned treatment works (POTWs). POTWs receive wastewater from homes, commercial buildings, and industrial facilities and transport it via a series of pipes, known as a collection system, to treatment facilities. Industrial users of POTWs must comply with CWA pretreatment standards before introducing pollutants into a POTW. These pretreatment standards must control pollutants that may pass through or interfere with POTW treatment processes or contaminate sewage sludge. EPA has developed national categorical Pretreatment Standards that apply numeric pollutant limits to industrial users in specific industrial categories. EPA has also developed general pretreatment requirements. The General Pretreatment Regulations require POTWs that meet certain criteria to develop pretreatment programs to control industrial discharges into their sewage collection systems. Additionally, the General Pretreatment Regulations include general prohibitions that forbid industrial users from causing pass through and interference, and specific prohibitions against the discharge of pollutants that cause problems at the POTW such as corrosion, fire or explosion, and danger to worker health and safety.

  Different technology-based categorical pretreatment standards apply to existing and new industrial categories. In addition, POTWs may need to develop "local limits," to assist the POTW in achieving the effluent limitations in its NPDES permit or where necessary in order to prevent pass through or interference. Local limits may be more stringent than federal standards.

- **Sludge (Biosolid) Management.** Section 405 of the CWA regulates the land application and land disposal of sludge - the solid, semisolid or liquid untreated residue generated during the treatment of domestic sewage in a treatment facility. 40 CFR 503 contains provisions for sludge quality, application rates, and environmental conditions under which land application is permitted. The regulations also specify sludge management methods and monitoring and record keeping requirements for both disposal and land application facilities. Sewage sludge can be disposed of in landfills, lagoons, incinerated, or applied to the land to serve as a soil enhancer or fertilizer. Land application of sewage sludge is often done on parks, golf courses, abandoned mines, and during construction site restoration. It can also be applied to crops, including crops for human consumption. EPA's Biosolid Web site [http://www.epa.gov/owm/mtb/biosolids/index.htm] provides sludge and biosolid information.

- **Spill Prevention, Control, and Countermeasure Plans.** CWA section 311contains broad federal authority to prevent, respond and cleanup an oil spill or threat of an oil spill. This provision, as implemented through regulations at 40 CFR. part 112, requires facilities that could reasonably be expected to discharge oil in harmful quantities to navigable waters and adjoining shorelines to prepare and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. Section 4.6.3 contains additional information about SPCC Plans or online at EPA's SPCC page of the Oil Program Web site [http://www.epa.gov/oilspill/spcc.htm].

4.4.1 THE WATER QUALITY STANDARDS PROGRAM AND TRIBAL PROGRAM APPROVAL

Section 518(e) of the CWA require EPA to issue regulations to specify how the Agency would treat tribes in a manner similar to states for certain CWA programs, including the water quality standards program. Section 518(e) also requires EPA to establish a mechanism for resolving any unreasonable consequence that results when a tribe and a state adopt different water quality standards for common bodies of water. 40 CFR Part 131 contains the requirements and procedures for EPA to promulgate water quality standards for tribes and for EPA to approve or disapprove tribal applications.

If a tribe chooses to apply for treatment as a state for the water quality standards program and receives EPA approval, all of the procedures and requirements that apply to states for the development, review, and adoption of water quality standards apply to a tribe with authorization to administer the program. Tribes have three years from the time they receive approval to administer the water quality standards program to submit their water quality standards to EPA for approval.

4.4.2 WATER QUALITY STANDARDS - DISPUTE RESOLUTION MECHANISM

Section 518(e) of the CWA required EPA to issue regulations that establish procedures for resolving disputes between states and tribes that arise as a result of differing water quality standards on common bodies of water. Since some Indian reservations fall within the boundaries of one or more states, so it is possible that there will be conflicting water quality standards for a common body of water because there are two or more responsible governing bodies. This situation also occasionally occurs between two states sharing a common body of water. 40 CFR Section 131.7 states that the EPA Regional Administrator is responsible for acting in accordance with this section of the Regulation.

4.5 SAFE DRINKING WATER ACT

The Safe Drinking Water Act (SDWA) mandates that EPA establish regulations to protect human health from contaminants in drinking water. The law authorizes EPA to develop national drinking water standards and to create a system to ensure compliance with these standards. The SDWA also directs EPA to protect underground sources of drinking water through the control of underground injection of fluids.

Drinking Water Programs

EPA has developed primary and secondary drinking water standards under its SDWA authority. EPA and authorized tribes enforce the primary drinking water regulations, which are either contaminant-specific concentration limits that apply to certain public drinking water supplies or treatment techniques that must be followed. Primary drinking water standards are based on maximum contaminant level goals (MCLGs), which are non-enforceable health-based goals. The standards consist of treatment techniques or maximum contaminant levels (MCLs), which are enforceable limits set as close to MCLGs as possible, considering cost and feasibility of attainment.

To assure these standards are maintained, SDWA regulations require public water systems to monitor for various contaminants, such as fecal coliform and metals. In addition, the SDWA regulations require specified disinfection and filtration activities, and public notification when certain contaminants exceed specified levels, and reporting of contaminant limit exceedences. Tribes may apply for eligibility to receive primary enforcement authority (known as primacy) to administer the requirements of Sections 1413 and 1451 of the SDWA. The Navajo Nation has primacy for the SDWA public water system (PWS) program.

Underground Injection Control

The SDWA Underground Injection Control (UIC) program (40 CFR Parts 144-148) is a permit program that protects underground sources of drinking water by regulating five classes of injection wells. The UIC permit program is primarily enforced by EPA in Indian country because no tribe is authorized to administer the program.

4.6 Resource Conservation and Recovery Act (Solid and Hazardous Waste Programs

The Resource Conservation and Recovery Act (RCRA) of 1976, which amended the Solid Waste Disposal Act, addresses nonhazardous (Subtitle D) and hazardous (Subtitle C) waste management activities. The Hazardous and Solid Waste Amendments (HSWA) of 1984 strengthened RCRA's waste management provisions and added provisions governing underground storage tanks (USTs).

Hazardous waste regulations (40 CFR Parts 260-299) establish a "cradle-to-grave" system governing hazardous waste from the point of generation to disposal. Hazardous waste is a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics, may: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious or incapacitating illness; or (2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed. RCRA hazardous wastes include the specific materials listed in the regulations (commercial chemical products designated with the code "P" or "U", hazardous wastes from specific industries/sources designated with the code "K", or hazardous wastes from non-specific sources, designated with the code "F") or materials that exhibit a hazardous waste characteristic (ignitability, corrosivity, reactivity, or toxicity, and designated with the code "D"). The RCRA Orientation Manual [http://www.epa.gov/epaoswer/general/orientat/] provides an overview of both hazardous and non-hazardous waste issues.

Entities that generate hazardous waste are subject to waste accumulation, manifesting, and record keeping standards. Facilities generally must obtain a permit if they store hazardous wastes for more than 90 days before treatment or disposal. Facilities may treat less-than-90-day tanks or containers of hazardous wastes without a permit. Subtitle C permits contain general facility standards, such as contingency plans, emergency procedures, record keeping and reporting requirements, financial assurance mechanisms, and unit-specific standards. RCRA also contains provisions (40 CFR Part 264 Subpart S and Section 264.101) for conducting corrective actions, which govern the cleanup of releases of hazardous waste or constituents from solid waste management units at RCRA treatment, storage, and disposal facilities.

Solid Waste Management

Solid Waste Management (40 CFR Part 247 and 258) regulations establish standards and guidelines for solid waste collection and disposal programs, as well as recycling programs. Municipal solid waste – otherwise known as trash or garbage – consists of everyday items such as boxes, grass clippings, furniture, clothing, bottles, food scraps, newspapers, and appliances.

The regulations also establish criteria for design, operation, maintenance, and closure for municipal solid waste landfills. In addition, the regulations provide requirements for thermal processing (incineration) and resource recovery facilities. Many tribes have found creative ways to reduce and better manage municipal solid waste through a mix of practices that includes source reduction, recycling (including composting), and disposal.

4.6.1 UNDERGROUND STORAGE TANKS PROGRAM

Added in 1984, RCRA Subtitle I directed EPA to develop a comprehensive regulatory program for USTs storing petroleum or certain hazardous substances in order to protect the environment and human health from UST releases. EPA's regulations (40 CFR Part 280) set minimum standards for new tanks and require owners of substandard tanks to upgrade or close them by 1998. The regulations address a variety of other requirements, including those related to leak detection and cleanup of releases when they occur. Some USTs, such as many home heating oil tanks, are not federally regulated. Additional information on USTs is available on the Web site for EPA's Office of Underground Storage Tanks [http://www.epa.gov/oust/].

USTs and Tribes

EPA may not approve tribal UST programs under RCRA. However, tribes may seek to establish oil pollution regulations under their own authority. The Oil Pollution Act (OPA) required the initiation of significant new program activities relating to oil spill prevention, preparedness and response. A few tribes have developed or are developing their own UST regulations under the tribe's laws, usually with financial support provided by EPA through grants or cooperative agreements.

4.6.2 ABOVE GROUND STORAGE TANKS

The Spill Prevention Control and Countermeasures (SPCC) program (40 CFR Part 112) regulates the storage of oil in above ground containers. These regulations require owners or operators of certain above ground oil storage facilities to prepare and comply with written, site-specific, spill prevention plans. ASTs subject to the SPCC requirements are:

- Facilities with a total above ground oil storage capacity of more than 1,320 gallons;
- Single above ground tanks with an oil storage capacity of more than 660 gallons; and
- Facilities with a total combined underground oil storage capacity greater 42,000 gallons.

4.6.3 OIL SPILL PROGRAMS - SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLANS

The CWA, section 311, and the Oil Pollution Act of 1990 (OPAO contain broad federal authority to prevent, respond to and clean up an oil spill or threat of an oil spill. EPA's Oil Spill Program regulates non-transportation-related facilities storing, producing, using, processing, refining or otherwise managing oil of any kind that could reasonably be expected to discharge into the navigable waters of the United States and adjoining shorelines. EPA's Oil Pollution Prevention rule at 40 C.F.R. part 112 requires such facilities to develop and implement Spill Prevention, Control and Countermeasure (SPCC) plans. Facilities are not required to report the number of storage tanks or containers. There is no authority under Section 311 for authorized or approved state or tribal SPCC regulatory programs. Information on this program can be found at EPA's Preventing Oil Spills Web site [http://www.epa.gov/oilspill/prevent.htm].

On July 16, 2002, EPA promulgated a revised final SPCC regulations that became effective August 17, 2002. The SPCC regulations also require specific management procedures for loading, unloading, and storing petroleum products. EPA subsequently extended the regulatory compliance schedule included in the new SPCC rule. The current compliance dates for the new rule are:

- By February 17, 2006, facilities must prepare, and a Professional Engineer (P.E.) certify, an SPCC Plan in accordance with the new SPCC rule by this date; and
- By August 18, 2006, facilities must implement a revised SPCC Plan.

In the interim, facilities are required to maintain their existing SPCC Plans and amend it in accordance with 40 CFR Section 112.5.

OPA amended section 311 of the CWA and established additional requirements for oil pollution prevention, response and liability. EPA has several regulations covering response to oil discharges.

- The National Oil and Hazardous Substances Pollution Contingency Plan (NCP). 40 CFR Part 300.
- Facility Response Plan requirements, 40 C.F.R. part 112, Subpart D.

Coastal and Marine Oil Spills

The U.S. Coast Guard has jurisdiction over coastal/marine oil spills and oil spills that threaten navagible waters. The Department of Transportation, Office of Pipeline Safety, regulates the transport of oil through pipelines. EPA is the lead response agency for inland pipeline spills.

More information can be obtained at the Office of Pipeline Safety Web site [http://ops.dot.gov/]. Also, a federal reporting requirement exists for oil spills and chemical spills, that requires a call to the National Response Center at 800-424-8802. To obtain more information on marine spills, contact EPA at (202) 267-2229 or (800) 368-5647. EPA's Reporting Oil Spills Web site [http://www.epa.gov/oilspill/contacts.htm] also provides more information. Oil spills can also be reported to the National Response Center at (800) 424-8802.

4.7 EMERGENCY PLANNING AND COMMUNITY RIGHT TO KNOW PROGRAMS

The Emergency Planning and Community Right-to-Know Act (EPCRA) is designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by tribal governments. EPCRA and its regulations (40 CFR Parts 350-372) establish four types of reporting obligations for facilities that store or manage specified chemicals:

- **Extremely Hazardous Substances** requires facilities to notify the SERC and LEPC of the presence of any extremely hazardous substance (the list of such substances is in 40 CFR Part 355, Appendices A and B) in excess of the substance's threshold planning quantity and directs the facility to appoint an emergency response coordinator.

- **Notification of a Release or Exceedence (EPCRA Section 304)** requires facilities to notify the SERC and the LEPC in the event of a release equaling or exceeding the reportable quantity of a CERCLA hazardous substance or an EPCRA extremely hazardous substance.

- **Material Safety Data Sheets (EPCRA Sections 311 and 312)** require a facility at which a hazardous chemical, as defined by the Occupational Safety and Health Act, is present in an amount exceeding a specified threshold to submit to the TERC, LEPC, and local fire department material safety data sheets (MSDSs) or lists of MSDSs and hazardous chemical inventory forms (also known as Tier I and II forms).

- **Toxic Release Inventory (EPCRA Section 313)** requires manufacturing facilities included in SIC codes 20 through 39, as well as SIC codes 10, 12, 4911, 4931, 4939, 4953, 5169, 5171, and 7389, that have 10 or more employees and that manufacture, process, or use specified chemicals in amounts greater than threshold quantities, to submit an annual toxic chemical release report. This report, known commonly as Form R, covers releases

and transfers of toxic chemicals to various facilities and environmental media and allows EPA to compile the national Toxic Release Inventory (TRI) database.

EPCRA and Tribes

Under EPCRA and 40 CFR Parts 350-372, tribes can establish tribal emergency response commissions (TERCs), which are responsible for coordinating certain emergency response activities and can appoint tribal emergency planning committees (TEPCs). Tribal EPCRA programs involve the collection, management, and distribution of information related to the presence of particular substances at facilities in their areas.

4.8 Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a 1980 law known commonly as Superfund, authorizes EPA to respond to releases or threatened releases of hazardous substances that may endanger public health, welfare, or the environment. CERCLA also enables EPA to compel parties responsible for environmental contamination to clean it up or to reimburse the Superfund for response costs, which include remediation costs incurred by EPA.

EPA Responses to Hazardous Substance Releases

EPA implements hazardous substance responses according to procedures outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300). The NCP includes provisions for permanent cleanups, known as remedial actions, and other cleanups, referred to as removals. EPA generally takes remedial actions only at sites on the National Priorities List (NPL), which currently includes approximately 1,300 final and proposed sites. Both EPA and states can act at NPL sites; however, EPA provides responsible parties the opportunity to conduct removal and remedial actions and encourages community involvement throughout the Superfund response process. EPA and states have developed a work share arrangement to divide assessment and cleanup responsibility. As a matter of policy, EPA requests state or tribal concurrence for listing a site on the NPL, depending on whether the site is located on state or tribal lands. In certain circumstances, EPA does conduct response actions at non-NPL sites.

- **Superfund Enforcement Program.** A primary goal of the Superfund enforcement program is to obtain consensual settlements, or, if necessary, compel potentially responsible parties (PRPs) to implement or pay for site cleanups. Hazardous waste responses are often

an emergency and there is not time to search for PRPs and to ensure they take responsibility for their action. In these cases EPA acts immediately, taking a Fund-lead action, which uses federal money from the Superfund, and then tries to recover the costs of the cleanup from the PRPs. When the situation permits, EPA tries to get the PRP to conduct the cleanup before it uses Fund resources. When this happens the action is referred to as an enforcement-lead or PRP-lead action.

- **Superfund Sites and Tribal Governments.** Tribes are accorded the same status as states under much of CERCLA and its regulations, which provide for a meaningful and substantial role for tribes in Superfund response. Tribes are increasingly choosing to exercise that role as they develop greater capability for site response.

- **Natural Resource Damages.** Natural resource injuries may occur at sites as a result of releases of hazardous substances or oil. CERCLA provides authority for assessment and restoration of natural resources that have been injured by a hazardous substance release or response. OPA, enacted in reaction to the *Exxon Valdez* oil spill, provides authority for oil pollution liability and compensation as well as for the federal government to direct and manage oil spill cleanups. Similar to CERCLA, OPA contains authorities to allow the assessment of damages and restoration of natural resources that have been contaminated by the discharge, or threatened discharge, of oil. Both CERCLA and OPA define "natural resources" broadly to include "land, fish, wildlife, biota, air, water, groundwater, drinking water supplies, and other such resources...."

- **Natural Resource Damages (NRD) Trustees.** EPA is not a Natural Resource Trustee, nor is it authorized to act on behalf of Natural Resource Trustees. For NRD, EPA's role primarily involves the notification of, and coordination with, all Trustees, including coordinating assessments, investigations, and planning with Trustees. When an enforcement action is initiated, CERCLA requires EPA to notify Federal Natural Resource Trustees of settlement negotiations with potentially responsible parties, if the release of hazardous substances may have resulted in injuries to natural resources under their Trusteeship, and encourages the participation of Federal Natural Resource Trustees in settlement negotiations. OPA requires EPA to consult with affected trustees on removal actions taken in conjunction with any discharge of oil.

- Under both CERCLA and OPA, federal, tribal, and state "Natural Resource Trustees" are authorized to "represent" natural resources belonging to, managed by, controlled by, or appertaining to their respective entities. The two major areas of Trustee responsibility under CERCLA and OPA are: (1) assessment of damages due to injury to natural resources; and (2) restoration of natural resources injured or services lost due to a release or discharge.

Both statutes provide several mechanisms to meet these responsibilities. The Trustees can either: (1) sue in court to obtain compensation from the potentially responsible parties (PRPs) for NRD damages and the costs of assessment and restoration planning; or (2) conduct assessments or restorations in accordance with certain standards specified by the federal government and file a claim for reimbursement from the Trust Fund established under OPA; or (3) participate in negotiations with PRPs to obtain PRP-financed or PRP-conducted assessments and restorations of NRD.

- **Tribal Natural Resource Trustees.** Tribal Chairmen (or heads of the governing bodies of Indian Tribes), or persons designated by tribal officials, shall act as Tribal Trustees for natural resources belonging to, managed by, controlled by, or appertaining to the Indian Tribe, or held in trust for the benefit of such Indian Tribe, or belonging to a member of an Indian Tribe, if such resources are subject to a trust restriction on alienation. Under certain circumstances, the Secretary of the Interior may act as Trustee on behalf of a Tribe at the Tribe's request (40 CFR 300.610).

- **Cleaning Up and Reinvesting in Contaminated Property.** In January 2002, Superfund was amended by the Small Business Liability Relief and Brownfields Revitalization Act to provide relief for small businesses from liability under Superfund, and to amend CERCLA to promote cleanup and reuse of brownfields, to provide financial assistance for brownfields revitalization, and to enhance state and tribal response programs. "Brownfields" sites are properties, the redevelopment of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. The free-standing law, commonly known as the Brownfields Law, authorizes EPA to address brownfields sites that may not be addressed under Superfund. The Brownfields Law also changes and clarifies Superfund liability in two ways: (1) clarifies Superfund liability for prospective purchasers, innocent landowners, and contiguous property owners; and (2) provides liability protection for certain small volume contributors and contributors of municipal solid waste.

4.9 FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) addresses the sale, distribution, and labeling of pesticides, as well as the certification and training of pesticide applicators. FIFRA also establishes record keeping and reporting requirements on certified applicators of restricted use pesticides, as well as imposing storage, disposal, and transportation requirements on registrants, and applicants for registration, of pesticides.

The primary purpose of FIFRA is to regulate the labeling, and the subsequent use, of pesticides. Pesticide use is regulated through requirements to apply pesticides in a manner consistent with the label. The labeling requirements include directions for use, warnings, and cautions, along with the uses for which the pesticide is registered (i.e., pests and appropriate applications). Labeling requirements also include specific conditions for the application, mixture, storage, and time period for re-entry to fields following pesticide application, and when crops may be harvested after applications. If a pesticide is used in a manner contrary to its labeling, that use constitutes a violation of FIFRA.

FIFRA and Tribes

EPA generally is the primary enforcement authority for pesticide use violations in Indian country. Tribes may seek to restrict the sale or use of a federally registered pesticide, but may not allow the sale or use of a federally prohibited product. EPA works cooperatively with tribal government to enforce FIFRA, as it does with states and territories. For example, under FIFRA Section 23, EPA may enter into cooperative agreements with tribes. These agreements may include provisions for tribes to assist EPA in ensuring compliance with FIFRA by obtaining federal inspector credentials, conducting inspections, and recommending enforcement actions to EPA. As a separate matter, EPA also provides funding to tribes to assist in the development and implementation of pesticide programs under tribal law.

4.10 Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) granted EPA authority to create a regulatory framework to collect data on chemicals to evaluate, assess, mitigate, and control risks that may be posed by their manufacture, processing, and use. TSCA provides a variety of control methods to prevent chemicals from posing unreasonable risk.

TSCA standards may apply at any point during a chemical's life cycle. Under TSCA Section 5, EPA has established an inventory of chemical substances. If a chemical is not already on the inventory and has not been excluded by TSCA, a premanufacture notice (PMN) must be submitted to EPA prior to manufacture or import. The PMN must identify the chemical and provide available information on health and environmental effects. If available data are not sufficient to evaluate the chemical's effects, EPA can impose restrictions pending the development of information on its health and environmental effects. EPA can also restrict significant new uses of chemicals based upon various factors, such as the projected volume and use of the chemical.

Under TSCA Section 6, EPA can ban the manufacture or distribution in commerce, limit the use, require labeling, or place other restrictions on chemicals that pose unreasonable risks. Among the chemicals EPA regulates under Section 6 authority are asbestos, chlorofluorocarbons, and PCBs.

4.11 NATIONAL ENVIRONMENTAL POLICY ACT

The National Environmental Policy Act (NEPA) was one of the first laws written to establish the broad national framework for protecting our environment while bolstering the health and welfare of humankind. NEPA directs federal agencies to assess the potential environmental impacts of their proposed major actions significantly affecting the human environment and inform the public about those potential impacts. For Indian country and in other tribal areas, the environmental impacts of federal agency actions may involve such things as water quality or quantity issues, air quality issues, land use, or potential impacts to sacred sites, items of cultural patrimony, and traditional hunting, fishing, and gathering rights. Understanding the range of potential environmental impacts enables federal agencies to integrate environmental values into their decision-making processes.

Environmental assessments may be used by a federal agency to determine whether the environmental impacts of the agency's proposed action are likely to be significant. If the impacts are not expected to be significant, federal agencies prepare a finding of no significant impact. If the impacts are likely to be significant, federal agencies prepare an environmental impact statement (EIS). As part of the NEPA process, federal agencies, including EPA, with jurisdiction by law or with special expertise with respect to any environmental impact involved, or which are authorized to develop and enforce environmental standards, must comment on another agency's EISs.

EPA also has unique comment responsibility under Section 309 of the Clean Air Act because the Agency must review and comment in writing on the environmental impact of, among other things, any newly authorized federal projects for construction and any major federal agency action significantly affecting the environment. Thus, as part of the NEPA process, EPA reviews all EISs prepared by federal agencies, and may also review some environmental assessments. EPA's comment letters are available to tribes and tribal members upon request and EIS comment summaries are available at the EPA Comments on Environmental Impact Statements Web site [http://cfpub.epa.gov/compliance/nepa/comments/].

Under the NEPA process, tribes generally are invited to comment on EISs when the effects of the federal agency's action may be on a reservation, and federal agencies should actively solicit

tribal government participation as a "cooperating agency" when the project's effects are on a reservation. Agencies should also invite tribes to comment and be a "cooperating agency" when non-reservation tribal resources are affected.

Identifying, understanding and addressing the potential environmental impacts to tribes and Indian country and in other tribal areas are key elements of the NEPA process. Indeed, the Council of Environmental Quality's regulations implementing NEPA specify that federal agencies should consult with affected tribal governments through the scoping process, and identify possible conflicts between a proposed action and the objectives of tribal reservation land use plans, policies and controls. In addition to any scoping comments and comments on draft EISs which the tribes and individual tribal members may offer, EPA uses its knowledge of Indian country to facilitate the identification of potential issues during scoping so that the NEPA process addresses issues that could impact tribes and tribal members.

For certain programs, EPA may also prepare an EIS for an action. In such cases, EPA solicits participation of the tribal government as a "cooperating agency" when the project's effects may impact Indian country and other tribal areas. As part of the EIS process, EPA fully considers potential impacts to the tribal government and/or tribal members as part of its consideration of other relevant environmental statutes, regulations and Executive Orders related to the proposed action. EPA seeks to ensure that mitigation plans developed by EPA for the action incorporate tribal concerns and, for project effects that may impact Indian country or other tribal areas, that the tribal government and/or tribal members will have meaningful involvement in the development and, as appropriate, implementation of these mitigation plans.

4.12 ENDANGERED SPECIES ACT

The Endangered Species Act (ESA) establishes a program for conserving endangered and threatened species and their habitats. The ESA affords broad protection for species of plants and animals that are listed as endangered or threatened. Provisions in the ESA and its regulations, which are administered by the Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS), describe the process for listing species, as well as for designating critical habitat and developing species recovery plans.

The ESA generally prohibits the taking, possession, import, export, sale, and transport of a listed animal. The term "take" includes harassing, harming, hunting, killing, capturing, and collecting. "Harm" includes significant habitat alteration that actually kills or injures a listed animal. The FWS and NMFS, however, may issue permits that authorize "take" that is incidental to an otherwise lawful activity. To obtain a permit, an applicant develops a habitat conservation plan

that minimizes and mitigates the taking. FWS and NMFS may provide technical assistance and financing. Permits may also be issued that provide for protection of existing habitat in exchange for flexibility to later develop the habitat. Incidental take permits may cover small or very large areas.

Under the ESA, it is also unlawful to maliciously damage, destroy, or remove and possess listed plants in an area under federal jurisdiction; damage or remove a listed plant from any other area in knowing violation of state law; or to import, export, or sell a listed plant. In addition, where an activity is authorized, funded, or carried out by a federal agency, the ESA provides that the federal agency must consult with the FWS or NMFS to ensure that the agency action is not likely to jeopardize listed species or their designated critical habitat. If jeopardy is likely to occur, FWS or NMFS suggests alternatives. The consultation process may also result in authorization of incidental take, as long as the take is minimized.

Tribal governments, among others, may petition the FWS or NMFS to list species, and may comment on proposed listings, critical habitat designations, and recovery plans. Tribes may also enter into conservation agreements regarding species considered candidates for listing, with a view toward obviating the need to list the species. Federal policy provides opportunities for Tribal governments to participate in consultations between federal agencies and FWS or NMFS required by the ESA to ensure no jeopardy, and establishes that deference will be given to tribal conservation plans regarding activities on Indian lands that address listed species. Federal enforcement policy provides that ESA-related restrictions regarding incidental take may be imposed on Tribes only under carefully detailed circumstances. The American Indian Tribal Rights & the ESA Web site [http://www.fws.gov/endangered/tribal/index.html] of the FWS, in particular, is an excellent source of information regarding the ESA, federal policies, and Indian tribal rights.

4.13 RANGE MANAGEMENT PROGRAMS

Range management is an issue for all Tribes with public rangelands within their reservation boundaries. Rangelands include federally owned grazing lands that are leased out for cattle and horse grazing to states, localities, tribes, and private industries for non-tribal uses. These rangelands are usually managed by the federal Bureau of Land Management (BLM). Tribes with rangelands work cooperatively with the BLM to ensure proper management, under the guidelines contained within 43 CFR §4180, *et seq.*

Federal units of national ranges and affiliated refugees may be managed by tribes in certain circumstances when they have a historic, geographic and cultural link to the unit.

To develop appropriate standards for rangelands, tribes consider the four fundamentals of rangeland health as outlined in the grazing regulations: (1) watershed functioning; (2) water, nutrients, and energy cycling; (3) water quality; and (4) habitat protection.

Additionally, ranges raise many environmental issues such as habitat destruction from grazing, water issues (pollution, scarcity), fencing and containment, erosion control, and feral animal management.

In addition to the requirements in the CFR, tribal governments may develop ordinances that deal with the environmental impacts of livestock grazing.

APPENDIX A. LIST OF ACRONYMS

ACM	Asbestos Containing Material (AHERA)
AST	Aboveground Storage Tank (RCRA)
AHERA	Asbestos Hazards Emergency Response Act
BIA	Bureau of Indian Affairs
BOD	Biochemical Oxygen Demand (CWA and SDWA)
BLM	Bureau of Land Management (Department of the Interior)
BMP	Best Management Practices
C&D	Construction and Demolition Waste
CAA	Clean Air Act
CSS	Combined Sewer Systems (CWA)
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CORPS	U.S. Army Corps of Engineers (Department of Defense)
CESQG	Conditionally Exempt Small Quantity Generator (RCRA)
CFC	Chlorofluorocarbon (CAA)
CFR	Code of Federal Regulations
CGP	Construction General Permit (CWA)
CSO	Combined Sewer Overflow (CWA)
CSS	Combined Sewer Systems (CWA)
CWA	Clean Water Act
DOI	Department of the Interior
DITCA	Direct Implementation Tribal Cooperative Agreement
DMR	Discharge Monitoring Report (CWA)
DOE	United States Department of Energy
EA	Environmental Assessment (NEPA)
EIS	Environmental Impact Statement (NEPA)
ELM	Environmental Landscape Management
EMS	Environmental Management Systems
EPA	United States Environmental Protection Agency
EPP	Environmentally-Preferable Purchasing
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FHWA	Federal Highways Administration (U.S. Department of Transportation)
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FIP	Federal Implementation Plan (CAA)
FR	Federal Register

FWS	Fish and Wildlife Service (Department of the Interior)
GAP	Indian Environmental General Assistance Program
GCP	General Construction Permit
HAP	Hazardous Air Pollutant (CAA)
HHW	Household Hazardous Waste (RCRA)
HMIWI	Hospital/Medical/Infectious Waste Incinerator (CAA)
HUD	United States Department of Housing and Urban Development
I/I	Infiltration and Inflow (CWA)
IGRA	Indian Gaming Regulatory Act
IHS	Indian Health Service, United States Department of Health and Human Services
IPM	Integrated Pest Management
IRA	Indian Reorganization Act
IRR	Indian Reservation Roads
LCSS	Large Capacity Septic System (SDWA)
LDR	Land Disposal Restrictions (RCRA)
LEED	Leadership in Energy and Environmental Design
LEPC	Local Emergency Planning Committee (EPCRA)
MMPA	Marine Mammal Protection Act
MACT	Maximum Achievable Control Technology (CAA)
MCL	Maximum Contaminant Level (SDWA)
MCLG	Maximum Contaminant Level Goal (SDWA)
MBTA	Migratory Bird Treaty Act
MSDS	Material Safety Data Sheet
MS4s	Municipal Separate Storm Sewers (CWA)
MSW	Municipal Solid Waste (RCRA)
MTBE	Methyl Tertiary Butyl Ether
NAA	Nonattainment Area (CAA)
NAAQS	National Ambient Air Quality Standards (CAA)
NAGPRA	Native American Graves Reparation Act
NIGRA	National Indian Gaming Regulatory Act
NIGC	National Indian Gaming Commission
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants (CAA)
NHPA	National Historic Preservation Act
NIGRA	National Indian Gaming Regulatory Act
NMFS	National Marine Fisheries Service (National Oceanic and Atmospheric Agency)
NO_X	Nitrogen Oxides (CAA)
NPDES	National Pollutant Discharge Elimination System (CWA)
NPDWR	National Primary Drinking Water Regulation (SDWA)

NPL	National Priorities List (CERCLA)
NRC	National Response Center
NSPS	New Source Performance Standards (CAA)
NTNC	Nontransient Noncommunity Water System (SDWA)
O&M	Operation and Maintenance
OPA	Oil Pollution Act
OSHA	Occupational Safety and Health Administration (Department of Health and Human Services)
PBT	Persistent Bioaccumulative Toxins
PCB	Polychlorinated Biphenyl
PH	Potential of Hydrogen
PMN	Premanufacture Notice (TSCA)
POTW	Publicly Owned Treatment Works (CWA)
PSD	Prevention of Significant Deterioration (CAA)
RCRA	Resource Conservation and Recovery Act
RMP	Risk Management Program (EPCRA)
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SEP	Supplemental Environmental Project
SERC	State Emergency Response Commission (EPCRA)
SIC	Standard Industrial Classification
SIP	State Implementation Plan (CAA)
SO_x	Sulfur Oxides
SPCC	Spill Prevention, Control, and Countermeasure
SQG	Small Quantity Generator (RCRA)
SSO	Sanitary Sewer Overflow (CWA)
TAS	Treatment In The Same Manner as A State
TEA	Tribal Environmental Agreement
TERC	Tribal Emergency Planning Committee (EPCRA)
TIP	Tribal Implementation Plan (CAA)
TMDL	Total Maximum Daily Load (CWA)
TNC	Transient Noncommunity Water System (SDWA)
TRI	Toxic Release Inventory (EPRCA)
TSCA	Toxic Substances Control Act
TSD	Treatment, Storage, and Disposal (RCRA)
TSS	Total Suspended Solids (CWA)
UIC	Underground Injection Control (SDWA)
USC	United States Code
USDW	Underground Source of Drinking Water (SDWA)
UST	Underground Storage Tank (RCRA)

VOC	Volatile Organic Compound (CAA)
WWTP	Wastewater Treatment Plant (CWA)

APPENDIX B. CONTACTS FOR EPA INDIAN AND MEDIA PROGRAMS

Please note that while we have made every effort to have the information in this appendix current at the time of printing, individuals in specific jobs may change over time. To find current phone listings for specific individuals, the EPA Employee Directory [http://cfpub.epa.gov/locator/index.cfm] is a good resource. The EPA Program Offices & Tribal Programs Page of the American Indian Environmental Office Web site [http://www.epa.gov/indian/programs.htm] provides links to tribal contacts in a specific program.

EPA Regional Contacts – Indian Program & Media Programs

Contact	Office	Phone
Region 1 [http://www.epa.gov/region01/govt/tribes/index.html]		
Air	Ida McDonnell	617-918-1653
Drinking Water	Ellie Kwong	617- 918-1592
Enforcement/Compliance	Michael Wagner	617-918-1735
Pollution Prevention	Alex Peck	617-918-3758
Solid Waste	Chuck Franks	617- 918-1554
Source Water	Ted Lavery	617-918-1683
Toxics	Jim Bryson	617-918-1524
Tribal Contact	George Frantz	617-918-1883
	Jean Crocker	617-918-1498
Underground Injection Control	David Delaney	617-918-1618
Region 2 [http://www.epa.gov/Region2/nations/index.html]		
Air	Gavin Lau	212-637-3715
Drinking Water, Source Water	Gerard McKenna	212-637-3838
Enforcement/Compliance, Underground Injection Control	Rebecca Jamison	212-637-3948
Indian Coordinator	Christine Yost	212-637-3564
Pollution Prevention	Tristan Gillespie	212-637-3753
Solid Waste	Lorraine Graves	212-637-4099
	Garrett Smith	860-678-0437
Region 3		
No Federally-recognized Indian Tribes		
Region 4 [http://www.epa.gov/region4/indian/contacts.htm]		
Air	Gracy Danois	404-562-9119 404-562-9124

Contact	Office	Phone
Drinking Water	Chris Thomas	404-562-9459
Pollution Prevention/Toxics	Dan Ahern	404-562-9028
Regional Tribal Coordinator	Bill Patton	404-562-8632
Solid Waste	Davy Simonson	404-562-8457
Source Water	Natalie Ellington	404-562-9453
Toxics	Roseanne Rudd	404-562-8998
Tribal Lead Region Coordinator	Dan O'Lone	404-562-9434
Underground Injection Control	Robert Olive	404-562-9423
Region 5 [http://www.epa.gov/Region5/tribes/]		
Air	Benjamin Giwojna	312-883-0247-
Brownfields Programs	Jane Neumann Kelley Moore	312-353-0123 312-886-3598
Contaminated Site Response	Jane Neumann *Report a Spill*	312-353-0123 *800-424-8802*
Director, Indian Environmental Office	Luke Jones	312-353-2087
Drinking Water	Mary Morgan	312- 886-6201
Emergency Preparedness & Prevention	Glenn Cekus	312-353-6449
Enforcement/Compliance	Andrew Anderson	312-353-9681
NPDES	John Colletti	312-886-6106
Oil Pollution	Beverly Kush *Report a Spill*	312-353-8200 *800-424-8802*
Pollution Prevention & Solid Waste	Dolly Tong	312-886-1019
Source Water	Jan Bartlett	312-886-5438
Stormwater	Brian Bell	312-886-0981
Toxics	Emma Avant	312-886-7899
Tribal Site Response Programs	Kelley Moore	312-886-3598
Underground Injection Control	John Taylor Ross Micham	312-886-4299 312-886-4237
Water Program	Dan Cozza David Horak	312-886-7252 312-353-4306
Region 6 [http://epa.gov/region6/6dra/ejtribal/tribal/index.htm]		
Air	Elizabeth Braziel	214-665-6449
Drinking Water	Arnold Bierschenk Chelo Hall	214-665-7435 214-665-2716
Enforcement/Compliance Contact	David Bond	214-665-6431
Hazardous Waste	Nick Stone	214-665-7226
Pollution Prevention	Joy Campbell	214-665-8036
Solid Waste	Audray Lincoln	214-665-2239
Source Water	Ken Williams	214-665-7129
Toxics	Jerry Collins	214-665-7562
Tribal Contact	Jonathan Hook	214-665-8069

Contact	Office	Phone
Underground Injection Control	Tyrone Hoskins	214-665-7375
Region 7 [http://www.epa.gov/Region7/government_tribal/index.htm]		
Air	Robert Fenemore	913-551-7745
Drinking Water	Stan Calow	913-551-7410
Enforcement/Compliance Contact	Carol LeValley	913-551-7610
Indian Coordinator	Wolfgang Brandner	913-551-7381
Pollution Prevention	Royan Teter	913-551-7609
Solid Waste	Marcus Rivas	913-551-7669
Source Water, SWAP/PWSS Grant	Stephanie Lindberg	913-551-7423
Toxics	Janice Green	913-551-7139
Underground Injection Control	Kurt Hildebrandt	913-551-7413
Region 8 [http://www.epa.gov/region8/tribes/]		
Air	Michael Copeland	303-312-6010
Drinking Water	Gary Carlson	303-312-6269
Legal Enforcement Contact	David Janik	303-312-6917
Pollution Prevention	Linda Walters	303-312-6385
Solid Waste	Susanna Trujillo	303-312-7008
Source Water	Marcella Hutchinson	303-312-6753
Technical Enforcement Contact	Elisabeth Evans	303-312-6217
Toxics	Dave Combs	303-312-6021
Tribal Contact	Connally Mears	303-312-6343
Underground Injection Control	Douglas Minter	303-312-6079
Region 9 [http://www.epa.gov/region09/indian/index.html]		
Air	Sara Bartholomew	415-947-4100
Associate Director Tribal Program Program	Clancy Tenley	415-972-3785
Drinking Water - Southern California	Helen McKinley	415-972-3559
Drinking Water - Eastern Arizona	Danny Collier	415-972-3565
Drinking Water - Hopi, Tohono O'Odham	Bessie Lee	415-972-3776
Drinking Water - Navajo	Brian Smith	415-972-3580
Drinking Water - Nevada, Owens Valley/Northern California	Roger Yates	415-972-3549
Drinking Water - Western Arizona & Lower Colorado River	Karl Banks	415-972-3557
Enforcement and Compliance	Pamela Overman	415-972-3781
Pollution Prevention	John Katz	415-972-3283
	Jessica Counts	415-972-3288
Solid and Hazardous Waste Underground Storage Tanks	Wenona Wilson	415-972-3239
Solid Waste - Arizona and Nevada	Heather White	415-972-3384

Contact	Office	Phone
Solid Waste - Northern California	Kelly Doordan	415-972-3380
Solid Waste - Southern California	Caleb Shaffer	415-972-3336
Source Water	Jamelya Curtis	415-972-3529
	Kate Rao	415-972-3533
Toxics	David Tomsovic	415-972-3858
Underground Injection Control	Eric Byous	415-972-3531
Region 10 [http://yosemite.epa.gov/r10/tribal.NSF]		
Air	Doug Cole	206-553-5764
	Mary Manous	206-553-1059
Drinking Water	Craig Paulsen	206-553-4350
Enforcement/Compliance	Donald Dossett	206-553-1783
Solid Waste	Fran Stefan	206-553-6639
	Nina Kocourek	206-553-6502
	Al Latourette	206-553-8202
	Kristin Hall	206-553-6357
	Domenic Calabro	206-553-6640
	Tim Hamlin	206-553-1563
	Joe Sarcone	907-271-1316
	Santina Gay	907-271-3413
Source Water	Jennifer Parker	206-553-1900
Toxics/Pollution Prevention	Fran Stefan	206-553-6639
Tribal Contact	Tim Hamlin	206-553-1563
Underground Injection Control	Katherine Holt	206-553-2901

EPA Headquarters Tribal Contacts

Contact	Phone
American Indian Environmental Office	
Carol Jorgensen, Director [http://www.epa.gov/indian/]	202-564-0303
Gary Hudiburg, Deputy Director	202-564-0626
Jeff Besougloff, Senior Policy Advisor	202-564-0292
Edna Silver, Administrative Assistant	202-564-0286
Dianne Briggs, Associate Director (Tribal Operations Staff)	202-564-0279
Chris Hoff, Associate Director (Tribal Policy and Partnerships Staff)	202-564-5238
Office of Enforcement and Compliance Assurance	
Jonathan Binder, Program Manager [http://www.epa.gov/compliance/tribal/]	202-564-2516
Mary Andrews, Office of Regulatory Enforcement	202-564-4011
Robert Hargrove, Office of Federal Activities	202-564-7157
Danny Gogal, Office of Environmental Justice	202-564-2576
Melanie Garvey, Federal Facilities Enforcement Office	202-564-2579
John (Jack) Neylan, Office of Compliance, Agriculture	202-564-5033

Contact	Phone
Vernon Jackson, Office of Criminal Enforcement	202-564-1506
Doug Dixon, Office of Site Remediation & Enforcement	202-564-4232
Jeff Lightner, National Enforcement Training Institute	303-236-6782
Office of Prevention, Pesticides, and Toxic Substances	
Larry Watkins, Program Manager [http://www.epa.gov/oppts/pubs/tribal/index.htm]	202-564-2096
Mary Lauterbach, Office of Pollution Prevention and Toxics	202-564-8821
Ronald J. Kendall, Office of Pesticide Programs	703-305-5561
Office of Solid Waste & Emergency Response	
Felicia Wright, Coordinator [http://www.epa.gov/epaoswer/non-hw/tribal/index.htm]	202-566-1886
Charles Reddoor, Solid & Hazardous Waste [http://www.epa.gov/tribalmsw/]	703-308-8245
Janice Johnson, Office of Solid Waste / MISWD	703-308-7280
Tonya Hawkins, Office of Solid Waste / MISWD	703-308-8278
Denise Roy, Office of Solid Waste / MISWD	703-308-8458
Jennifer Wilbur, Brownfields [http://www.epa.gov/swerosps/bf/index.html]	703-603-8851
Robert Myers, Superfund [http://www.epa.gov/superfund/index.htm]	202-566-2756
William “Nick” Nichols, Emergency Management [http://www.epa.gov/oem/]	202-564-1970
William Lienesch, Underground Storage Tanks [http://www.epa.gov/OUST/]	703-603-7162
Renee Wynn, Federal Facility Restoration and Reuse [http://www.epa.gov/swerffrr/]	703-603-0049
Office of Research and Development	
Monica Rodia, Program Manager [http://www.epa.gov/osp/tribes.htm]	202-564-8322
Office of Air and Radiation	
Darrel Harmon, Senior, Tribal Manager [http://www.epa.gov/air/tribal/]	202-564-7416
Julie McClintock, OAQPS Tribal Programs	919-541-5339
Office of General Counsel	
Tod Siegel, Program Manager	202-564-5552
Joe Edgell	202-564-5514
David Coursen	202-564-0781
Office of the Chief Financial Officer	
Drusilla Yorke, Program Manager [http://www.epa.gov/ocfo/]	202-564-7553
Office of Administration and Resources Management	
Glen Langlois, Program Manager [http://www.epa.gov/ogd/index.htm]	202-564-5084
Laura McKelvey, OAQPS Community and Tribal Programs Manager	919-541-5497
Dennis O’Connor, Senior Advisor, Office of Radiation and Indoor Air	202-343-9213
Erika Wilson, Tribal Coordinator, Office of Atmospheric Programs	202-343-9113
Office of Environmental Information	
Lorena Romero-Cedeno, Program Coordinator [http://www.epa.gov/oei/]	202-566-0978

Contact	Phone
Julie Kocher, Tribal Information Management System	202-566-0710
Cassandra Vail, Toxic Release Inventory	202-566-0753
Mary Greene, Information Exchange Network	202-566-1634
Office of International Affairs	
Pete Christich, Program Manager	202-564-6404
Office of Water	
Karen Rudek, Program Manager [http://www.epa.gov/OW/index.html]	202-564-0472
Elin Betanzo, Safe Drinking Water Act	202-564-2811
Racquel Stephenson, Safe Drinking Water Act [http://www.epa.gov/safewater/index.html]	202-564-1807
Andrea Matzke, Clean Water Act, Section 319 Nonpoint Source [http://www.epa.gov/safewater/index.html]	202-564-1150
Adriana Hochberg, Clean Water Indian Set-Aside Program	202-564-0691
Nizanna Bathersfield, Water Permits Division	202-564-2258
Otto Gutenson, Clean Water Act Tribal 106 Program	202-564-1183
Kathleen Kutschenreute, Wetlands, Oceans, and Watersheds	202-566-1383
Gul Beg, Wastewater Management	202-564-0586
Marjorie Copeland, Source Water	202-564-3876
Frances Desselle, Science and Technology	202-564-0375
Jeff Jollie, Underground Injection Control [http://www.epa.gov/safewater/uic/tribal.html]	202-564-3886
Fred Leutner, Water Quality Standards	202-566-0378

APPENDIX C. EPA POLICY FOR THE ADMINISTRATION OF ENVIRONMENTAL PROGRAMS ON INDIAN RESERVATIONS (NOVEMBER, 8, 1984)

INTRODUCTION

The President published a Federal Indian Policy on January 24, 1983, supporting the primary role of Tribal Governments in matters affecting American Indian reservations. That policy stressed two related themes: (l) that the Federal Government will pursue the principle of Indian" self-government" and (2) that it will work directly with Tribal Governments on a "government-to-government" basis.

The Environmental Protection Agency (EPA) has previously issued general statements of policy which recognize the importance of Tribal Governments in regulatory activities that impact reservation environments. It is the purpose of this statement to consolidate and expand on existing EPA Indian Policy statements in a manner consistent with the overall Federal position in support of Tribal "self-government" and "government-to-governments" relations between federal and Tribal Governments. This statement sets forth the principles that will guide the Agency in dealing with Tribal Governments and in responding to the problems of environmental management on American Indian reservations in order to protect human health and the environment. The Policy is intended to provide guidance for EPA program managers in the conduct of the Agency's congressionally mandated responsibilities. As such, it applies to EPA only and does not articulate policy for other Agencies in the conduct of their respective responsibilities.

It is important to emphasize that the implementation of regulatory programs which will realize these principles on Indian Reservations cannot be accomplished immediately. Effective implementation will take careful and conscientious work by EPA, the Tribes and many others. In many cases, it will require changes in applicable statutory authorities and regulations. It will be necessary to proceed in a carefully phased way, to learn from successes and failures, and to gain experience. Nonetheless, by beginning work on the priority problems that exist now and continuing in the direction established under these principles, over time we can significantly enhance environmental quality on reservation lands.

POLICY

In carrying out our responsibilities on Indian reservations, the fundamental objective of the Environmental Protection Agency is to protect human health and the environment. The keynote of this effort will be to give special consideration to Tribal interests in making Agency policy, and to ensure the close involvement of Tribal Governments in making decisions and managing environmental programs affecting reservation lands. To meet this objective, the Agency will pursue the following principles:

- **The Agency Stands Ready to Work Directly with Indian Tribal Governments on a One-to-one Basis (The "Government-to-Government" Relationship), Rather than as Subdivisions of Other Governments.**

  EPA recognizes Tribal Governments as sovereign entities with primary authority and responsibility for the reservation populace. Accordingly, EPA will work directly with Tribal Governments as the independent authority for reservation affairs, and not as political subdivisions of States or other governmental units.

- **The Agency Will Recognize Tribal Governments as the Primary Parties for Setting Standards, Making Environmental Policy Decisions and Managing Programs for Reservations, Consistent with Agency Standards and Regulations.**

  In keeping with the principle of Indian self-government, the Agency will view Tribal Governments as the appropriate non-federal parties for making decisions and carrying out program responsibilities affecting Indian reservations, their environments, and the health and welfare of the reservation populace. Just as EPA's deliberations and activities have traditionally involved the interests and/or participation of State Governments, EPA will look directly to Tribal Governments to play this lead role for matters affecting reservation environments.

- **The Agency Will Take Affirmative Steps to Encourage and Assist Tribes in Assuming Regulatory and Program Management Responsibilities for Reservation Lands.**

  The Agency will assist interested Tribal Governments in developing programs and in preparing to assume regulatory and program management responsibilities for reservation lands. Within the constraints of EPA's authority and resources, this aid will include providing grants and other assistance to Tribes, similar to what we provide State

Governments. The Agency will encourage Tribes to assume delegable responsibilities, (i.e. responsibilities which the Agency has traditionally delegated to State Governments for non-reservation lands) under terms similar to those governing delegations to States.

Until Tribal Governments are willing and able to assume full responsibility for delegable programs, the Agency will retain responsibility for managing programs for reservations (unless the State has an expressed grant of jurisdiction from Congress sufficient to support delegation to the State Government). Where EPA retains such responsibility, the Agency will encourage the Tribe to participate in policy-making and to assume appropriate lesser or partial roles in the management of reservation programs.

- **The Agency Will Take Appropriate Steps to Remove Existing Legal and Procedural Impediments to Working Directly and Effectively with Tribal Governments on Reservation Programs.**

A number of serious constraints and uncertainties in the language of our statutes and regulations have limited our ability to work directly and effectively with Tribal Governments on reservation problems. As impediments in our procedures, regulations or statutes are identified which limit our ability to work effectively with Tribes consistent with this Policy, we will seek to remove those impediments.

- **The Agency, in Keeping with the Federal Trust Responsibility, Will Assure That Tribal Concerns and Interests Are Considered Whenever EPA's Actions And/or Decisions May Affect Reservation Environments.**

EPA recognizes that a trust responsibility derives from the historical relationship between the Federal Government and Indian Tribes as expressed in certain treaties and Federal Indian Law. In keeping with that trust responsibility, the Agency will endeavor to protect the environmental interests of Indian Tribes when carrying out its responsibilities that may affect the reservations.

- **The Agency Will Encourage Cooperation Between Tribal, State and Local Governments to Resolve Environmental Problems of Mutual Concern.**

Sound environmental planning and management require the cooperation and mutual consideration of neighboring governments, whether those governments be neighboring States, Tribes, or local units of government. Accordingly, EPA will encourage early communication and cooperation among Tribes, States and local Governments. This is not

intended to lend Federal support to any one party to the jeopardy of the interests of the other. Rather, it recognizes that in the field of environmental regulation, problems are often shared and the principle of comity between equals and neighbors often serves the best interests of both.

- **The Agency Will Work with Other Federal Agencies Which Have Related Responsibilities on Indian Reservation to Enlist Their Interest and Support in Cooperative Efforts to Help Tribes Assume Environmental Program Responsibilities for Reservations.**

EPA will seek and promote cooperation between Federal agencies to protect human health and the environment on reservations. We will work with other agencies to clearly identify and delineate the roles, responsibilities and relationships of our respective organizations and to assist Tribes in developing and managing environmental programs for reservation lands.

- **The Agency Will Strive to Assure Compliance with Environmental Statutes and Regulations on Indian Reservations.**

In those cases where facilities owned or managed by Tribal Governments are not in compliance with federal environmental statutes, EPA will work cooperatively with Tribal leadership to develop means to achieve compliance, providing technical support and consultation as necessary to enable Tribal facilities to comply. Because of the distinct status of Indian Tribes and the complex legal issues involved, direct EPA action through the judicial or administrative process will be considered where the Agency determines, in its judgment, that: (l) a significant threat to human health or the environment exists, (2) such action would reasonably be expected to achieve effective results in a timely manner, and (3) the Federal Government cannot utilize other alternatives to correct the problem in a timely fashion.

In those cases where reservation facilities are clearly owned or managed by private parties and there is no substantial Tribal interest or control involved, the Agency will endeavor to act in cooperation with the affected Tribal Government, but will otherwise respond to noncompliance by private parties on Indian reservations as the Agency would to noncompliance by the private sector elsewhere in the country. When the Tribe has a substantial proprietary interest in, or control over, the privately owned or managed facility, EPA will respond as described in the first paragraph above.

- **The Agency Will Incorporate These Indian Policy Goals into its Planning and Management Activities Including its Budget, Operating Guidance, Legislative Initiatives, Management Accountability System and Ongoing Policy and Regulation Development Processes.**

It is a central purpose of this effort to ensure that the principles of this Policy are effectively institutionalized by incorporating them into the Agency's ongoing and long-term planning and management processes. Agency managers will include specific programmatic actions designed to resolve problems on Indian reservations in the Agency's existing fiscal year and long-term planning and management processes.

APPENDIX D. ENVIRONMENTAL ORGANIZATIONS GUIDE

This appendix lists many of the organizations that the EPA Indian Program works with in various capacities. These organizations are categorized into two types: National/Regional Indian organizations and National/Regional EPA organizations. There are over 150 tribal organizations throughout the country that address environmental and natural resource issues. The section on National/Regional Indian organizations is an illustrative selection of some of these organizations. The National/Regional EPA Organizations are those groups that have been established by EPA to serve as work groups or advisory groups.

NATIONAL/REGIONAL INDIAN ORGANIZATIONS

Affiliated Tribes of Northwest Indians	Midwest Treaty Network
Alaska Inter-Tribal Council	Midwest Tribal Aquaculture Network
American Indian Science and Engineering Society	Mni Sose Intertribal Water Rights Coalition
California Indian Basketweavers Association	National Congress of American Indians
Chippewa Ottawa Resource Authority	National Indian Health Board
Columbia River Inter-Tribal Fish Commission	National Indian Justice Center
Council of Energy Resource Tribes	National Tribal Environmental Council
Great Lakes Indian Fish and Wildlife Commission	Native American Fish & Wildlife Society
Haudenosaunee Environmental Task Force	Native American Rights Fund
Indigenous Environmental Network	Native American Water Association
Institute for Tribal Environmental Professionals	Northwest Indian Applied Research Institute
Inter Tribal Council of Arizona	Northwest Indian Fisheries Commission
Intertribal Agriculture Council	The National Tribal Air Association
Intertribal Bison Cooperative	Tribal Solid Waste Advisory Network
Inter-Tribal Council of Michigan	United South and Eastern Tribes
Inter-Tribal Environmental Council of Oklahoma	Western Regional Air Partnership
Intertribal Timber Council	Yukon River Inter-Tribal Watershed Council
Midwest Alliance of Sovereign Tribes	

NATIONAL/REGIONAL EPA ORGANIZATIONS

American Indian Advisory Council (AIAC)
Forum on State and Tribal Toxics Action
National Environmental Justice Advisory Council (NEJAC) Indigenous Peoples Subcommittee
National Pollution Prevention & Toxics
Advisory Committee (NPPTAC)
Regional Tribal Operations Committee (RTOC)
Tribal Operations Committee (TOC)
Tribal Pesticide Program Council (TPPC)
Tribal Science Council (TSC)

NATIONAL/REGIONAL INDIAN ORGANIZATIONS

Affiliated Tribes of Northwest Indians

In 1953 tribal leaders in the Northwest formed the ATNI, and dedicated it to tribal sovereignty and self-determination. Today, ATNI is a nonprofit organization representing northwest tribal governments from Oregon, Idaho, Washington, southeast Alaska, Northern California and Western Montana. ATNI is an organization whose foundation is composed of the people it is meant to serve -- the Indian peoples. Representatives from the member tribes set the policy and direction through committees by way of resolutions during yearly meetings. For more information, visit the Affiliated Tribes of Northwest Indians Web site [http://www.atnitribes.org/] or call (503) 249-5770. Membership: 55 Tribes

Alaska Inter-Tribal Council

AITC is a statewide, tribally governed non-profit organization that advocates in support of tribal governments throughout the state. AITC promotes indigenous self-determination by providing technical assistance to tribal governments, facilitating inter-governmental and inter-agency communication and collaboration, offering public education regarding Alaska Native cultures and tribal governments, and advocating on behalf of tribal initiatives and self-governance. For more information, visit the Alaska Inter-Tribal Council Web site [http://www.aitc.org/] or call (907) 563-9334. Membership: 231 Tribes.

American Indian Science and Engineering Society

AISES is a private, nonprofit organization that nurtures building of community by bridging science and technology with traditional native values. For more information, visit the American Indican Science and Engineering Society Web site [http://www.aises.org/] or call (505) 765-1052

California Indian Basketweavers Association

CIBA's mission is to preserve, promote, and perpetuate California Indian basketweaving traditions while providing a healthy physical, social, spiritual, and economic environment for basketweavers. For more information, visit the California Indian Basketweavers Association Web site [http://www.ciba.org/] or call (530) 272-5500. Membership: There are two categories – Voting Member - California Indian Descent and practice traditional California Indian basketry and Associate Member – Supporters.

Chippewa Ottawa Resource Authority

CORA manages and regulates the 1836 treaty fishery for the Bay Mills Indian Community, Sault Ste. Marie Tribe of Chippewa Indians, the Grand Traverse Band of Ottawa and Chippewa Indians, the Little River Band of Ottawa Indians, and the Little Traverse Bay Bands of Odawa Indians. For more information, visit the Chippewa Ottawa Resource Authority Web site [http://1836cora.org/] or call (906) 632-0043. Membership: 5 Tribes.

Columbia River Inter-Tribal Fish Commission

CRITFC was created in 1977 to coordinate the management and protection of the tribes' treaty fishery resource and to implement the tribes' fishery policies and objectives in the Columbia Basin. CRITFC staff consists primarily of biologists, attorneys, and other professionals who provide legal and technical assistance to the tribes on issues relating to protection, enhancement, and sustainable use of the fishery resources in the Columbia River Basin. For more information, visit the Columbia River Inter-Tribal Fish Commission Web site [http://www.critfc.org/] or call (503) 238-0667. Membership: The governing body of CRITFC, the Commission, consists of the Fish and Wildlife Committees of Warm Springs, Yakama, Umatilla and Nez Perce Tribes located in Oregon, Washington, and Idaho.

Council of Energy Resource Tribes

CERT promotes the general welfare of member tribes through the protection, conservation, control and prudent management of their oil, coal, natural gas, uranium, and other resources.

Activities include giving on-site technical assistance to tribes in energy resource management, conducting programs to enhance tribal planning and management capacities, and sponsoring workshops. For more information, visit the Council of Energy Resource Tribes Web site [http://www.certredearth.com/] or call (303) 282-7576. Membership: 57 tribes in U.S. and Canada (4).

Great Lakes Indian Fish and Wildlife Commission

GLIFWC provides technical assistance to its 11 member tribes in the conservation and management of fish, wildlife, and other natural resources throughout the Great Lakes region, thereby ensuring access to traditional pursuits of the Chippewa people. For more information, visit the Great Lakes Indian Fish and Wildlife Commission Web site [http://glifwc.org/] or call (715) 682-6619. Membership: 9 Tribes.

Haudenosaunee Environmental Task Force

HETF is an inter-tribal consortium that addresses environmental matters for the Iroquois Confederacy. HETF is composed of delegates (Haudenosaunee leaders, environmental technicians, and scientists) chosen by each of the Haudenosaunee Nations. These individuals are from the 4 federally recognized nations of Cayuga, Tuscarora, Onondaga, and Tonawanda-Seneca as well as from the 2 non-federally recognized nations of Mohawk and Oneida and are committed to identifying environmental problems in their communities and working to find solutions to them. For more information, visit the Haudenosaunee Environmental Task Force Web site [http://www.hetfonline.org/] or call (518) 358-3381. Membership: Cayuga, Tuscarora, Onondaga, and Tonawanda-Seneca, Mohawk and Oneida Nations.

Indigenous Environmental Network

IEN is governed by a national council of indigenous grassroots organizations and individuals. The services provided by the IEN National Office include a national clearinghouse on environmental issues; a resource and referral network for technical information and fact sheets; national/regional/local education on grassroots organizing, training, and strategic development; annual conference planning; and information dissemination on indigenous grassroots environmental groups and tribal government environmental programs. For more information, visit the Indigenous Environmental Network Web site [http://www.ienearth.org/] or call (218) 751-4967.

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 EPA and seeks to assist Indian Tribes in the management of their environmental resources through effective training and education programs. For more information, visit the Institute for Tribal Environmental Professionals Web site [http://www4.nau.edu/itep/] or call (928) 523-9555.

Intertribal Agriculture Council

IAC's mission is to pursue and promote the conservation, development and use of agricultural resources in Indian country. For more information, visit the Intertribal Agricultural Council Web site [http://www.indianaglink.com/] or call (406) 259-3525.

Intertribal Bison Cooperative

ITBC provides technical support to tribal bison management operations and helps tribes acquire, and care for bison. The cultural significance of bison to Native Americans is a significant factor in the ITBC's advocacy of tribal management of bison. For more information, visit the Intertribal Bison Cooperative Web site [http://www.intertribalbison.com/] or call (605) 394-9730. Membership: ITBC has a membership of 42 tribes with a collective herd of over 8,000 bison.

Inter Tribal Council of Arizona

The Inter Tribal Council of Arizona was formed in 1953. In 1975 it established the Inter Tribal Council of Arizona, Inc. (ITCA) to provide a united effort to promote Indian self-reliance through public policy development. ITCA provides an independent capacity to obtain, analyze, and disseminate information vital to Indian community development. The 20 member tribes of ITCA are the highest elected tribal officials, tribal chairpersons, presidents, and governors. For more information, visit the Inter Tribal Council of Arizona Web site [http://www.itcaonline.com/] or call (602) 258-4822. Membership: ITCA has a membership of 20 tribes.

Inter-Tribal Council of Michigan

MITC provides a forum for member tribes and advocates for development of programs and policies on improvement of economy, education, and quality of life for Michigan native Americans. Additionally, MITC provides technical assistance to member tribes including development of tribal laws and regulations. For more information, visit the Inter-Tribal Council of Michigan Web site in [http://www.itcmi.org/] or call (906) 632-6896. Membership: 12 Tribes.

Inter-Tribal Environmental Council of Oklahoma

ITEC was formed in October 1992 by the signing of a Memorandum of Understanding between 20 Oklahoma tribes and EPA Region 6. Since that time other tribes have joined and the current membership includes 36 tribes in Oklahoma, New Mexico, and Texas. ITEC provides environmental management for air, land, and water resources to the member tribes. For more information, visit the Inter-Tribal Environmental Council of Oklahoma Web site [http://www.itecmembers.org/] or call (918) 458-5498. Membership: 36 Tribes.

Intertribal Timber Council

ITC advocates the conservation, enhancement and development of tribal timber resources for the benefit of tribal members. For more information, visit the Intertribal Timber Council Web site [http://www.itcnet.org/] or call (503) 282-4296. Membership: 11 Tribes.

Midwest Alliance of Sovereign Tribes

MAST consists of tribes from Wisconsin, Minnesota, Michigan, and Iowa. MAST formed to work pro-actively on common political and administrative issues and to advance, protect, preserve and enhance their mutual interests, sovereignty, and cultural way of life. For more information, visit the MAST Web site [http://www.m-a-s-t.org/] or call (715) 793-4386.

The Midwest Treaty Network

MTN was founded in 1989 as an alliance of Indian and non-Indian groups supporting Native American sovereignty in the western Great Lakes region. The MTN is works with numerous tribes and tribal organizations throughout the region on issues of cultural respect including sacred site protection, opposition to spiritual exploitation and cultural trivialization (e.g., Indian mascots issues), support for environmental protection and land claims, and building cultural and

economic ties between Native and non-Native communities. While founded in the context of the Chippewa (Ojibwe) treaty struggle, it is concerned generally with defending and strengthening Native cultures and nationhood, protecting Mother Earth, and fighting racism and other forms of domination throughout our region. The Network has taken a stand against economic and political pressure on indigenous nations to give up their rights. For more information, visit The Midwest Treaty Network Web site [http://www.treatyland.com/] or call (715) 833-1777.

The Midwest Tribal Aquaculture Network

MTAN is composed of Tribal Fish Hatchery Biologists who are interested in promoting fish-rearing techniques for Tribal hatchery programs. The primary means of assisting tribal hatchery employees is by sharing information through the organization's quarterly newsletter. For more information, visit The Midwest Tribal Aquaculture Network Web site [http://www.fws.gov/midwest/ashland/mtan/mtanhome.html] or call the contacts listed below.
Contacts: Elizabeth W. Greiff, St. Croix Tribal Natural Resources Department, (715) 349-2195
Frank G. Stone, US Fish and Wildlife Service Ashland FRO, (715) 682-6185 (ext 202)

Mni Sose Intertribal Water Rights Coalition

Mni Sose is based in Rapid City, South Dakota and is composed of 23 member tribes in the Missouri River Basin. Four other tribes (Crow Creek Sioux Tribe, Oglala Sioux Tribe, Standing Rock Sioux Tribe, and Iowa Tribe of Kansas) that are non-members are also located within the Missouri River Basin. Mni Sose was formally organized and recognized by the Missouri River Basin Indian Tribes in January of 1993. The Coalition's objectives are to strengthen tribal capabilities necessary to manage, control, and protect tribal water resources and to implement tribal environmental programs. For more information, visit the Mni Sose Intertribal Water Rights Coalition Web site at [http://www.mnisose.org/] or call (605) 343-6054. Membership: 23 Tribes.

National Congress of American Indians

NCAI founded in 1944, is the oldest, largest, and most representative national Indian organization, serving more than three quarters of the American Indian and Alaska Native population. NCAI is organized as a representative congress of consensus on national priority issues. NCAI issues and activities include protection of Indian cultural resources and religious freedom, promotion of Indian economic opportunity, and support of environmental protection and natural resources. Over the past few years, NCAI has passed numerous resolutions supporting various environmental issues. For more information, visit the National Congress of American Indians Web site [http://www.ncai.org/] or call (202) 466-7767. Membership: 250 member tribes from throughout the United States.

National Indian Health Board

NIHB represents Tribal Governments operating their own healthcare delivery systems through contracting and compacting, as well as those receiving healthcare directly from the Indian Health Service (IHS). NIHB advocates on behalf of all Tribal Governments and American Indians/Alaska Natives in their efforts to provide quality healthcare. In addition, there are several local Area Health Boards that serve as a communication link between the NIHB and the tribes and are located across the country. For more information, visit the National Indian Health Board Web site [http://www.nihb.org/] or call (202) 742-4262.

National Indian Justice Center

NIJC is an Indian owned and operated non-profit corporation established in 1983 through the collective efforts of the National American Indian Court Judges Association, the American Indian Lawyer Training Program, and the Bureau of Indian Affairs as an independent national resource for Native communities and tribal governments. The goals of NIJC are to design and deliver legal education, research, and technical assistance programs which seek to improve the quality of life for Native communities and the administration of justice in Indian country. NIJC has designed and conducted regional trainings, on-site training and conferences for tribal courts, tribal government, law enforcement, social services, medical personnel, victim's assistance programs and others on alcohol and substance abuse, alternative dispute resolution, child abuse and neglect, domestic violence, Indian youth and family law, juvenile justice, and federal Indian law. For more information, visit the National Indian Justice Center [http://nijc.indian.com/] or contact NIJC at 5250 Aero Drive, Santa Rosa, CA 95403, (707) 579-5507 or (800) 966-0662, Fax: (707) 579-9019, nijc@aol.com.

The National Tribal Air Association

NTAA is a membership organization dedicated to advancing air quality management policies and programs, consistent with the needs, interest, and unique legal status of American Indian Tribes and Alaskan Natives. NTAA is overseen by an Executive Committee comprised of a primary and an alternate representative from each EPA Region and Alaska. Principal membership--persons who work within the Tribal Environmental Profession and have had a resolution/letter of intent submitted by their respective tribal leaders— is open to federally recognized Indian tribes. Associate membership is open to individuals and organizations interested in protecting tribal air sheds. NTAA services include policy analysis, quarterly newsletters, and assistance on key tribal air issues. For more information, visit The National Tribal Air Association [http://www.ntaatribalair.org/] or (505) 242-2175, ext. 111.

National Tribal Environmental Council

NTEC was formed in 1992 and is a membership organization dedicated to working with and assisting tribes in the protection and preservation of reservation environments. NTEC services include environmental technical support, newsletters, updates, federal regulatory and legislative summaries, workshops on specific environmental issues, resource clearinghouse and reference library, and intergovernmental cooperation. For more information, visit the National Tribal Environmental Council Web site [http://www.ntec.org/] or call (505) 242-2175. Membership: Membership is available to all federally recognized Indian tribes and associate membership is available to individuals and organizations interested in protecting tribal environments. NTEC has 182 member tribes.

Native American Fish & Wildlife Society

NAFWS exists for the protection, preservation, and enhancement of fish & wildlife resources. The Society's purposes are charitable, educational, scientific, and cultural. For more information, visit the Native American Fish & Wildlife Society Web site [http://nafws.org/cms/index.php] or call (303) 466-1725. Membership: The Society represents professional biologists, natural resource managers, technicians, and conservation law enforcement officers. There are currently 224 member tribes.

Native American Rights Fund

NARF was formed in 1970 to provide top-quality legal representation to tribes regardless of their ability to pay. NARF has represented hundreds of tribes and its work has included the areas of tribal cultural preservation, protection of tribal natural resources, promotion of human rights, government accountability and development of Indian Law. For more information, visit the Native American Rights Fund Web site [http://www.narf.org/] or call (303) 447-8760.

Native American Water Association

NAWA works to provide tribal water and wastewater operators, managers, utility commissions and tribal leadership with continued training and technical assistance in their goals to strengthen tribal sovereignty and self-determination and protect health and environment in Indian Country. For more information, visit the Native American Water Association Web site [http://www.nawainc.org/] or call (775) 782-6636.

Northwest Indian Applied Research Institute

NIARI's mission is to serve the interests of the tribes in the area, by applying the principles of applied research, putting theory into practice, and making available college and community resources to address the needs of Washington State tribes and native people.

NIARI is associated with Evergreen State College who has a proven history of educational service to the tribes. Through development of the Northwest Indian Applied Research Institute, the college has made a commitment to the indigenous people of western Washington. The Institute expands its services to what Evergreen College offers which allow the college to assist local tribes in meeting economic, governance and resource goals. In return, the Institute provides additional, real-life learning opportunities for Evergreen students. For more information, visit the Northwest Indian Applied Research Institute Web site [http://www.evergreen.edu/nwindian/] or call (360) 867-6614.

Northwest Indian Fisheries Commission

The Treaty Indian Tribes in Western Washington established the NIFC in 1974 to help them manage their fisheries and to provide member tribes a single, unified voice on fishery-related issues. The Commission provides informational and educational services, fishery management, planning and enhancement support, environmental coordination, and quantitative and technical services. For more information, visit the Northwest Indian Fisheries Commission Web site [http://www.nwifc.org/] or call (360) 438-1180. Membership: 20 Tribes.

Tribal Solid Waste Advisory Network

Founded in 1997, TSWAN is a non-profit alliance of Native American Tribes from throughout the Pacific Northwest who strive to make effective and environmentally responsible solid waste management a priority on reservations and in tribal communities. One of TSWAN's primary goals is to share technical expertise, information and educational resources, and opportunities with one another, as well as providing Tribal perspective to agencies and organizations designing waste programs so they are effective in Indian Country. For more information, visit the Tribal Solid Waste Advisory Network Web site [http://www.tswan.org/main/main.asp] or call (509) 235-6007. Membership: 18. 56 Villages under the Association of Village Council President, Bethel, Alaska.

United South and Eastern Tribes

USET is an intertribal organization comprised of 23 federally-recognized tribes. The primary goals and objectives of USET include the promotion of tribal health, safety, welfare, education, economic development, and employment opportunities and the preservation of cultural and natural resources. For more information, visit the United South and Eastern Tribes Web site [http://www.usetinc.org/] or call (615) 872-7900. Membership: 24 Tribes.

Western Regional Air Partnership

WRAP is a collaborative effort of tribal governments, state governments and various federal agencies to implement the Grand Canyon Visibility Transport Commission's recommendations and to develop the technical and policy tools needed by western states and tribes to comply with the EPA's regional haze regulations. Other common air quality issues raised by WRAP members may also be addressed.

The Partnership promotes, supports and monitors the implementation of recommendations throughout the West. The WRAP is also implementing regional planning processes to improve visibility in all Western Class I areas by providing the technical and policy tools needed by states and tribes to implement the federal regional haze rule. The WRAP is administered jointly by the Western Governors' Association and the National Tribal Environmental Council. Participation is encouraged throughout the Western states and tribes. For more information, visit the Western Regional Air Partnership Web site [http://www.wrapair.org/tribal/].

Yukon River Inter-Tribal Watershed Council

Focusing efforts from the headwaters to the mouth of the Yukon River, YRITWC promotes environmentally sound use of the land, water, and resources of the fourth largest watershed in North America. Federally recognized Tribes in Alaska and First Nations in Canada came together in 1997 to promote biodiversity and enhance sustainability in the watershed. For more information, visit the Yukon River Inter-Tribal Watershed Council Web site [http://www.yritwc.com/] or call (907) 451-2530. Membership: 58 Tribes signed an Accord to protect and restore the watershed.

NATIONAL/REGIONAL EPA ORGANIZATIONS

American Indian Advisory Council

AIAC is a Special Emphasis Program Council organized under the Office of Civil Rights. The central purpose of AIAC is to serve as an advisory group to the Administrator of EPA to recommend actions that address concerns of American Indians in the EPA workforce, and of the Indian tribes. Membership is open to all employees of EPA.

Contact: Secody Hubbard, Office of Civil Rights, (202) 564-7286

Forum on State and Tribal Toxics Action

FOSTTA was established in spring of 1991 as a partnership between OPPT and state and tribal leaders to increase understanding and improve collaboration on toxics and pollution prevention issues among the states, tribes, and EPA. FOSTTA is comprised of members from state and tribal communities who have an interest in pollution prevention programs and toxics issues and meets three times a year. The FOSTTA Tribal Affairs Project was created in 1997. In 2002, the Environmental Council of States (ECOS), in partnership with the National Tribal Environmental Council, was awarded a five-year cooperative agreement to manage FOSTTA. For more information, visit the FOSTTA Web site [http://www.ecos.org/section/projects/?id=653].

Contacts: Margaret Sealey, Environmental Council of the States, (202) 624-3662
Darlene Harrod, EPA Office of Pollution Prevention and Toxics, (202) 564-8814

National Environmental Justice Advisory Council (NEJAC) Indigenous Peoples Subcommittee

NEJAC was charted as a Federal Advisory Committee in 1993. The Council has 26 representatives, including the Designated Federal Officer. The Council is made up of representatives from seven key environmental justice constituencies including community-based groups, business and industry, academic and educational institutions, tribal governments, state and local governments, and nongovernmental organizations.

The Council has seven subcommittees, one of which is the Indigenous Peoples Subcommittee. This Subcommittee has nine members from a diversity of backgrounds, such as tribal government, indigenous grassroots groups and environmental organizations, tribal business and

industry, academia, and state government. This Subcommittee is primarily focused on reviewing Agency actions to address environmental justice and developing recommendations for bringing about environmental justice in Indian country.

Contact: Daniel Gogal, Designated Federal Official, (202) 564-2576

National Pollution Prevention and Toxics Advisory Committee

NPPTAC is the national advisory body to provide advice, information and recommendations on the overall policy and operation of programs managed by EPA's Office of Pollution Prevention and Toxics, in performing its duties and responsibilities under TSCA and the Pollution Prevention Act (PPA). NPPTAC provides a forum for public discussion and the development of independent advice to the EPA Administrator by taking advantage of the experience, strengths and responsibilities of a broad range of Agency constituents and stakeholders. In addition, federal agency representatives or national experts serve as technical advisors to NPPTAC.

Membership: NPPTAC is composed of fifteen members, with balanced representation from industry, non-governmental organizations, states and tribes, academia and other institutions, with knowledge and experience with risk management, risk communication, and pollution prevention programs. NPPTAC is expected to meet at least three times per year. Technical advisors, while not members of the Committee, provide information and advice about their federal agencies' policies and positions as needed by the NPPTAC during discussions. The NPPTAC Web site [http://www.epa.gov/oppt/npptac/] provides more information.

Contacts: John Alter, EPA Office of Pollution Prevention and Toxics, (202) 564-8074
Aresia Williams, EPA Office of Pollution Prevention and Toxics, (202) 564-0308

Regional Tribal Operations Committees

The formation of RTOCs at each EPA region with federally recognized tribes is to facilitate communications regarding tribal environmental matters within the regions. RTOC and its members help the regional offices institutionalize the Agency's Indian Policy and serve as an important liaison on regional and national environmental issues that impact Indian country, between Native American tribes, EPA's Regional Offices, EPA's national program offices, and the Tribal Operations Committee. The RTOC helps maintain open and consistent communication among tribes, and between tribes and EPA management.

Membership: Membership of RTOC varies by Region. Region 2 does not have an RTOC. The Indian nations in Region 2 have an annual meeting with EPA senior leaders.

Tribal Operations Committee

In order to improve communications and build stronger partnerships with the tribes, the Agency established the Tribal Operations Committee (TOC) in February 1994. The TOC is comprised of 19 tribal leaders (the Tribal Caucus) and EPA's Senior Leadership Team, including the Administrator, the Deputy Administrator, and the Assistant and Regional Administrators. The TOC is co-chaired by the EPA Administrator and the Chairperson of the TOC Tribal Caucus. The TOC meets on a regular basis to discuss implementation of the environmental protection programs for which EPA and the tribes share responsibility as co-regulators. All tribes are encouraged to communicate with the members of the TOC Tribal Caucus. Although the TOC is an important and effective vehicle for enhancing communications between EPA and the tribes, it is not a substitute for Agency consultation with individual tribes in accordance with the Administration policy of working with Indian tribes on a government-to-government basis.

Membership: 19 TOC members from nine EPA regions. Region 1, Region 2, & Regions 4-10
Chairman: Calvin E. Murphy, R4, Eastern Band of Cherokee Indians - Qualla Boundary. P.O. Box 547, Cherokee, NC 28719. Phone: (828) 497-1839
Vice Chair: Nat Nutongla, R9, Hopi Tribe, Main Street, P.O. Box 123, Kykotsmovi, AZ 86039. Phone: (928) 734-3711
Secretary: Felix Kitto, R7, Santee Sioux Tribe of Nebraska, 52948 Highway 12, Niobrara, Nebraska 68760. Phone: (402) 857-3338
EPA Contact: Carol Jorgensen, Director, American Indian Environmental Office (AIEO). Phone: (202) 564-0303

Tribal Pesticide Program Council

EPA's Office of Pesticide Programs (OPP) Tribal Program organized the TPPC in late 1999. TPPC is a tribal technical resource and program and policy dialogue and development group, focused on pesticide issues and concerns. It meets twice a year and provides a vehicle through which tribes can voice opinions on national pesticide policies and raise tribal pesticide issues to federal attention. The TPPC is a strong partner with the EPA to ensure that tribes will continue to provide a major impetus for the long-term strategic direction taken by the Office of Prevention, Pesticide, and Toxic Substances (OPPTS) Tribal Program as it strives to build tribal capacity and produce an Agency pesticide strategy that is responsive to tribal needs and concerns. In addition, the TPPC serves as a technical resource pool for tribes in Indian country.

Membership: The TPPC is composed of authorized representatives from federally recognized tribes and Indian nations and intertribal organizations. Authorization must be in writing by a

letter from either the Tribal Chairperson or a letter or resolution from the Tribal Council or similar governing body. At this time there are 42 authorized representatives, including some authorized alternates. Thirty-two tribes or Indian nations have authorized representatives.

Contacts: The Authorized Representative is the elected TPPC Chairperson.
Irving Provost, Director of Pesticide Enforcement for the Oglala Sioux Tribe, (605) 867-5624
The Administrative Contact is the Coordinator of the TPPC.
Lillian A. Wilmore of Native Ecology Initiative, (617) 232-5742

Tribal Science Council

TSC provides a forum for interaction between Tribal and Agency representatives of mutual benefit and responsibility to work collaboratively on environmental scientific issues.

Membership: Membership in the TSC consists of a single tribal representative from each of the nine EPA Regions with federally recognized tribes, an additional tribal representative designated in Region 10 to represent Alaska Native communities, and a single Agency representative from each Headquarters program office and region. Agency representatives are designated by Assistant Administrators from the EPA program office and regions. Tribal representatives are nominated by their Regional Tribal Operations Committees through the National Tribal Operations Committee.

Executive Secretary: Claudia Walters, EPA Office of Research & Development, (202) 564-6762
Officers: David Nelson, Cheyenne River Sioux Tribe, Co-Chair, (605) 964-6558
Roland Hemmett, EPA Region 2, Co-Chair, (732) 321-6755

APPENDIX E. COMPLIANCE AND TECHNICAL ASSISTANCE RESOURCES

This appendix provides information on federal and non-federal compliance assistance resources for tribes and tribal operations. This chapter highlights and briefly describes the range of resources available. This resource list is not exhaustive.

GENERAL COMPLIANCE AND TECHNICAL ASSISTANCE MATERIAL

- *Tribal Environmental and Natural Resource Assistance Handbook* [http://www.epa.gov/indian/pdfs/tribook.pdf] provides information on federal sources of both technical and financial assistance related to environmental management.
- *Everything You Wanted to Know About Environmental Regulations...But Were Afraid to Ask* offers brief, clear information on many topics and identifies where tribes can turn for in-depth information and assistance. Contact: EPA Region 7, Elizabeth Wendt at wendt.elizabeth@epa.gov

TRAINING – GENERAL

- EPA's *National Enforcement Training Institute* (NETI) trains federal, state, tribal, and local lawyers, inspectors, civil and criminal investigators, and technical experts in the enforcement of the Nation's environmental laws. NETI provides a comprehensive and integrated approach to training in which enforcement and compliance personnel are trained in a range of specialities in order to work together more effectively as a team. The Government Training, National Enforcement Training Institute Web site [http://www.epa.gov/compliance/training/neti/index.html] provides more information.
- *Emergency Management Framework for Tribal Governments* courses offered by the Federal Emergency Management Agency to tribal members who have emergency management responsibilities. The Tribal Information page of the FEMA Web site [http://www.fema.gov/government/tribal/index.shtm] provides more information.
- EPA's *Working Effectively with Tribal Governments Training* is designed to increase EPA staff understanding of tribal legal and cultural issues, acquaint EPA staff with the EPA Indian policy and its place in the management of environmental programs, and provide suggestions and practical tips for EPA staff members who work with tribes. EPA's Tribal Training Materials page of the American Indian Environmental Office Web site [http://www.epa.gov/indian/resource/intro.htm] provides more information.
- EPA's *Resource Guide* [http://www.epa.gov/indian/resource/intro.htm] is a comprehensive source of information presented in the *Working Effectively with Tribal Governments* training

modules. It can be viewed or printed out by chapter and contains links to related documents posted on the Internet.

- *Western Community Policing Center's Tribal Training Program* [http://www.tribaltraining.com/training_tribal_.php] promotes safe, healthy, and stable Indian reservation communities by providing tribal justice systems with the funding and technical assistance necessary to effectively reduce crime and administer justice.
- *Agency for Toxic Substances and Disease Registry (ATSDR) Tribal Environmental Health Education Program* [http://www.atsdr.cdc.gov/tribal/docs/finalfactsheet_2page.pdf] provides resources for tribal health professionals to identify, prevent, and respond to health issues related to environmental contamination.
- *Training Tribal Environmental Professionals: Using a Project, Not a Projector* [by P. Ellsworth, et al.,] offers training that is sensitive to the vast cultural heritage of Native Americans.
- EPA's *Grant Writing Tutorial* [http://www.purdue.edu/dp/envirosoft/grants/src/msieopen.htm] is interactive software that walks users through the grant-writing process and helps them learn to write more competitive grants. The program includes detailed information and tips on writing a grant proposal, how to complete a grant application package, and program-specific sections on three EPA grant programs: environmental justice, environmental justice through pollution prevention, and environmental education.
- *Cherokee Nation Geographic Information System Training Program* is for tribal map-making professionals and those interested in learning more about tribal mapping methods and GIS technology. Contact Laura Harjo at (800) 256-0671, ext. 2421, or mailto:gis-info@cherokee.org.

COMPLIANCE ASSISTANCE CENTERS

- Each *Compliance Assistance Center* [http://www.assistancecenters.net/] addresses real world issues faced by a specific industry or government sector. The Centers deliver information in many forms: Web sites, telephone assistance lines, fax-back systems, and e-mail discussion groups. The Centers help tribes understand an array of environmental requirements, and offers information on how to save money by preventing pollution in the first place.
- *CCAR-GreenLink*® [http://www.ccar-greenlink.org/], the National Automotive Environmental Compliance Assistance Center helps persons engaged in automotive service, collision repair and other sectors of the automotive industry better understand their environmental responsibilities, and to help them achieve compliance with environmental program requirements.
- *ChemAlliance* [http://www.chemalliance.org/] offers regulatory information for the chemical process industries.

- *Printers' National Environmental Assistance Center* [http://www.pneac.org/] is a direct conduit to experts and reliable information on environmental issues related to the printing, publishing and packaging industry.
- *Transportation Center* [http://www.transource.org/] offers simple environmental solutions for the transportation industry.
- *The Paint and Coatings Resource Center* [http://www.paintcenter.org/] delivers regulatory and pollution prevention information, either directly to businesses engaged in painting and coating or indirectly through the technical assistance community.
- *National Metal Finishing Center* [http://www.nmfrc.org/] is a comprehensive environmental, technical, and pollution prevention resource for the metal finishing industry. Key features include: a searchable technical database; compliance assistance tools, including full text regulations and interpretations from EPA and other entities; specifications (with index) used in metal finishing; shop, supplier, and people directories; interactive features to obtain reliable information from industry experts; and on-line calculators designed for finishing needs.
- *The Printing and Wiring Board Resource Center* [http://www.pwbrc.org/] provides easy-to-use, in-depth technical information on pollution prevention and regulatory compliance.
- *FedCenter* [http://www.fedcenter.gov/] is a virtual compliance assistance center providing information on environmental regulations, pollution prevention, and policies affecting federal agencies.
- *The Local Government Environmental Assistance Network* [http://www.lgean.com/] provides environmental management, planning, funding, and regulatory information for local government elected and appointed officials, managers and staff. LGEAN enables local officials to interact with their peers and others online. In an effort to reach all local governments, LGEAN also manages a toll-free telephone service ((877) 865-4326).
- *Environmental Compliance for Automotive Recyclers* [http://www.ecarcenter.org/] is designed for automotive recycling facilities that are subject to federal, state and local environmental laws. The ECAR Tour is designed to provide a state-by-state breakdown of the requirements that apply specifically to industry activities.
- *Construction Industry Compliance Assistance Center* [http://www.cicacenter.org/] is a place to find plain language explanations of environmental rules for the construction industry. The Center also provides links to detailed information, including state regulations and other resources.
- *The Border Compliance Assistance Center* [http://www.bordercenter.org/] provides information related to transporting cargo from Mexico into the United States, with special attention to solid and hazardous wastes. The Center provides information to help you from start to finish, including: packing and labeling your load; preparing paperwork and keeping

records; procedures at ports of entry; rules for travel on different highways in different states; and delivering your load.

WASTE ISSUES IN INDIAN COUNTRY

- *Waste Management in Indian Country* [http://www.epa.gov/tribalmsw/] provides waste management information and links to related sites.

SOLID WASTE MATERIAL

- *Waste Management in Indian Country, Publications* [http://www.epa.gov/epaoswer/non-hw/tribal/resource.htm] provides related publications, highlights and information about grants, regulations, case studies, and education.
- *Tribal Decision Makers Guide to Solid Waste Management*, November 2003 [http://www.epa.gov/epaoswer/non-hw/tribal/resource.htm - dmg/] provides an overview of tribal management of solid waste. Chapters can be downloaded individually or the document can be accessed in its entirety.
- *Decision Maker's Guide to Solid Waste Management* [http://www.epa.gov/epaoswer/non-hw/muncpl/dmg2.htm] provides an informative guide for those who practice waste management. It contains both technical and economic information to help practitioners reduce waste and integrate waste management systems.
- *Criteria for Solid Waste Disposal Facilities: A Guide for Owners and Operators* [http://www.epa.gov/epaoswer/non-hw/muncpl/criteria.htm] provides a link to the booklet.
- *Guide for Initiating Solid Waste Management Planning on Indian Lands*, for more information, contact Faith Williams, DOI, BIA.
- *Site-Specific Flexibility Requests for Municipal Solid Waste Landfills in Indian Country, Draft Guidance* [http://www.epa.gov/epaoswer/non-hw/tribal/regs.htm] can be found on EPA's Regulations and Standards page of the Waste Management in Indian Country Web site.
- *Source Reduction Program Potential Manual: A Planning Tool* [http://www.epa.gov/epaoswer/non-hw/reduce/source.pdf] is a manual that provides information concerning the impact of a number of source reduction options.
- *State and Tribal Implementation Rule* discusses the process through which tribes may seek approval of tribal permit programs for MSWLFs to ensure that the landfills comply with the federal criteria. The document explains EPA procedures for evaluating tribal permit programs for solid waste landfills and provides a detailed description of the components of the application and approval process. Document Number: EPA530-F-95-028. Contact EPA's Office of Solid Waste and Emergency Response, RCRA Information Center at (800) 424-9346 or mailto:rcra-docket@epamail.epa.gov

- *Open Dump Cleanup Project Helps Tribes Fight Waste* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/opendump.pdf] is a document that provides information and case studies to help tribes with waste management issues.
- *Waste Reduction Tips for Hotels and Casinos in Indian Country* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/casinotips.pdf] is a document that provides information and case studies to help tribes with waste management issues specifically concerning tribally owned hotels, motels, resorts, casinos and bingo halls.
- *Training and Technical Assistance Directory for Tribal Solid Waste Managers* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/training.pdf] is a document designed to provide various levels of technical help and training resources for tribal solid waste managers.
- *Grant Resources for Solid Waste Activities in Indian Country* [http://www.epa.gov/epaoswer/non-hw/tribal/resource.htm - grants] provides resources, tips and other information concerning grants for tribal solid waste activities.
- *Publications on Solid Waste Management in Indian Country* [http://www.epa.gov/epaoswer/non-hw/tribal/resource.htm] provides solid waste management information and related publications.
- *1998 Report on the Status of Open Dumps on Indian Lands* (Published by the Indian Health Service) [http://www.ihs.gov/NonMedicalPrograms/DFEE/Solid_W/1998_ODReport/1998OpenDumpsReport.pdf] provides information about open dumps located on Indian Lands, important details about yearly dump inventories, and funding.
- *Partnerships in Solid Waste Management* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/partner.pdf] describes the benefits of partnering, obstacles to partnering, developing a partnership agreement, and working in partnership after entering into such an agreement. It also provides a case study describing the partnership of the Eastern Band of Cherokee Indians with Swain County, North Carolina.
- *The Site-Specific Flexibility Requests for Municipal Solid Waste Landfills in Indian Country* [http://www.epa.gov/tribalmsw/pdftxt/siteflex.pdf], which is a draft guidance document, describes a process by which MSWLF owners and operators in Indian country can request design and operating flexibility.
- *Preparing Successful Solid Waste Grant Proposals* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/grant.pdf] describes procedures that tribes and Alaska Native Villages can follow when applying for solid waste management grants.
- *Landfills in the Bush: A Guide to Opening, Maintaining, and Closing Remote Solid Waste Sites* [http://www.avcp.org/], the manual contains: (1) background information about landfills; (2) Federal, state, regional, and local funding and knowledge resources; (3) Federal and state regulations and policies; (4) solid waste management plan development; and (5) siting. Developed by the Alaska Native Villages by the Association of Village Council Presidents, Inc.

- *Recycling Guide for Native American Nations* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/ntverecy.pdf] provides information on setting up a recycling program (collecting materials, staffing, educating the community, and reducing waste), creating recycling jobs, and buying recycled products.
- *State and Tribal Partnerships to Promote Jobs Through Recycling* [http://www.epa.gov/epaoswer/non-hw/recycle/sttrjobs.pdf] provides information about two of the program's four components: recycling and reuse business assistance centers (RBAC) and recycling economic development advocates (REDA). It explains how the programs foster recycling-based businesses and identifies the beneficiaries of the REDA and RBAC programs.
- *Tribal Waste Journal: Alaska Villages Chart their own Course toward Solid Waste Solutions* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/twj-3.pdf] highlights some Alaskan villages that have overcome various difficulties concerning waste management.
- *Tribal Waste Journal: Against All Odds: Transfer Station Triumphs* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/twj-2.pdf] highlights successful transfer stations and provides ideas and resources for future improvements and community action.
- *Tribal Waste Journal: Respect Our Resources: Prevent Illegal Dumping* [http://www.epa.gov/epaoswer/non-hw/tribal/pdftxt/twj-1.pdf] features communities that have been successful with preventing illegal dumping as well as community action initiatives and resources.
- *Design and Guidance for Installation of Final Covers* [http://www.epa.gov/earth1r6/6pd/pd-u-sw/swguide.htm] addresses the technical aspects of closure and post-closure plans for each open dump in Indian Country, including how to comply with Federal regulations.
- *Waste Management on Indian Reservations: An Introduction for Tribal Decision Makers* provides information on waste management and how to initiate action to effectively manage waste on reservations. Summarizes applicable laws, regulations, and guidelines governing municipal solid waste and hazardous waste; defines terms; and provides references for further information. Contact DOI, BIA, Branch of Environmental Services at (202) 208-4791.
- *First Annual Report: Open Dumps on Indian Lands* [http://www.oehe.ihs.gov/Solid_W/1998_ODReport/1998OpenDumpsReport.pdf] provides information on 868 dumps, including ownership, cover status, population served, location, dump contents, and other details.
- *Proposed Procedures and Criteria for Determining Adequacy of State and Tribal Municipal Solid Waste Landfill Permitting Programs* describes what tribes must do to obtain approval of their programs. EPA's Office of Solid Waste and Emergency Response, RCRA Information Center, at (800) 424-9346, or rcra-docket@epamail.epa.gov.

- *Publications on Solid Waste Management in Indian Country* [http://www.epa.gov/tribalmsw/pdftxt/bib-slid.txt] describes publications of EPA, BIA, and Native American organizations that are designed to assist tribal leaders, environmental personnel, and the general public in developing, expanding, and implementing solid waste management programs. Document Number: EPA530-B-96-008.
- *Solid Waste Program Development Seminar* provides information about effective dates of EPA regulations and closure of existing dumps and addresses the importance of developing a solid waste program. Contact Indian Health Service Organization, Office of Environmental Health and Engineering Room 309 Federal Building Address, Aberdeen, SD 57401.
- *Solid Waste Resource Guide for Native Americans: Where to Find Funding and Technical Assistance, Spring 1994* identifies potential sources of federal financial and technical assistance for safely managing solid waste, implementing the requirements of RCRA, and enhancing tribal capability. Contact Office of Solid Waste and Emergency Response, RCRA Information Center (800) 424-9346 or rcra-docket@epamail.epa.gov.
- *Waste Transfer Stations: A Manual for Decision-Making* [http://www.epa.gov/garbage/pubs/wtsdmm.pdf] defines what a transfer station is and how it relates to municipal solid waste management in the context of a community's total waste management plan. The manual identifies issues and factors to consider when deciding whether or not to build a transfer station, planning and designing it, selecting a site, and involving the community.

SOLID WASTE – TRIBAL CODES

- *EPA's Waste Management in Indian Country* Web site [http://www.epa.gov/tribalmsw/] provides additional information.
- *Case Studies of Successful Tribal Solid Waste Management Programs* [http://www.epa.gov/epaoswer/non-hw/tribal/tribprog.htm] provides examples of successful tribal programs as resources for other communities.
- *A Model Tribal Solid Waste Management Code by The Inter-Tribal Council of Arizona, Inc.* [http://www.itcaonline.com/] is a generic code, which tribes can customize to suit their own situations and then enact. It is designed to be comprehensive, covering many areas of solid waste management, such as recycling, landfill design and operation, and collection and transportation of solid waste.
- *Campo Indian Reservation Solid Waste Management Code* [http://www.epa.gov/tribalmsw/pdftxt/itc10746.txt] provides legislative findings and purpose, which defines and explains model waste management code.
- *Inter-Tribal Council of Arizona Solid Waste Code Model* [http://www.epa.gov/epaoswer/non-hw/tribal/regs.htm] provides information pertinent to models of solid waste codes and

compliance assistance related to such projects. Contact Inter-Tribal Council of Arizona, Inc. at (602) 248-0071.

SOLID WASTE – BACKYARD BURNING

- *EPA's Backyard Burning* Web site [http://www.epa.gov/garbage/backyard/] provides resources and information about backyard burning with a link to tribal information.
- *Tribal Leaders are Key to Reducing Backyard Burning* [http://www.epa.gov/garbage/backyard/pubs/tribal-leaders.pdf] is a resource for tribal leaders concerning backyard burning in relation to tribal policy, health, and community action.
- *Reducing Backyard Burning in Indian Country* [http://www.epa.gov/garbage/backyard/pubs/tribal_member.pdf] provides facts about the health hazards of backyard burning on Indian Lands.

HAZARDOUS WASTE MATERIAL

- *RCRA Orientation Manual* [http://www.epa.gov/epaoswer/general/orientat/] provides introductory information on solid and hazardous waste management program requirements under RCRA. Covers an introduction to RCRA; managing solid waste, hazardous waste, and underground storage tanks; RCRA's relationship to other environmental statues; and public involvement requirements.
- *Hazardous Waste Identification* [http://www.epa.gov/epaoswer/hazwaste/id/id.htm] describes how to identify whether and why waste is hazardous.
- *Hazardous Waste Clean-Up Information* [http://www.clu-in.org/] provides links to a number of hazardous waste clean-up sites such as training, remediation, and databases.
- *Catalog of Hazardous And Solid Waste Publications* [http://www.epa.gov/epaoswer/osw/catalog.htm] lists frequently requested hazardous and solid waste documents released by EPA.
- *RCRA, Superfund and EPCRA Hotline Training Module: Introduction to: Hazardous Waste Identification* [http://www.epa.gov/epaoswer/hotline/training/hwid05.pdf].
- *FEMA's Community Emergency Response Training (CERT) for Tribal Nations* [http://www.fema.gov/regions/vii/cert_120902.shtm] provides information about FEMA's CERT for Tribal Nations.
- *North American Indian Tribes and Nations: Emergency Response Resources* [http://www.trex-center.org/tribal_er.asp] provides emergency response resources for Tribes and Nations and links to related FEMA links.
- *Good Earth and Good Earth Workbook* defines hazardous issues facing Alaskan Native villages, includes suggestions on how to assemble a hazardous materials committee, explains how to find, recognize, and handle hazardous materials, and describes how to

devise a community hazardous materials plan. Offers a step-by-step guide and checklist for inventorying hazardous materials in communities and preparing for spills and accidents. Contact Alaska Native Health Board Organization's Alaska Health Project at (907) 276-2864.

TRAINING – SOLID AND HAZARDOUS WASTE

- *Solid Waste Training* by the Solid Waste Alaska Network [http://www.ccthita-swan.org/Tutorials/training.cfm] provides information about solid waste training and scheduled events.
- *National Environmental Training Center for Small Communities Training Packages*. Contact Jamie Knotts at West Virginia University Organization, National Environmental Training Center for Small Communities, at (800) 624-8301.
- *Rural Community Assistance Program* [http://www.rcap.org/swp.html] provides technical, financial management, and managerial support and training to tribal and rural communities with populations under 10,000.
- *Training Exchange Web site* [http://www.trainex.org/] provides classroom and internet-based course training to environmental staff involved in hazardous waste management and remediation. Partnership with the Interstate Technology Regulatory Council, EPA and the Community Involvement University.
- *Changing Waste in Changing Times: Solid Waste and Natural Resources Issues in Rural Alaska -- A Teacher's Guide* is a curriculum to foster school children's understanding of environmental issues and solid waste management problems in Alaskan Native villages. It emphasizes the involvement of community resources, elders, and health organizations. Contact Northwest Renewable Resources Center Organization at (206) 269-2357.
- *Indian Health Service Solid Waste Management Training* provides information about solid waste management plans, including composition of the waste stream, evaluation of options, development of plans, and implementation of such plans, recycling, and equipment. Contact the Indian Health Service, Office of Environmental Health and Engineering, Room 309 Federal Building Aberdeen, SD 57401.
- *Compost Operator Training Workshop For Federally-Recognized Native American Tribes,* August 16-20, 2004. Qualla Boundary, Cherokee, NC. Simonson.davy@epa.gov

CONSTRUCTION AND DEMOLITION WASTE

- *EPA's Construction and Demolition Debris* Web site [http://www.epa.gov/epaoswer/non-hw/debris-new/index.htm] provides basic information, publications and related links.
- *Construction Industry Compliance Assistance Center* (see page B-5).

- *EPA's Construction and Demolition Debris Publications* [http://www.epa.gov/epaoswer/non-hw/debris-new/pub_nav.htm] provides fact sheets, case studies, and references to applicable federal regulations.
- *Characterization of Building-Related Construction and Demolition Debris in the United States* [http://www.epa.gov/epaoswer/hazwaste/sqg/c&d-rpt.pdf] characterizes the quantity and composition of building-related construction and demolition (C&D) debris generated in the United States and summarizes the related waste management practices.
- *Residential Construction Waste Management: A Builder's Field Guide: How to save money and landfill space* [http://www.ilsr.org/recycling/buildingdebris.pdf] is an EPA-funded publication from the National Association of Home Builders Research Center which explains cost-effective techniques for construction waste management. This 32-page field guide presents several approaches builders can take to manage construction waste and provides real case studies to support the recommended actions.
- *Builder's Guide to Reuse and Recycling: A Directory for Construction and Demolition Materials* [http://www.stopwaste.org/docs/2003bg.pdf] provides practical, cost-saving tips for building professionals on recycling asphalt, glass, and related materials.
- *Construction and Demolition Waste Publications* [http://www.epa.gov/tribalmsw/pdftxt/40cfr257.pdf] conditionally exempt small quantity generator (CESQG) hazardous waste may be managed at construction and demolition waste landfills if the landfills comply with federal regulations 40 CFR Part 257.
- *Resource Efficient Residential Construction: Industry Web Directory*. The Peaks to Prairies Residential Environment Web site [http://peakstoprairies.org/p2bande/construction/CnstrMatrix.pdf] provides technical assistance and referrals, industry contacts, and a database of resources and publications.
- *Environmentally Sound Practices in the Homebuilding Industry* [http://www.mcet.org/spec_project/mbicap.htm - Homebuilders] is a video training package that covers the basic principles of pollution prevention and environmental compliance for homebuilding projects. Topic areas include the environmental impacts of homebuilding and best management practices for habitat preservation, stormwater management, and erosion and sediment control.
- *Construction and Demolition (C&D) Waste Management Guide* [http://peakstoprairies.org/p2bande/construction/c&dwaste/index.cfm] describes resource efficient building practices which will allow residential construction professionals to meet consumer demand, increase profits, provide savings for the consumer and enhance marketing opportunities, while using resources in a sustainable manner.
- *Haskell Environmental Research Studies Center* promotes activities that reduce negative environmental impacts of economic development in Native communities, provide for environmental restoration, and promote environmental health, for the advancement of tribal sovereignty and self-determination. Contact Dan Wildcat at (785) 749-8498.

UNDERGROUND STORAGE TANKS

- EPA's *Office of Undergroud Storage Tanks* Web site [http://www.epa.gov/swerust1/] provides a variety of resources and links to access information concerning USTs.
- EPA's *Operating and Maintaining UST Systems* [http://www.epa.gov/oust/ustsystm/tanko&m.htm] provides a wide array of tools to help owners and operators properly operate and maintain UST systems.
- *Underground Storage Tank Environmental Results Program Workbook* [http://www.epa.gov/swerust1/pubs/erp.htm] helps programs, owners and operators learn how to better comply with UST regulations.
- *Operating and Maintaining Underground Storage Tank Systems: Practical Help and Checklists* [http://www.epa.gov/oust/pubs/ommanual.htm] contains brief summaries of the federal UST requirements for operation and maintenance as well as practical help that goes beyond the requirements. Checklists link equipment uses and how to keep equipment working properly, including record keeping forms.
- *Automatic Tank Gauging Systems for Release Detection: Reference Manual for Underground Storage Tank Inspectors* [http://www.epa.gov/oust/pubs/automati.htm] provides handouts that UST inspectors can distribute to owners and operators to help them understand the proper operation and maintenance of ATG systems. Contains a summary of specifications, based on third-party evaluations, for ATG systems that detect leaks from USTs and their piping, detectable leak rate/threshold, test period duration, product applicability, calibration requirements, restrictions on the use of the device, vendor contact information, printing and interpreting reports, and sample reports.
- *Underground Storage Tank Self-Evaluation Checklist* [http://www.epa.gov/swerust1/cmplastc/] helps users comply with most operational requirements for USTs.
- *Underground Storage Tank Compliance Assistance Package* [http://www.epa.gov/swerust1/cmplastc/cap.htm] is designed to improve understanding of the regulatory requirements associated with owning or operating USTs. Information is divided into UST-specific subject matter categories, legal requirements, inspections, leak detection, and risk assessment theories, practices and applications.
- *Preventing Leaks and Spills at Service Stations* [http://www.epa.gov/region09/waste/ust/index.html - indian], A Guide for Facilities for service station owners and operators in Indian Country and the Trust Territories of the Pacific Islands, shows how to comply with federal UST regulations and prevent leaks and spills.

EMERGENCY PLANNING

- *Emergency Management Framework for Tribal Government Toolkit* [http://emd.wa.gov/5-prog/prgms/policy/emc/resources/res-tribal-coord.htm] contains resources to build emergency management capabilities. Provides information on legal requirements, risk analysis, emergency operations planning, resource management, and communication and outreach strategies.

MINING WASTE IN INDIAN COUNTRY

- *Publications on Mining Waste Management in Indian Country* [http://www.epa.gov/tribalmsw/pdftxt/biblio.pdf] provides access to publications and regulations that will help you meet the challenges of managing mining waste.
- *Mining Waste Rulemaking Docket Supporting Documentation* [http://www.epa.gov/epaoswer/other/mining/] contain technical background information covering EPA's mining waste rulemakings and Report to Congress. These documents identify waste streams produced by mineral processing, potential for mismanagement, waste disposal practices, and human health and environmental damages.
- *Land Disposal Restrictions, Phase IV, Proposed Rule - Treatment Standards Proposed for Toxicity Characteristic (TC) Metal and Mineral Processing Wastes - April 1997* [http://www.epa.gov/epaoswer/hazwaste/ldr/ldr-rule.htm]. The proposed rule addresses treatment standards for certain metal wastes and wastes from mineral processing and discusses how the proposed Universal Treatment Standards would apply to wastes from mineral processing operations.

MILITARY MUNITIONS WASTE

- EPA's *Military Munitions Final Rule* [http://www.epa.gov/epaoswer/hazwaste/military/index.htm] provides information about military munitions waste, which consists of ammunition products and components produced for or used by the military, including unused, damaged, or fired munitions. It includes bombs, rockets, artillery ammunition, small arms ammunition, and mines. If you have military firing ranges on your lands, you should be aware of proper military munitions waste management.
- *Military Munitions Regulations* [http://www.epa.gov/docs/fedrgstr/EPA-WASTE/1997/February/Day-12/f3218.htm] is the Federal Register page where EPA has finalized regulations that clarify when conventional and chemical military munitions become a hazardous waste under the Resource Conservation and Recovery Act (RCRA). Additionally, this rule amends existing regulations regarding emergency responses and RCRA manifest requirements.
- *Military Munitions Final Rule* (62 FR 6622: February 12, 1997).

- *Environmental Fact Sheet: EPA Finalizes Regulations under RCRA for Military Munitions* [http://www.epa.gov/epaoswer/hazwaste/military/muns_fs.txt] is a page that provides information about the rule regulating military munitions.
- *Department of Defense Policy to Implement the EPA's Military Munitions Rule* [https://www.denix.osd.mil/denix/Public/Policy/Range/1july98mrip.html], which is a document that interprets the requirements of EPA's Military Munitions Rule and establishes Department of Defense policy for the management of waste military munitions.

RADIOACTIVE MATERIALS

- *The Transportation Resource Exchange Center* (T-REX) [http://www.trex-center.org/] is a comprehensive Web site where you will find the answers to complex questions surrounding radioactive materials transportation.

WATER RESOURCES

PUBLIC WATER SYSTEMS

- EPA's *Tribal Public Water System & Underground Injection Control Programs* Web site [http://www.epa.gov/safewater/tribal/history.html] is the place to start and obtain information about federal regulation of public water systems in Indian country, including EPA direct implementation and tribal primacy.
- EPA's *Office of Ground Water & Drinking Water, Small Drinking Water Systems* Web site [http://www.epa.gov/ogwdw/smallsys/ssinfo.htm] contains a wealth of information pertaining to small drinking water systems.
- EPA's *Drinking Water Academy* [http://www.epa.gov/safewater/dwa.html] provides classroom and Web-based training and materials pertaining to SDWA implementation.
- EPA's *Drinking Water Infrastructure Grants Tribal Set-Aside Program* [http://www.epa.gov/safewater/tribes.html] provides information on the Drinking Water State Revolving Fund (DWSRF) established under SDWA, which make funds available to finance infrastructure improvements of drinking water systems, including those that serve Indian tribes.
- EPA *Region 10 Tribal Water Program* [http://yosemite.epa.gov/r10/water.nsf/bbb2e0bec35db236882564f700671163/655b3ea54e3ba0a388256a8c007ac4be?OpenDocument] provides information on the Program activities in the Pacific Northwest.
- EPA's *Radon in Drinking Water* Web site [http://www.epa.gov/iaq/radon/rnwater.html] provides information on radon in drinking water including public health standards and risk assessment report by the National Academy of Sciences.

- *Planning and Tracking Forms for Public Water Systems Sampling and Testing* provide tribes with specific information and instruction about when to monitor, sample, or test. The goal is to enable systems to remain in compliance with the requirements of CWA and SDWA. Contact Mark Robertson at (404) 562-9639 or robertson.mark@epamail.epa.gov.

TRIBAL AND OTHER NON-FEDERAL ORGANIZATIONS

- *Native American Water Association* provides tribal water and wastewater operators, managers, administrators, utility commissions and Tribal Councils with continued training and technical assistance in their goals to: strengthen tribal sovereignty, self-determination and protect health and environment in Indian country. Visit their Web site [http://www.nawainc.org] for more information.
- *US Geological Survey Drinking Water Programs*. Visit their Web site [http://water.usgs.gov/programs.html] for more information.
- *Association of State Drinking Water Administration Internet Resources*. Visit their Web site [http://www.asdwa.org/links.html] for more information.
- *Office of Water Programs*, a non-profit organization operating under the California State University, Sacramento Foundation, provides training and materials for water treatment plants, water distribution systems, wastewater collection systems, municipal and industrial wastewater treatment and reclamation facilities, and also for pretreatment facility inspectors and environmental compliance inspectors. Visit their Web site [http://www.owp.csus.edu] for more information.
- *National Environmental Services Center* provides technical assistance and information about drinking water, wastewater, environmental training, and solid waste management to communities serving fewer than 10,000 individuals. Visit their Web site [http://www.nesc.wvu.edu] for more information.
- *National Drinking Water Clearinghouse* at West Virginia University helps small communities by collecting, developing, and providing timely information relevant to drinking water issues. It is intended for communities with fewer than 10,000 residents and the organizations that work with them. It offers training and free telephone consultation. Visit their Web site [http://www.nesc.wvu.edu/ndwc/ndwc_index.htm] for more information.
- *Small Utilities Service Corporation* received an EPA grant to provide specific training and technical assistance to water systems located in Indian country (which for this grant this means inside of existing reservation boundaries) in Oregon, Washington, Idaho, and Alaska.

WASTEWATER MANAGEMENT

- EPA's Office of Wastewater Management, *Clean Water Indian Program* Web site [http://www.epa.gov/owm/mab/indian/index.htm] details tribal financial assistance programs and initiatives, contacts, publications and success stories.
- EPA's *Clean Water Tribal Resource Directory for Wastewater Treatment Assistance* identifies sources of financial and technical assistance for Tribal wastewater treatment programs and infrastructure. Visit their Web site [http://www.epa.gov/OW-OWM.html/mab/indian/cwtrd.htm] for more information.
- EPA's *Total Maximum Daily Loads* Web site [http://www.epa.gov/owow/tmdl].

TRAINING – WATER QUALITY

- *The Alaska Regional Office of Native American Fish & Wildlife Society* is in the fifth year of providing training to Alaskan Native villages on water quality assessment and monitoring. Visit their Web site [http://alaska.nafws.org] for more information.
- *National Environmental Training Center for Small Communities* [http://www.nesc.wvu.edu/netcsc/Institute04/INSTITUTE2004MAINPAGE1.htm]
- EPA's *Tribal Water Quality Standards Document Repository* [http://www.epa.gov/waterscience/standards/wqslibrary/tribes.html]
- *Our Water Our Future: Saving our Tribal Life Force Together* is a video that shows the efforts of the Pueblo of Acoma in New Mexico and the Confederated Tribes of the Chehalis Reservation in Washington in developing water quality standards. Tribal elders and leaders and the directors and staffs of tribal environmental departments recount their experiences. Visit their Web site [http://epa.gov/waterscience/tribes/videoreal.htm] for more information.
- *Reference Guide to Water Quality Standards for Indian Tribes* provides tribes with an overview of the water quality standards program and a guide to EPA reference materials on the program. Visit their Web site [http://epa.gov/waterscience/tribes/refguide.pdf] for more information.
- *Water Quality Standards Training Academy* offers basic and intermediate training on the entire range of water quality and water standards issues. Visit their Web site [http://epa.gov/waterscience/standards/academy.html] for more information.
- *Watershed Training Courses* [http://www.epa.gov/owow/watershed/wacademy/]
- EPA's *Water Quality Reporting* Web site [http://www.epa.gov/owow/monitoring/monintr.html] provides information on the water quality monitoring and reporting required by CWA 305(b).
- EPA's *Clean Lakes Program* Web site [http://www.epa.gov/owow/lakes/] describes the processes related to identification and implementation of pollution controls to mitigate lake

water quality problems. Contact EPA Regional Nonpoint Source Coordinators or EPA Regional Indian Coordinators.

WETLANDS MANAGEMENT

- EPA's *Wetlands* Web site [http://www.epa.gov/owow/wetlands] contains information on wetlands, why they are important, and how the can be protected. Contact the Wetlands Hotline at 800.832.7828.
- *Water Quality and 401 Certification* are effective tools to protect the overall health of wetlands resources and the valuable functions they provide. Water quality standards, including designated uses, criteria, and an antidegradation policy can provide a sound legal basis for protecting wetland resources through State water quality management programs. Visit EPA's *Water Quality* Web site [http://www.epa.gov/owow/wetlands/waterquality/index.html] for more information.

UNDERGROUND INJECTION CONTROL

- EPA's *Underground Injection Control Program* Web site [http://www.epa.gov/safewater/uic/index.html]
- *Protecting Drinking Water Through Underground Injection Control: Drinking Water Pocket Guide #2* provides an overview of the UIC programs: importance to drinking water, the Safe Drinking Water mandate, the classification system, historical time line, five pathways of contamination, information on each well class, strategic program priorities, contact information and more. Contact (800) 426-4791 or visit EPA's Web site [http://www.epa.gov/safewater/uic/uicpocket.html] for more information.
- *American Indian Underground Storage Tanks Project* creates a reserve of UST Certified Inspectors to provide tribal governments with the technical expertise to develop strong effective UST management programs. Includes information on developing tribal UST laws and regulations and enacting tribal cleanup standards. Co-sponsored by EPA and the Inter Tribal Council of Arizona, Inc.Visit their Web site [http://www.itcaonline.com/program_ust.html] for more information.

SOURCE WATER PROTECTION

- *Drinking Water Quality in Indian Country: Protecting the Sources* contains information on the prevention of contamination of source water, which is one important part of providing safe water at the tap. Visit EPA's Web site [http://www.epa.gov/safewater/protect/tribe.html] for more information.

- EPA's *Wellhead Protection (WHPP) Program* is a pollution prevention and management program used to protect underground-based sources of drinking water. Visit their Web site [http://www.epa.gov/safewater/whpnp.html] for more information.
- *Source Water Training* from EPA's *Drinking Water Academy* [http://www.epa.gov/safewater/dwa/course-sourceprotect.html]
- EPA's *Annotated Bibliography of Source Water Protection Materials* [http://www.epa.gov/safewater/protect/swpbibliography]

AIR RESOURCES

AIR POLLUTION

- *Air Pollution Project Assistance*, CFDA: 66.009, provides information and encourages increased dissemination of air pollution literature. It also supports research, investigations, experiments, demonstrations, surveys, and studies, as well as training, related to air pollution. Contact EPA's Regional Tribal Coordinator and EPA's Office of Air and Radiation at (919) 541-5557
- *Clean Air Act Tribal Authority Rule* implements section 301(d) of CAA, which authorizes the EPA Administrator to establish eligibility requirements for tribes to be treated in the same manner as states. Visit their Web site [http://www.epa.gov/air/tribal/airprogs.html] for more information.

TRAINING – AIR POLLUTION

- *Air Pollution Training Institute* [http://www.epa.gov/air/oaqps/eog/index.html] provides special courses and workshops on air issues: ambient monitoring, engineering, meteorology and modeling, air toxics, permitting, entry-level training, inspections, sampling analysis, compliance assurance, and statistical analysis. The curriculum is available in classroom, telecourse, self-instruction, and web-based formats.
- *Basic Concepts in Environmental Science: Air Pollution Training* [http://www.epa.gov/apti/course_topic.html] contains self-study reading material and problems that review important fundamental engineering principles and concepts used in a number of Air Pollution Training Institute courses on control technology, permit review, and compliance monitoring and inspection.
- *American Indian Air Quality Training Program* [http://www4.nau.edu/itep/programs/aiaqtp.asp] provides air quality training to tribes through a cooperative agreement between EPA and Northern Arizona University's Institute for Tribal Environmental Professionals.

AIR QUALITY AND MONITORING

- *Tribal Air Monitoring Center* [http://www4.nau.edu/tams/] is designed to meet the needs of tribes involved in air quality management and offers an array of training and support services to tribal air professionals.
- *Ambient Air Monitoring Program* [http://www.epa.gov/oar/oaqps/qa/monprog.html] is a national network of air monitoring stations that provide raw air quality data and source inventory data submitted to air pollution control agencies.
- EPA's *Ambient Monitoring Technology Information Center* [http://www.epa.gov/ttn/amtic/] contains information and files on ambient air quality monitoring programs, monitoring methods, related documents and articles, information on air quality trends and nonattainment areas, and related federal regulations.
- EPA's *Technology Transfer Network* [http://www.epa.gov/ttn/] offers tools to estimate air pollutant emissions, downloadable computer code for regulatory air models, guidance, or request technical support to implement air pollution control programs.

ASBESTOS AND RADON

- *Tribal School Compliance Initiative* - AHERA trains representatives of tribal schools in Washington, Idaho, and Oregon to ensure compliance with requirements of AHERA. Joint project between EPA Region 10 and Bereau of Indian Affairs. Contact Jayne Carlin (206) 4762 or carlin.jayne@epa.gov
- *Common Questions on Asbestos - NESHAP* [http://www.epa.gov/region04/air/asbestos/asbqa.htm] provides information on protecting the public health by minimizing the release of asbestos during building demolition.
- *Regional Radon Training Centers* [http://www.epa.gov/iaq/radon/] develop information and provide training to government officials, professional and private firms, and the public on radon health risks and methods of radon measurement and mitigation. Contact (800) 513-8332.

PESTICIDES

- EPA's *Pesticides* Web site [http://www.epa.gov/pesticides/] provides links to highlights and information concerning pesticides.
- *The National Agriculture Compliance Assistance Center* [http://www.epa.gov/agriculture/] is the "first stop" for information about environmental requirements that affect the agricultural community. The Ag Center was created by EPA with the support of the Department of Agriculture.

- EPA's *Office of Pesticide Program's* [http://www.epa.gov/oppfead1/tribes/] goal is to help tribes resolve pesticide issues regardless of whether they have an established pesticide program. To further that goal, OPP directly funds tribal program projects and provides EPA liaison to the Tribal Pesticide Program Council.
- OPPT's *Publications* [http://www.epa.gov/opptintr/tribal/pubs/] provides links to a number of publications about pollution prevention and toxics concerning the Tribal Environmental Network.
- *Tribal Pesticide Program Council* [http://www.epa.gov/oppfead1/tribes/tppc.htm] is a tribal technical resource, program and policy dialogue, and development group, focused on pesticide issues and concerns. It is composed of authorized representatives from federally recognized tribes and Indian nations and intertribal organizations.
- *Guidance on Basic Elements of an EPA-Funded Tribal Pesticide Program* [http://www.epa.gov/oppfead1/tribes/guidance.htm] describes basic elements for an EPA-funded tribal pesticide program. It is intended primarily for use by EPA regional staff as they provide assistance to tribes that are assessing their pesticide program needs, negotiating EPA/tribal cooperative agreements, and implementing pesticide programs where they are desired and needed.
- *National Pesticide Information Center* [http://npic.orst.edu/] provides information and related links.
- OPP's *Technical Tools and Models* [http://www.epa.gov/epahome/datatool.htm] for pesticide programs.
- OPPT *Programs, Resources, and Grant Opportunities for Indian Tribes* [http://www.epa.gov/opptintr/tribal/pubs/pubs.html] provides a link to the document that discusses grant opportunities for tribes.
- *Pesticide Action Network Pesticide Database* Web site [http://pesticideinfo.org/Index.html] brings together a diverse array of information on pesticides from many different sources, including information on toxicity and regulations. The Web site is not peer reviewed.
- *National Pesticide Information Center Pesticide Fact Sheets* (Pesticide Information Profiles). NPIC fact sheets are designed to answer questions that are commonly asked by the general public about pesticides and pesticide related topics. The Web site [http://npic.orst.edu/npicfact.htm] contains links to toxicity and active ingredient fact sheets, health information databases, environmental and chemical properties databases, product label and MSDS databases, statistics, and sites with additional technical information.
- Through the *CalEPA Department of Pesticide Regulation* Web site [http://www.cdpr.ca.gov/index.htm], information on EPA's pesticide registration can be accessed from EPA databases. It is possible to look up the regulatory status of registered pesticides. A link is available to a pesticide label database where EPA-accepted pesticide labels can be viewed.

- *Pesticide Regulatory Education Program* [http://www.prep-gov.net/] provides classroom and field instruction on the regulation of pesticides. Contact Suzanne Forsyth at (530) 757-8603 or John Ward at (312) 353-9510.
- *Pesticide Inspector Residential Training* teaches inspectors how to conduct different types of pesticide inspections and offers tips and tools to instruct other inspectors. There are three courses: (1) Pesticide Use Inspection Training; (2) Pesticide Product Enforcement; and (3) Worker Protection Inspector Training. Courses include lectures, written exercises and field trips for on site inspection training. Contact EPA's Amar Singh at (202) 564-4161 or singh.amar@epa.gov.
- *Integrated Pest Management Information Service* [http://www.efn.org/~ipmpa/] provides the opportunity to find, share, and develop effective, economical, and environmentally sound approaches for the management of vegetation and pests, primarily in non-agricultural resource settings.

TOXICS

- EPA's *Empowering Communities to Reduce Risks from Toxic Exposure* [http://www.epa.gov/air/grants/05-08.pdf] helps communities understand and reduce the risk of exposure to toxic chemicals. Community Action for a Renewed Environment is offering communities financial and technical assistance to reduce the release of toxic pollutants and minimize exposure to them.
- *National Institutes of Health: Toxics on the Web* [http://toxtown.nlm.nih.gov/index.html] provides an introduction to toxic chemicals and environmental health risks you might encounter in in everyday places.
- *The Forum on State and Tribal Toxics Action* [http://www.epa.gov/opptintr/tribal/pubs/fostta.htm] is a partnership between EPA's Office of Pollution Prevention and Toxics and state and tribal leaders to increase understanding and improve collaboration on toxics and pollution prevention issues among the states, tribes, and EPA.

SCHOOLS

GENERAL

- EPA's *Healthy School Environments* Web pages [http://cfpub.epa.gov/schools/index.cfm] are to help facility managers, school administrators, architects, design engineers, school nurses, parents, teachers and staff address environmental health issues in schools.
- EPA's *Children's Health Protection* [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_

arg_values=66.609] [http://yosemite.epa.gov/ochp/ochpweb.nsf/content/homepage.htm] support efforts by government organizations and educational institutions to establish or enhance their ability to take actions that will reduce environmental risks to the health of children or elderly populations.

- BIA's *Office of Indian Education Programs* [http://www.oiep.bia.edu/] is responsible for direction and management of all BIA education functions, including formation of policies and procedures, supervision of all program activities undertaken within the office's jurisdiction, and approval of the expenditure of funds appropriated for the BIA Indian education functions.
- *National Best Practices Manual for Building High Performance Schools* [http://eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/27/c3/70.pdf].
- *Best Practices for Controlling Energy Costs, A Guidebook for K-12 School System Business Officers and Facilities Managers* [http://www.rebuild.org/attachments/solutioncenter/schoolenergyguidebookv2.pdf] is a guidebook to offer strategies for maintaining facilities as well as recommended methods to reduce energy costs and improve efficiency.
- *Healthy Schools Guide to Chemical Cleanout* [http://cfpub.epa.gov/schools/top_sub.cfm?t_id=361&s_id=365] provides resources to help schools learn about, identify and remove hazardous chemicals.

HIGHER EDUCATION

- *The American Indian Higher Education Consortium* [http://www.aihec.org/] represents 34 colleges in the United States and one Canadian institution.
- The *American Indian Science & Engineering Society* [http://www.aises.org/] is a national, nonprofit organization, which nurtures building of community by bridging science and technology with traditional Native values.
- *The Office of the White House, Initiative on Tribal Colleges and Universities* [http://www.ed.gov/about/inits/list/whtc/edlite-index.html] leads the implementation of Executive Order 13270, ensuring that the nation's Tribal Colleges and Universities (TCU) are more fully recognized and have full access to federal programs benefitting other higher education institutions.
- *EPA's Colleges and University Sector Strategy* Web site [http://www.epa.gov/sectors/colleges/index.html] is a partnership to assist colleges and universities and seeks to advance the use of environmental management systems, reduce regulatory performance barriers, and measure environmental progress.

ASBESTOS

- EPA's comprehensive Web site designed to provide information to regulators, parents and schools about asbestos in schools. Including *Federal Requirements for Asbestos Management in Schools* and *20 Frequently Asked Questions About Asbestos in Schools* [http://www.epa.gov/asbestos/pubs/asbestos_in_schools.html].
- *Common Questions on the Asbestos NESHAP* [http://www.epa.gov/region04/air/asbestos/asbqa.htm] provides examples of general questions concerning a variety of asbestos issues.

DISPOSAL OF SPENT LABORATORY CHEMICALS

- EPA's *Chemical Use and Management* Web site [http://cfpub.epa.gov/schools/top_sub.cfm?t_id=361] provides information on the types of chemicals that are used in classrooms and in facility maintenance operations, and suggests thoughtful chemical purchasing and proper chemical use and management (storage, labeling, disposal) for reducing chemical exposures and accidents.
- NLM's *Tox Town* [http://toxtown.nlm.nih.gov/index.html] provides an introduction to toxic chemicals and environmental health risks you might encounter in everyday life. National Library of Medicine, National Institutes of Health.
- *Chemicals in Your Community: A Guide to the Emergency Planning and Community Right-to-Know Act* [http://yosemite.epa.gov/oswer/ceppoweb.nsf/webprintview/chemicalsinyourcommunity.htm] explains a community's rights and opportunities under EPCRA. The guide includes a section on tribes and their roles and responsibilities under EPCRA.

LEAD-BASED PAINT

- *How Mother Bear Taught the Children about Lead* [http://www.niehs.nih.gov/kids/bear/home.htm] is an educational activity book on lead based-paint prevention. Designed for Native American Children in grades 3-4, the activity book teaches children to protect themselves and their siblings.
- *Little Moccasins – A Lead Poisoning Prevention Manual for Tribal Day Cares and Families* is a part of EPA's First Steps Program. Contact Phillip Quint with the Lead-Housing-Sanitation Director, Houlton Band of Maliseet Indians at 207.532.7260 or quint@ainop.com.
- EPA's Training, Certification, and Accreditation Web site [http://www.epa.gov/lead/pubs/traincert.htm] provides training courses regarding lead-safe work

practices during building renovation, remodeling, rehabilitation, maintenance, sampling/evaluation, and abatement.

- *EPA's Lead Awareness Program* [http://www.epa.gov/lead/index.html] [http://www.epa.gov/lead/pubs/leadpbed.htm] designs outreach activities and educational materials, awards grants, and manages a toll-free hotline to help parents, home owners, and lead professionals learn what they can do to protect their families from the dangers of lead.
- Federal lead-based paint *Rules and Regulations* Web site [http://www.epa.gov/lead/pubs/regulation.htm] provides links to regulations related to lead found in paint, dust, and soil.
- *The National Lead Information Center* (NLIC) [http://www.epa.gov/lead/pubs/nlic.htm] provides the general public and professionals with information about lead hazards and their prevention. Call (800) 424-LEAD (5323).
- EPA's *Regional Lead Coordinators* [http://www.epa.gov/lead/pubs/leadoff1.htm] oversee the development of lead-poisoning prevention efforts and coordination with tribes, states, and local governments.
- *The Department of Housing and Urban Development's Office of Healthy Homes and Lead Hazard Control* [http://www.hud.gov/offices/lead/index.cfm] brings together health and housing professionals to eliminate lead-based paint hazards in privately-owned and low-income housing.
- *The Occupational Health and Safety Organization's Lead* Web site [http://www.osha.gov/SLTC/lead/index.html] provides links and information concerning lead in the workplace.
- *Healthy Schools Network, Inc*. [http://www.healthyschools.org/] is a national not for profit organization, centered on children's environmental health.
- *National Safety Council* [http://www.nsc.org/issues/lead/index.htm] provides comprehensive information about lead based paint.
- *Certified Environmental Registry and Tracking System* supports a free database about lead inspections. The system tracks licenses, training, citations, violations, and blood lead levels. The system also can be used to track asbestos, radon, and information about the licensing of pesticides applicators. Contact James Bryson, Region 1, at (617) 565-3836 or bryson.james@epa.gov
- *Children and the Hazards of Lead-Based Paint in Tribal Communities* provides background material on issues related to lead-based paint. It describes the risks that lead-based paint poses to children, explains how children can be tested for exposure to lead, highlights steps that can be taken to avoid lead poisoning, and lists the names and telephone numbers of organizations that can assist tribes address lead-based paint issues. Contact Inter-Tribal Council of Arizona, Inc. at (602) 248-0071.

- *Comprehensive Home Inspection for Lead Detection* provides a free software program for tracking children affected by lead poisoning and the homes in which they live. Using the software, tribes can produce a list of all residents who have high lead blood levels and the homes in which they live. Contact James Bryson, Region 1 at (617) 565-3836 or at bryson.james@epa.gov
- *Computerized Lead Auditing Support System* is a free auditing system for providers of lead training. The system standardizes the auditing check list for the EPA Model Lead course. The system tracks lead training and produces reports. Contact James Bryson, Region 1 at (617) 565-3836 or bryson.james@epa.gov.
- *GateKeeper* is an electronic system for tribes and states to use in managing the delivery of lead inspection examinations. The system offers tribes and states a no-cost alternative to administering inspections for third-party lead inspectors. Contact James Bryson, Region 1 at (617) 565-3836 or bryson.james@epa.gov.
- *State Tribal Application for Model Lead Procedures* describes the process through which states and tribes can set their own lead regulations and supplies information about lead contamination. Encourages tribes to negotiate with EPA agreements related to regulations governing lead. Contact James Bryson, Region 1 at (617) 565-3836 or bryson.james@epa.gov

WATER

- *PROJECT WET (Water Education for Teachers) Curriculum and Activity Guide* [http://www.projectwet.org/publications.htm] is a collection of over ninety, broad-based water resource activities. Contact national headquarters at (406) 994-5392 or by email at ProjectWET@montana.edu.

PESTICIDES

- *Integrated Pest Management in Schools* [http://www.epa.gov/pesticides/ipm/] reflects an EPA priority to protect children's health from unnecessary exposure to pesticides at school. Encourages school officials to adopt IPM practices to reduce children's exposure to pesticides.
- *Washington State Pesticide Notification Requirement* [http://www.govlink.org/hazwaste/interagency/ipm/schoolIPM.html] discusses that public schools and licensed day cares in Washington are required to establish a system for notifying parents and employees of pesticides being used on school grounds.

POLLUTION PREVENTION

- EPA's *Pollution Prevention Homepage* [http://www.epa.gov/p2/] provides general information about pollution prevention practices, the various source reduction programs and initiatives administered by EPA and other organizations.
- The *Tribal Pollution Prevention* Web site [http://tribalp2.org/] is targeted to tribal leaders and environmental managers looking to learn more about pollution prevention, including resource conservation and best management practices.
- *An Organizational Guide to Pollution Prevention* [http://www.p2ric.org/Vlibrary/Bib_Contact.cfm?folder_ID=2&section_ID=10&PubAutoID=2129] provides information to help organizations get pollution prevention programs started or to re-evaluate existing pollution prevention programs. It presents an alternative method for working on pollution prevention projects and four approaches to implementing a pollution prevention program in an organization.
- *Environmentally Preferable Purchasing Database* [http://yosemite1.epa.gov/oppt/eppstand2.nsf] is a tool to make it easier to purchase products and services with reduced environmental impacts. Environmental information on over 600 products and services is included in the database.
- *Comprehensive Procurement Guidelines* [http://www.epa.gov/cpg/index.htm] is a key component of EPA's "buy-recycled" program and provides access to Recovered Materials Advisory Notices, which recommend recycled-content levels for Comprehensive Procurement Guidelines items.

GREEN BUILDINGS

- *Green Building/High Performance Buildings* Web sites [http://www.epa.gov/greenbuilding] [http://homes-across-america.org/] [http://www.usgbc.org/] provide a comprehensive overview of topics related to green buildings.
- *Building Site Location & Smart Growth* Web site [http://www.wbdg.org/design/site_potential.php] provides comprehensive guidance and recommendations for optimizing site potential.
- EPA's *Smart Growth* Web site [http://www.epa.gov/smartgrowth/] provides links and resources on development that serves the economy, the community, and the environment.
- *Leadership in Energy and Environmental Design (LEED) Green Building Rating System* [http://www.usgbc.org/DisplayPage.aspx?CMSPageID=221] provides information on renovating existing buildings in a manner that maximizes operational efficiency while minimizing environmental impacts.

- *LEED Information for Commercial Interiors* [http://www.usgbc.org/DisplayPage.aspx?CMSPageID=145] provides information about major interior renovations
- *Whole Business Design Guide* [http://www.wbdg.org/] is the gateway to up-to-date information on integrated whole building design techniques and technologies.
- *Guide to Designing for Deconstruction and Material Reuse* [http://www.epa.gov/epaoswer/non-hw/debris-new/reuse.htm] associated with the selective disassembly of buildings to reuse and recycle parts.
- *Federal Green Construction Guide for Specifiers* [http://www.wbdg.org/design/greenspec.php] is designed to help federal building project managers meet various green mandates as established by federal law and Executive Orders, as well as, EPA and DOE program recommendations.
- *Green Indoor Environments Program* [http://www.epa.gov/iaq/greenbuilding/] provides information on building greener, which includes using healthier, less polluting and more resource-efficient practices
- *Comprehensive Guide to the Energy Star Program* [http://www.energystar.gov/] offers information to help businesses and individuals protect the environment through superior energy efficiency, including savings associated with heating and cooling systems, lighting, and appliances.
- *EPA's Water Efficiency Program* [http://www.epa.gov/owm/water-efficiency/] offers information on helping to reduce the need for costly water supply and wastewater treatment facilities through water efficiency practices and products.
- *Non-Point Source Pollution Reduction Resources*, [http://www.epa.gov/owow/nps/urban.html] offers resources including information on low-impact development utilizing/retaining stormwater on-site, green roofs, rain gardens.
- *Collecting Rainwater* [http://www.cwp.org/Community_Watersheds/brochure.pdf] provides how-to-guides on constructing and installing a rain barrel and rain garden.
- *Overview of Environmentally Beneficial and Water Efficient Landscaping* [http://www.epa.gov/greenscapes/] provides resources related to cost efficient and environmentally friendly landscaping.
- *Comprehensive Guide to the Green Power Partnership* [http://www.epa.gov/greenpower/] by offers information everything needed to know about green power and how to purchase it.
- *DOE's Gateway to Energy Efficiency and Renewable Energy Resources* [http://www.eere.energy.gov/] provides U.S. Department of Energy links to resources related to renewable energy.

HEALTH CARE AND HOSPITALS

- *Hospitals for a Healthy Environment* [http://www.h2e-online.org/] is designed to help healthcare facilities enhance work place safety, reduce waste and waste disposal costs and become better environmental stewards and neighbors.
- *Healthcare Guide to Pollution Prevention Implementation through Environmental Management Systems* [http://www.epa.gov/region02/healthcare/] is a comprehensive resource for understanding the components of an EMS and for developing an EMS specific to a healthcare facility.
- *Sustainable Hospitals Project* [http://www.sustainablehospitals.org/cgi-bin/DB_Index.cgi] supports the healthcare industry with select products and work practices that reduce occupational and environmental hazards.
- *EPA's Profile of the Healthcare Industry* [http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/health.html] and the *Healthcare Environmental Resource Center (HERC)* [http://www.hercenter.org/] provide detailed compliance and pollution prevention information on the healthcare sector. The Healthcare Profile [http://www.hercenter.org/links/] is a good resource for industry, government and the public.
- *EPA's CA COMPASS* [http://www.epa.gov/compliance/resources/newsletters/assistance/cacompass2-2006.pdf] is a newsletter on compliance assistance issues. Spring, 2006 issue focuses on the healthcare sector.

NATIONAL ENVIRONMENTAL POLICY ACT

- EPA's *Office of Federal Activities* Web site [http://www.epa.gov/compliance/nepa/index.html] provides information on the NEPA compliance program.
- The White House *Council on Environmental Quality's NEPAnet Tribal Information* [http://ceq.eh.doe.gov/nepa/tribes.htm] provides information on CEQ Guidance and Executive Orders Related to Native Americans.
- *NEPA and TEPA handbook.* Visit the Web site [http://www.tulalip.nsn.us/index.html] for more information.
- *Tribal Environmental Review Clinic* [http://www.tulalip.nsn.us/TERC%20Web%20Pages_files/TERC%20Web%] provides general information about a project of the Tulalip Tribes. The TERC is being developed to help protect tribal natural and cultural resources through informed and leveraged participation in the National Environmental Policy Act (NEPA), and to assist tribes in the development of internal environmental review practices (*i.e.*, TEPA-based policies) that meet their organizational and cultural needs.

SELECTED ENFORCEMENT GUIDANCE RELATED TO INDIAN COUNTRY

- *Protecting Public Health and the Environment Through Enforcement and Compliance Assurance in Indian Country, A Strategy for Results* (March 2004) is provided on the Compliance and Enforcement through Tribal Resources Web site [http://www.epa.gov/compliance/tribal/strategy.html].
- Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 2000) is provided on the Federal Register Environmental Documents Web site [http://www.epa.gov/fedrgstr/eo/eo13175.htm].
- EPA *Policy for the Administration of Environmental Programs on Indian Reservations* (November 8, 1984) Web site [http://www.epa.gov/superfund/tools/topics/relocation/policy.htm] provides information about and the text of the policy.
- *Guidance on the Enforcement Principles Outlines in the 1984 Indian Policy* (January, 17, 2001), the EPA's Tribal Compliance and Enforcement Web site [http://www.epa.gov/compliance/tribal/] provides links related to the guidance for the 1984 Indian Policy.
- EPA *Region 4 Policy and Practices for Environmental Protection in Indian Country* (November, 2001) [http://www.epa.gov/Region4/indian/r4_policy.html] provides guidance and information for employees of Region 4 working with federally recognized tribes.
- EPA *Region 5 Direct Implementation Strategy for Indian Country for Fiscal Year 2005,* the Region 5 Indian Environmental Office Web site [http://www.epa.gov/Region5/tribes/] provides links to the 2005 and 2006 versions of the document.
- EPA *Region 8 Guidance for Compliance Monitoring, Compliance Assistance and Enforcement Procedures in Indian Country* (January 10, 2001) [http://www.epa.gov/region8/tribes/r8enf.html] sets the procedures for compliance assistance and enforcement procedures in Region 8 Indian country.

FEDERAL EXECUTIVE BRANCH RESOURCES

DEPARTMENT OF AGRICULTURE

- *Guide to USDA Programs for American Indians and Alaska Natives* [http://www.usda.gov/news/pubs/indians/open.htm] provides links to the document as well as information about accessing the document in other media.
- *Forest Service National Resource Guide to American Indian and Alaska Native Relations* [http://www.fs.fed.us/people/tribal/] provides links to the document in pdf format.

DEPARTMENT OF COMMERCE

- *U.S. Census Bureau's American Indian and Alaska Native Data and Links* [http://factfinder.census.gov/home/aian/index.html] provides Census data and other information links concerning American Indians and Alaska Natives.

DEPARTMENT OF DEFENSE

- *Office of the Deputy Under Secretary of Defense For Installations and Environment* developed the *Native American Environmental Tracking System* [https://www.denix.osd.mil/denix/Public/Native/native.html] to track information regarding environmental impacts on tribal lands.

DEPARTMENT OF ENERGY

- *Office of Intergovernmental and Public Accountability* [http://web.em.doe.gov/public/index.html] promotes active public involvement in the Environmental Management planning and decision-making processes. The mission of our office is to provide State, Tribal, and local governments and other interested stakeholders with opportunities for meaningful involvement managing the cleanup and closure of the Nation's former nuclear weapons complex.
- *The Native American Treaties and Agreements* [http://www.ci.doe.gov/indianbk.pdf] are a collection of Executive Orders, Treaties, Proclamations, and Memorandums concerning United States policy on Native American affairs.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

- *Indian Health Services'* (IHS) [http://www.ihs.gov/] mission is to raise the physical, mental, social, and spiritual health of American Indians and Alaska Natives to the highest level.
- *The National Library of Medicine's American Indian Health* Web site [http://americanindianhealth.nlm.nih.gov/] is designed to bring together health and medical resources pertinent to the American Indian population, including policies, consumer health information, and research.
- *Department of Health and Human Services – Consultation with American Indian/Alaska Native Tribes and Indian Organizations* [http://www.ihs.gov/AdminMngrResources/Regulations/deptpolicy.asp] provides information about .
- *Agency for Toxic Substances and Disease Registry's Office of Tribal Affairs* [http://www.atsdr.cdc.gov/tribal/] assists tribal governments with environmental health issues.
- *The Administration for Native Americans* [http://www.acf.hhs.gov/programs/ana/] serves all Native Americans, including 562 federally recognized tribes, American Indian and Alaska

Native organizations, Native Hawaiian organizations and Native populations throughout the Pacific basin (including American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands).

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

- *Housing and Urban Development, Office of Native American Programs* [http://www.hud.gov/offices/pih/ih/codetalk/onap/] provides information about safe, decent and affordable housing as well as economic opportunities, assistance and development information.
- *Code Talk* is a federal inter-agency Native American Web site [http://www.hud.gov/offices/pih/ih/codetalk/] that provides information for Native American communities. Code Talk is hosted by the U.S. Department of Housing and Urban Development, Office of Native American Programs.

DEPARTMENT OF THE INTERIOR

- *Bureau of Indian Affairs* [http://www.doi.gov/bureau-indian-affairs.html].
- *Bureau of Land Management* [http://www.blm.gov/nhp/index.htm] administers 262 million acres of America's public lands, located primarily in 12 Western States. The BLM sustains the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.
- *Tribal Preservation Program of the National Park Service* [http://www.cr.nps.gov/hps/tribal/] assists Indian tribes in preserving their historic properties and cultural traditions. The Web site offers links to cultural resource and historic preservation material.
- *The National Native American Graves Protection and Repatriation Act* (NAGPRA) [http://www.cr.nps.gov/nagpra/] program assists the Secretary of the Interior with some of the Secretary's responsibilities under NAGPRA, and focuses on NAGPRA implementation outside of the National Park System. National NAGPRA is a program of the National Park Service's National Center for Cultural Resources.
- *Native American Library of the Department of the Interior* [http://library.doi.gov/internet/native.html - news] provides links to a number U.S. Government Web sites related to Native Americans.
- *Office of Native American Liaison at the U.S. Fish and Wildlife Service* [http://www.fws.gov/nativeamerican/] identifies areas where both Federal and tribal conservation efforts can most effectively conserve fish, wildlife, plants, and their habitats.
- *The Bureau of Reclamation's Native American Program* [http://www.usbr.gov/native/] serves as the central coordination point for the Native American Affairs Program and is Reclamation's policy lead for all Native American issues.

- *The U.S. Geological Survey's American Indian/Alaska Native Coordinating Team* [http://www.usgs.gov/indian/] establishes policy and to coordinates USGS activities.
- *U.S. Geological Survey's Indian Land Maps* [http://rockyweb.cr.usgs.gov/outreach/lewisclark/indianlandsmaps.html] include maps showing the results of cases before the U.S. Indian Claims Commission or U.S. Court of Claims in which an American Indian tribe proved it's original tribal occupancy of a tract within the continental United States and Indian lands of the United States.
- *American Indian Liaison Office at the National Park Service* [http://www.cr.nps.gov/ailo/ailohome.htm] seeks to improve relationships between American Indian Tribes, Alaska Natives, Native Hawaiians and the National Park Service through consultation, outreach, technical assistance, education, and advisory services.

DEPARTMENT OF JUSTICE

- *The Office of Tribal Justice* (OTJ) [http://www.usdoj.gov/otj/index.html] at the Department of Justice provides a single point of contact within the Justice Department for meeting the broad and complex federal responsibilities owed to Indian tribes. OTJ, in cooperation with the Bureau of Indian Affairs, serves to unify the federal response.

DEPARTMENT OF LABOR

- *Division of Indian and Native American Programs in the Employment & Training Administration* [http://www.doleta.gov/DINAP/] provides quality employment and training services to Native American communities that not only meet regulatory requirements, but also are administered in ways that are consistent with the traditional cultural values and beliefs of the people they are designed to serve.

DEPARTMENT OF TRANSPORTATION

- *DOT's Federal Highway Administration* [http://www.fhwa.dot.gov/hep/tribaltrans/index.htm] provides guidance and technical assistance to tribes about transportation concerns.

ENVIRONMENTAL PROTECTION AGENCY

- *American Indian Environmental Office* [http://www.epa.gov/indian/] coordinates the Agency-wide effort to strengthen public health and environmental protection in Indian Country, with a special emphasis on building Tribal capacity to administer their own environmental programs.

FEDERAL COMMUNICATIONS COMMISSION

- *Federal Communications Commission* [http://www.fcc.gov/indians/] is a resource for tribal governments, organizations and consumers in expanding telecommunication services in Indian country.

THE ADVISORY COUNCIL ON HISTORIC PRESERVATION

- *The Advisory Council on Historic Preservation* 's [http://www.achp.gov/] mission is to promote the preservation, enhancement, and productive use of our Nation's historic resources, and advise the President and Congress on national historic preservation policy. ACHP Web site offers information on their ACHP Native American Program and related Guidance for Federal Agencies and Tribal Historic Preservation Officers.

UNITED STATES CONGRESS RESOURCES

- *United States Senate, Committee on Indian Affairs* [http://indian.senate.gov/public/] has jurisdiction to study the unique problems of American Indian, Native Hawaiian, and Alaska Native peoples and to propose legislation to alleviate these difficulties. These issues include, but are not limited to, Indian education, economic development, land management, trust responsibilities, healthcare, and claims against the United States.
- *Office of Native American and Insular Affairs – Committee on Resources – United States House of Representatives* [http://resourcescommittee.house.gov/subcommittees/naia.htm] provides links to various government links related to Native American and Insular Affairs.
- *The Library of Congress' Guide to Law Online* [http://www.loc.gov/law/public/law-guide.html] is a selective, annotated compendium of Internet links and offers the full texts of laws, regulations, and court decisions, along with commentary from lawyers writing primarily for other lawyers. Materials related to law and government written by or for laypersons is also included, as is government sites providing general information.

TRIBAL CODES, TRIBAL ENVIRONMENTAL LAWS, AND FEDERAL INDIAN LAW

- *Native American Constitution and Law Digitization Project* [http://thorpe.ou.edu/] is a cooperative effort among the University of Oklahoma Law Center, the National Indian Law Library (NILL), and Native American tribes providing access to the Constitutions, Tribal Codes, and other legal documents.
- *Cornell Legal Information Institute's* Web site [http://www.law.cornell.edu/wex/index.php/Indian_law] contains a list of legislation that pertains to Indian Law, with links to the full text of the legislation.

- *University of North Dakota's Tribal Environmental Law Project* [http://www.law.und.edu/npilc/telp/index.php] focuses on environmental justice concerns in Indian Country.
- *Findlaw's Subject Guide to Indian Law* Web site [http://www.findlaw.com/01topics/21Indian/index.html] includes summaries of law, links to documents, briefs, articles and books, message boards, and firms online.
- *Tribal Environmental Law Virtual Library at Vermont Law School* [http://www.vermontlaw.edu/elc/index.cfm?doc_id=166] offers tribal codes, rules, and laws. Also included are "model" or "template" codes and analytical papers by scholars and practitioners.
- *Handbook of Federal Indian Law* by Felix S. Cohen [http://thorpe.ou.edu/cohen.html] provides links to the contents of the Handbook.
- *National Tribal Environmental Council* [http://www.ntec.org/] is a resource for all federally recognized tribes.
- *University of Colorado at Boulder's Native American Treaties and Information* Web site [http://ucblibraries.colorado.edu/govpubs/us/native.htm] provides links and citations to library resources.
- Tribal codes and constitutions provided by the tribes under the auspices of *the National Indian Law Library* and its partners - the National Tribal Justice Resource Center and the University of Oklahoma Law Library.
  - Constitutions – [http://www.narf.org/nill/triballaw/onlinedocs.htm#constitutions]
  - Codes – [http://www.narf.org/nill/triballaw/onlinedocs.htm#codes]
- *Tribal Court Clearinghouse* [http://www.tribal-institute.org/] is designed as a resource for tribal justice systems and others involved in the enhancement of justice in Indian country.
- *Tribal Ordinance/Code Development Resources of the Institute for Tribal Environmental Professionals at Northern Arizona University* [http://www4.nau.edu/eeop/tocd_resources.html] provides links to other Tribal Ordinance/Code Development Resources.
- *Building Support for the Development of the Hualapai Tribal Court* by Michael S. Goldstein. The Harvard Project on American Indian Economic Development [http://www.ksg.harvard.edu/hpaied/pubs/pub_061.htm] provides a link to the document.

LINKS TO TRIBAL GOVERNMENT WEB SITES

- *Tribal Directory* from The American Indian Heritage Foundation Web site [http://www.indians.org/Resource/FedTribes99/fedtribes99.html] provides additional information.
- *EPA Region 10's links to federally-recognized Indian tribes*. The Tribal Governments and Organizations' Web sites

[http://yosemite.epa.gov/r10/tribal.nsf/4b1d54516ad8884f8825682400645235/65102c0495a7764e8825696e007a7e9a?OpenDocument] provides more information.

OTHER ENVIRONMENTAL WEB SITES

- *NativeWeb* [http://www.nativeweb.org/info/] is an international, nonprofit, educational organization dedicated to using telecommunications to disseminate information from and about indigenous nations, peoples, and organizations around the world; to foster communication between native and non-native peoples; to conduct research involving indigenous peoples' usage of technology and the Internet; and to provide resources, mentoring, and services to facilitate indigenous peoples' use of this technology.
- *Native Americas Journal* is the award-winning publication of Akwe:kon Press of the American Indian Program at Cornell University. It features articles that cover the most important and critical issues of concern to Native American peoples throughout the Western Hemisphere.
- *WWW Virtual Library - American Indians* [http://www.hanksville.org/NAresources/] is an index of Native American Resources on the Internet.
- *Native Americans and the Environment* [http://www.cnie.org/NAE/] is a non profit seeking to educate the public on environmental problems in Native American communities; explore the values and historical experiences that Native Americans bring to bear on environmental issues; to promote conservation measures that respect Native American land and resource rights.

APPENDIX F. EPA FINANCIAL ASSISTANCE RESOURCES

This appendix provides information on EPA financial resources for tribes. This resource list is not exhaustive. References to the online Catalogue of Federal Domestic Assistance (CFDA) [http://12.46.245.173/cfda/cfda.html] are provided to facilitate access to a database of federal program financial assistance. For EPA-specific funding opportunities go to the Find Current Funding Opportunities Web site [http://www.epa.gov/ogd/grants/funding_opportunities.htm] or contact the people listed in Appendix B.

AIR RESOURCES

- Indoor Air Quality Grants Concerning EPA Surveys, Studies, Investigations, Demonstrations and Special Purpose Activities Relating to the Clean Air Act – Section 103 (CFDA: 66.034)

  Purpose: Support indoor environment demonstration projects, outreach and training, surveys, studies, investigations, demonstrations and special purpose assistance relating to the causes effect, extent, prevention, and control of air pollution.

  Contact: Regional Air Program Contacts.

- The Air Pollution Control Program Support Clean Air Act, Section 105 Air Program (CFDA: 66.001)

  Purpose: Assists in planning, developing, establishing, improving, and maintaining adequate programs for prevention and control of air pollution or implementation of national primary and secondary air quality standards.

  Contact: Regional Air Program Contacts or the Office of Air and Radiation

- Air Pollution Control Research Environmental Protection Consolidated Research (CFDA: 66.500)

  Purpose: Supports research to determine the environmental effects of air quality, drinking water, water quality, hazardous waste, toxic substances and pesticides; to identify, develop and demonstrate necessary and effective pollution control techniques and to explore and develop strategies and mechanisms for environmental management decisions.

  Contact: EPA Regional Office

- The Tribal Community: Reducing Toxic Air Pollutants Project

  Purpose: Provides funds for projects to conduct education, training, and outreach on the application of voluntary methods that reduce the risk of human exposure to air pollutants in tribal communities.

Contact: The Tribal Community: Reducing Toxic Air Pollutants Project document [http://www.epa.gov/air/grants/05-07.pdf] and the Grants and Funding Web site [http://www.epa.gov/air/grants_funding.html - indoor]

- Indoor Radon Grants (CFDA: 66.032)

  Purpose: Supports the development and implementation of radon programs and projects reducing radon risks.

  Contact: Regional Air Program Contacts or EPA Headquarters at (202) 564-9439.

MULTIMEDIA RESOURCES

- The Indian Environmental General Assistance Program (GAP) (CFDA: 66.926)

  Purpose: Provides grants to tribes and intertribal consortia to build capacity to administer environmental regulatory programs, funds development of multimedia programs to address environmental issues, including the planning, developing and establishing the administrative, technical, legal, enforcement, communications, and environmental education and outreach structure of these programs.

  Contact: EPA's American Indian Environmental Office (202) 564-0303, Regional Tribal Contacts, or the The Indian Environmental General Assistance Program (GAP) (CFDA: 66.926) Document [http://www.epa.gov/indian/pdfs/gap2000.pdf]

- Performance Partnership Grants (CFDA: 66.605)

  Purpose: Provide tribes and states with greater flexibility to address their highest environmental priorities, improve environmental performance, achieve administrative savings, and strengthen partnerships between EPA and the states or tribes. PPGs are an alternative assistance delivery mechanism and do not represent funding in addition to grants provided under individual authorities. Recipients can conduct activities in multiple areas and combine two or more of twenty different EPA grants, including GAP resources.

  Contact: The Performance Partnership Grants (CFDA: 66.605) Web site [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.605]

- Direct Implementation Tribal Cooperative Agreements (CFDA: 66.473)

  Purpose: Allow tribes and intertribal consortia to help EPA implement federal environmental programs in Indian country, notwithstanding the Federal Grant and Cooperative Agreement Act. 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.

Contact: Regional Indian Program Contacts and the Direct Implementation Tribal Cooperative Agreements (CFDA: 66.473) [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.473]

- Bio Watch Cooperative Agreements – CAA 103(b)(3) (CFDA: 66.500)

  Purpose: Supports research to determine the environmental effects of air quality, drinking water, water quality, hazardous waste, toxic substances and pesticides; identify, develop, and demonstrate necessary and effective pollution control techniques; and explore and develop strategies and mechanisms for those in the economic, social, governmental and environmental systems to use in environmental management decisions.

  Contact: The *EPA Needs to Fulfill Its Designated Responsibilities to Ensure Effective BioWatch Program* document [http://www.epa.gov/oig/reports/2005/20050323-2005-P-00012-Gcopy.pdf]

- The Five Star Restoration Matching Grants Program

  Purpose: Supports community-based wetland, riparian, and coastal habitat restoration projects that build diverse partnerships and foster local natural resource stewardship through education, outreach and training activities.

  Contact: The Five Star Restoration Matching Grants Program Web site [http://www.epa.gov/region4/oeapages/00press/000530.htm]

- Environmental Information Exchange Network Grant Program (CFDA: 66.608)

  Purpose: Facilitates electronic exchange of environmental, health, and geographic data to make it easier for EPA and its partners on the Exchange Network to obtain the timely and accurate information needed to make better decisions. In FY 2006, grant funds will be provided to develop information management technology capability and data exchange (including geospatial), analysis, and integration capabilities. The funding will also support mentoring, planning and training activities related to the Exchange Network.

  Contact: Environmental Information Exchange Network Grant Program [http://www.epa.gov/exchangenetwork/grants/]

- Community Action for a Renewed Environment (CFDA: 66.035)

  Purpose: Supports analyses, studies, evaluations, surveys, investigations, conferences, demonstrations and special purpose projects to reduce risks from exposures to toxic pollutants in the air, in the water, and on the land through collaborative action at the local level. Development a comprehensive understanding of all sources of risk from toxics and set priorities for effective action. Creation self-sustaining community-based partnerships that will continue to improve local environments.

Contact: Community Action for a Renewed Environment Program Document [http://www.epa.gov/air/grants/05-08.pdf]

- Environmental Policy and Innovation Grants (CFDA: 66.611)

  Purpose: Supports activities that reduce pollutants generated and increase conservation of natural resourcesmprove economic information and analytic methods to support projects on the benefits, costs and impacts of environmental programs and on incentive-based and voluntary environmental management strategies and mechanisms.

  Contact: The Environmental Policy and Innovation Grants Web site [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.611]

- The Environmental Justice Cooperative Agreements Program (CFDA: 66.306)

  Purpose: Provide financial assistance to eligible community-based organizations working on or planning to work on projects to address local environmental and/or public health concerns, using EPA's "environmental justice collaborative problem-solving model."

  Contact: The Collaborative Problem-Solving Cooperative Agreements Program Web site [http://www.epa.gov/compliance/environmentaljustice/grants/ej-cps-grants.html]

- The Office of Environmental Justice Small Grant Program (CFDA: 66.604)

  Purpose: Provides financial assistance to eligible community groups with projects that address environmental justice issues.

  Contact: The EJ Small Grants Program Web site [http://www.epa.gov/compliance/environmentaljustice/grants/ej-smgrants.html]

- The Guide to Federal Grant Resources for Community Organizations, Tribal Organizations, and Tribal Governments

  Purpose: Identifies 44 federal environmental protection grants. For each grant, it provides objectives, financial information, eligibility requirements, contact points, and more. Additional sections advise applicants on preparation of grant proposals, budgeting for projects, and completing standard forms.

  Contact: The Plains States Tribes' Guidebook of Agencies/Colleges Providing Assistance in Environmental and Water Resources Issues Web site [http://www.mnisose.org/guidebook/gbindex.htm]

- The EPA Grant Writing Tutorial

  Purpose: Contains interactive software that walks users through the grant-writing process and helps them learn to write more competitive grants. Program includes: detailed information and tips on writing a grant proposal, how to complete a grant application package, program-specific sections on three EPA grant programs environmental justice, environmental justice through pollution prevention, and environmental education.

Contact: The Grant Writing Tutorial Web site [http://www.purdue.edu/dp/envirosoft/grants/src/msieopen.htm]

EDUCATIONAL RESOURCES

- Environmental Education and Training Program & Partnership (CFDA: 66.950)

  Purpose: Trains educational professionals in the development and delivery of environmental education programs.

  Contact: The Educator Training Program (CFDA: 66.950) Web site [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.950] and the Educator Training Program Web site [http://www.epa.gov/enviroed/educate.html] or Kathleen MacKinnon at: mackinnon.kathleen@epa.gov

- The Environmental Education Grant Program (CFDA: 66.951)

  Purpose: Supports creation of environmental education programs that enhance critical thinking and problem solving skills. Supports projects to design, demonstrate, and disseminate information related to environmental education and teacher training.

  Contact: The Environmental Education Grant Program Web site [http://www.epa.gov/enviroed/grants.html]

- Children's Health Protection (CFDA: 66.609)

  Purpose: Supports efforts by government organizations and educational institutions to establish or enhance their ability to take actions that will reduce environmental risks to the health of children or elderly population.

  Contact: The Children's Health Protection Web site [http://yosemite.epa.gov/ochp/ochpweb.nsf/content/grants.htm]

RESEARCH & SCIENCE

- The Science To Achieve Results (STAR) Program (CFDA: 66.509)

  Purpose: Supports research on environmental and human health effects of air quality, drinking water, water quality, hazardous waste, toxic substances, and pesticides. Supports research to explore and develop strategies and mechanisms for those in the economic, social, governmental, and environmental systems to use in environmental management decisions.

  Contact: The Science To Achieve Results (STAR) Program Web site [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.509]

- Office of Research and Development Consolidated Research: Surveys, Studies, Investigations and Special Purpose Grants (CFDA: 66.511)

  Purpose: Supports surveys, studies and investigations and special purpose assistance to determine the environmental effects of air quality, drinking water, water quality, hazardous waste, toxic substances, and pesticides; and identify, develop, and demonstrate effective pollution control techniques; and perform risk assessments to characterize the potential adverse health effects of human exposures to environmental hazards.

  Contact: The National Center for Environmental Research (NCER) Web site [http://es.epa.gov/ncer/]

- Environmental Protection Consolidated Research (CAA 103, CWA 104, SWDA 8001, SDWA 1442, FIFRA, TSCA, CERCLA, MPRSA, NEPA) (CFDA: 66.510)

  Purpose: Supports research on environmental effects of air quality, drinking water, water quality, hazardous waste, toxic substances and pesticides; to identify, develop and demonstrate necessary and effective pollution control techniques; and to explore and develop strategies and mechanisms for those in the economic, social, governmental and environmental systems to use in environmental management decisions.

  Contact: The Survey, Studies, Investigations and Special Purpose Grants in the Office of Research and Development Web site [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.510]

- Surveys, Studies, Investigations and Special Purpose Grants (CFDA: 66.606)

  Purpose: Support surveys, studies, investigations, and special purpose assistance for the award of Congressional earmarks and multimedia grants only.

- Surveys, Studies, Investigations and Special Purpose Grants within the Office of the Administrator (CFDA: 66.610)

  Purpose: Support surveys, studies and investigations, and special purpose assistance associated with air quality, acid deposition, drinking water, water quality, hazardous waste, toxic substances, and pesticides.

  Contact: The Surveys, Studies, Investigations and Special Purpose Grants Web site [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.610] and the Small and Disadvantaged Business Utilization Web site [http://www.epa.gov/osdbu/]

- International Financial Assistance Projects (CFDA: 66.93)

  Purpose: Support assistance projects relating to the protection of the health and welfare of our citizens and of all people.

Contact: The International Financial Assistance Projects Web site [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.931] and the International Affairs Web site [http://www.epa.gov/oia/]

- Environmental Policy and State Innovation Grants (CFDA: 66.940)

  Purpose: Support analyses, studies, evaluations, and conferences that lead to reduced pollutants generated and conservation of natural resources. To promote comprehensive, cross-media approaches that encourage and promote stewardship programs that reflect "beyond compliance" behavior and offer incentives or rewards for superior environmental performance. To encourage and promote change that is systems-oriented and enables better results.

  Contact: The State Innovation Grants Web site [http://www.epa.gov/innovation/stategrants/]

PESTICIDE RESOURCES

- The National Agriculture Compliance Assistance Center [http://www.epa.gov/agriculture/] provides comprehensive information about financial resources. Created by EPA with the support of the Department of Agriculture.
- Tribal Grants for Surface and Groundwater Protection, Pesticide Management Planning

  Purpose: Provide technical assistance and cooperative agreements for enforcement certification and training and pesticide program initiatives in groundwater, endangered species, and worker protection programs.

  Contact: The Catalog of Federal Funding Sources for Watershed Protection Web site [http://cfpub.epa.gov/fedfund/program.cfm?prog_num=58]
- Tribal Pesticide Program Support

  Purpose: Helps to build comprehensive pesticide programs through purchasing inspection and laboratory supplies and equipment and reimbursing grant-related travel, per diem expenses, salaries, and administrative costs.

  Contact: The Tribal Pesticide Program Grants Web site [http://www.epa.gov/oppfead1/tribes/grants.htm]

LEAD RESOURCES

- The Lead Program, and organizations such as the National Lead Information Center (NLIC) [http://www.epa.gov/lead/pubs/leadpbed.htm - grants], ensure that individuals conducting lead-based paint activities in target housing and child-occupied facilities are properly trained and certified.

- The Occupational Health and Safety Organization's Web site [http://www.osha.gov/SLTC/lead/index.html] addresses regulatory issues associated with lead in the workplace.

WASTE RESOURCES

SOLID WASTE

- Grant Resources for Solid Waste Activities in Indian Country - August, 1998

  Purpose: Identifies financial assistance opportunities for solid waste management programs, including specific information explaining how to obtain tax-exempt status for organizations, locating other grant resources, and preparing successful grant proposals.

  Contact: The Grant Resources for Solid Waste Activities in Indian Country section of the Grants and Funding Web site [http://www.epa.gov/epaoswer/non-hw/tribal/finance.htm - epa_pubs]

- Preparing Successful Grant Proposals

  Purpose: Describes application procedures for solid waste management grants. Provides tips for preparation and writing of proposals, resources for identifying grantors, a check list for grant proposal writing, and a case study describing the Sitka Tribe of Alaska's successful grant proposal, Jobs Through Recycling. Document Number EPA530-F-97-051.

  Contact: The Preparing Successful Grant Proposals Web site [http://www.epa.gov/tribalmsw/pdftxt/metagran.txt]

- Interagency Project to Clean Up Open Dumps

  Purpose: Assists with the closure or upgrade of open dumpsites and completing and implementing comprehensive, integrated waste management plans.

  Contact: Regional solid waste Contacts or the Grants and Funding Web site [http://www.epa.gov/epaoswer/non-hw/tribal/finance.htm - fy2005]

- Solid Waste Resource Guide for Native Americans: Where to Find Funding and Technical Assistance, Spring 1994

  Purpose: Identifies potential sources of federal financial and technical assistance for safely managing solid waste, implementing the requirements of RCRA, and enhancing tribal capability.

  Contact: The Office of Solid Waste and Emergency Response, RCRA Information Center at (800) 424-9346 or rcra-docket@epamail.epa.gov

- The Rural Community Assistance Partnership (RCAP)

  Purpose: Provides technical, financial management, and managerial support and training to tribal and rural communities with populations under 10,000.

Contact: The RCAP Web site [http://www.rcap.org/swp.html]

HAZARDOUS WASTE

- The Hazardous Waste Grant Program

  Purpose: Encourages comprehensive integrated hazardous waste management practices by building tribal capacity for developing and implementing hazardous waste activities, developing tribal organizational infrastructure, achieving sustainable hazardous waste programs, and building partnerships among tribes, federal agencies, states and local communities.

  Contact: Regional hazardous waste tribal program contacts or the Hazardous Waste Grant Program section of the Grants and Funding Web site [http://www.epa.gov/tribalmsw/finance.htm - hazard]

POLLUTION PREVENTION

- Grants for Environmental Justice Through Pollution Prevention

  Purpose: Provide financial assistance to community groups and Tribal governments for projects that address environmental justice and use pollution prevention activities as the proposed solutions.

  Contact: EPA Regional Indian Contacts and the Grants and Fellowship Information Web site [http://www.epa.gov/ogd/grants/information.htm]

WATER RESOURCES

WATER QUALITY STANDARDS

- Water Quality Funding Opportunities

  Purpose: Provide financial assistance for the prevention, reduction and elimination of water pollution. Grants may fund a variety of projects for the protection of water quality, including developing water quality standards, conducting stream bioassessment surveys, gathering baseline water quality data, and developing a water classification system.

  Contact: The Funding for Tribal Water Quality Program Development Web site [http://epa.gov/waterscience/tribes/fund.htm]

WATER POLLUTION

- Clean Water Tribal Resource Directory for Wastewater Treatment Assistance

  Purpose: Assists in identifying sources of financial and technical assistance for Tribal wastewater treatment programs and infrastructure. Note: Currently being updated.

  Contact: The Clean Water Tribal Resource Directory for Wastewater Treatment Assistance Web site [http://www.epa.gov/OW-OWM.html/mab/indian/cwtrd.htm]

- Water Pollution Control Program Grants - CWA Section 106

  Purpose: Assists tribes in carrying out effective water pollution control programs by funding a wide range of water quality activities including: water quality planning and assessments; development of water quality standards; ambient monitoring; development of total maximum daily loads; issuing permits; groundwater and wetland protection; nonpoint source control activities (including nonpoint source assessment and management plans).

  Contact: The Clean Water Act Section 106 Tribal Pollution Grant Control Program Web site [http://www.epa.gov/owm/mab/indian/cwa106.htm]

- The Clean Water Act Indian Set-Aside Program

  Purpose: Provides grants for planning, designing, and constructioning wastewater treatment systems. Funds originate from a 1.5 percent set-aside from the Clean Water State Revolving Fund (CWSRF), and are allocated among the EPA regions based on proportionate share of total wastewater facility need as determined by the U.S. Indian Health Service (IHS) using their Sanitation Deficiency System (SDS). EPA regional coordinators then develop agreements with IHS and tribes to commit funds to specific projects. Eligible projects include interceptor sewers, wastewater treatment facilities, infiltration/inflow correction, collector sewers, major sewer system rehabilitation, and correction of combined sewer overflows.

  Contact: The Clean Water Indian Set-Aside Grant Program Web site [http://www.epa.gov/owm/mab/indian/cwisa.htm]

WATERSHED PROGRAMS

- The Alaskan Native Village and Rural Communities Sanitation Grant Program

  Purpose: Assists Alaskan Native Villages and Alaska rural communities with the construction of new or improved drinking water and wastewater sanitation systems. Grants are awarded by EPA to the State of Alaska, who administers the funds through the Village Safe Water Program [http://www.dec.state.ak.us/water/vsw/]. A portion of EPA's funding is also used to provide training and technical assistance in the operations and maintenance of treatment systems.

Contact: The Alaskan Native Village and Rural Communities Sanitation Grant Program Web site [http://www.epa.gov/owm/mab/indian/anvrs.htm]

- Nonpoint Source Implementation Grants - CWA Section 319

  Purpose: Implement nonpoint source projects and programs to address nonpoint source pollution, including runoff from urban areas, farms, feedlots, abandoned mines, and forest operations. Fund activities including information and education, demonstration projects, and implementation of Best Management Practices for controlling nonpoint sources of pollution. Eligibility depends on tribe having "treatment-as-a-State" status and an EPA-approved nonpoint source assessment and nonpoint source management plan.

  Contact: The Funding Opportunities Web site [http://www.epa.gov/owow/nps/funding.html]

- Catalog of Watershed Assistance Grants

  Purpose: Highlights federal grants and loans to support watershed projects and provides references to other publications and Internet sites that provide information about funding and technical assistance.

  Contact: The Catalog of Watershed Assistance Grants Web site [http://www.epa.gov/owow/watershed/wag/].

- Water Quality Cooperative Agreements/Grants - CWA Section 104(b)(3)

  Purpose: Support developing, implementing, and demonstrating innovative approaches relating to the causes, effects, extent, prevention, reduction and elimination of pollution related to watershed approaches for combined sewer overflow, sanitary sewer overflows, and storm water discharge problems, pretreatment and sludge (biosolids) program activities, decentralized systems, and alternative ways to measure the effectiveness of point source programs.

  Contact: The Water Quality Cooperative Agreements/Grants - CWA Section 104(b)(3) Web site [http://www.epa.gov/OW-OWM.html/mab/indian/sec104.htm]

WETLANDS

- Wetlands Program Development Grants

  Purpose: Conduct projects that promote the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution.

  Contact: The Wetlands Program Development Grants Web site [http://www.epa.gov/owow/wetlands/grantguidelines/].

- The North American Wetlands Conservation Act Grants Program

Purpose: Develops partnerships focusing on protecting, restoring, and/or enhancing critical habitat. Project must support long-term wetlands acquisition, restoration, and/or enhancement.

Contact: U.S. Fish and Wildlife Service, Department of the Interior. David Buie at david_buie@fws.gov, (301) 497-5870 or Keith Morehouse at keith_morehouse@fws.gov, (703) 358-1888, or the USFWS Grants at a Glance Web site [http://www.fws.gov/grants/]

- The State/Tribal Environmental Outcome Wetland Demonstration Program Grant Pilot

Purpose: Demonstrates the extent to which wetland program implementation achieves positive environmental outcomes - in particular, no net loss, net gain and protection of vulnerable wetlands. Section 104(b)(3) of the Clean Water Act.

Contact: The State/Tribal Environmental Outcome Wetland Web site [http://www.epa.gov/owow/wetlands/grantpilot/index.html]

- Water Resources on Indian Lands (CFDA: 15.037)

Purpose: Funds specific water resource projects, as well as to support the collection and analysis of baseline data and to facilitate litigation and negotiation activities, including analysis of water, assessment of water quality, ecosystem development, and classification of aquifers.

Contact: U.S. Department of the Interior, Bureau of Indian Affairs, Division of Water and Land Resources, Branch of Agriculture, (202) 208-6042

UNDERGROUND INJECTION CONTROL PROGRAM

- Tribal Underground Injection Control Grants Program

Purpose: Supports Tribal UIC programs to protect drinking water sources. Theses funds should be used for Class V implementation, including Class V inventories, or UIC Primacy grants when necessary, unless a clear rationale exists to apply it to other classes.

Contact: UIC Tribal Grant Program Web site [http://www.epa.gov/safewater/uic/tribal.html].

WATER EMERGENCIES

- The Hazard Mitigation Grant Program

Purpose: Helps implement long-term hazard mitigation measures after a major disaster has been declared.

Contact: (202) 646-4621 or the FEMA Mitigation Division Web site [http://www.fema.gov/about/divisions/mitigation/mitigation.shtm]

- The Abandoned Mine Land Reclamation Grant Program

Purpose: Supports administrative costs, construction work to reclaim abandoned mine sites, emergency program administration and project construction costs, acid mine drainage, establish a self-sustaining program to provide insurance against coal-mining-related subsidence, and clean streams activities.

Contact: Indian Regulatory Program Web site [http://www.osmre.gov/grantsprograms.htm].

DRINKING WATER

- Drinking Water State Revolving Fund (DWSRF) Tribal Set-Aside Program (formerly SDWA Section 1452(I) Drinking Water Infrastructure Grants - Tribal Set-Aside Program)

  Purpose: EPA sets aside 1.5 percent of the total Drinking Water State Revolving Fund allocation for infrastructure improvements to public drinking water systems that serve tribes. The funds are allotted among the EPA regional offices. The regional offices then identify potential projects and make awards based on a priority setting process that each region has developed for its own program. Projects must address an existing drinking water quality problem and identify how the proposed project will improve the quality of drinking water to comply with Safe Drinking Water Act primary or secondary standards.

  Contact: DWSRF Web site [http://www.epa.gov/safewater/dwsrf/allotments/tribes/index.html].

ENFORCEMENT AND COMPLIANCE ASSURANCE PROGRAM

- Toxic Substances Control Act (TSCA) State and Tribal Assistance Grants (CFDA: 66.707)

  Purpose: Help establish and operate compliance-monitoring programs to conduct inspections for compliance with polychlorinated biphenyl (PCB) regulations, asbestos-in-schools requirements, and lead-based paint regulations.

  Contact: TSCA Web site [http://www.epa.gov/compliance/state/grants/tsca.html].

- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) State and Tribal Assistance Grants (CFDA: 66.700)

  Purpose: Assist in developing and maintaining comprehensive pesticide programs that address all aspects of pesticide enforcement, and special pesticide initiatives; sponsor cooperative surveillance, monitoring and analytical procedures; and encourage regulatory activities.

  Contact: FIFRA Web site [http://www.epa.gov/compliance/state/grants/fifra.html]

- Multi-media State and Tribal Assistance Grants (STAG), (CFDA: 66.709)

  Purpose: Build and improve capacity by providing assistance agreements to foster environmental enforcement and compliance assurance activities and to improve compliance with environmental laws. Such capacity building efforts may include economic, social

science, statistical research, development, studies, surveys, demonstrations, investigations, public education, training, and fellowships.

Contact: Multi-media STAG Web site [http://www.epa.gov/compliance/state/grants/stag/index.html].

- The Compliance Assistance Support for the Regulated Community (CFDA: 66.305)

  Purpose: Provides financial assistance to private nonprofit institutions, universities, and public agencies to improve environmental compliance and to create compliance assistance tools utilizing industry and commercial communication channels.

  Contact: Compliance Assistance Support [http://12.46.245.173/pls/portal30/CATALOG.PROGRAM_TEXT_RPT.SHOW?p_arg_names=prog_nbr&p_arg_values=66.305] and the Compliance Assistance Centers [http://www.assistancecenters.net/].

- Capacity Building Grants and Cooperative Agreements for Compliance Assurance and Enforcement Activities in Indian Country and Other Tribal Areas (CFDA: 66.310)

  Purpose: Build and improve the capacity of tribes, inter-tribal consortia, or tribal organizations by providing financial resources to foster environmental enforcement and compliance assurance activities and to improve compliance with environmental laws.

  Contact: Office of Enforcement and Compliance Assurance at (202) 564-2516.

APPENDIX G. ECONOMIC BENEFITS OF BUILDING GREEN

This appendix provides information on the economic benefits of building green. EPA's Green Building program [http://www.epa.gov/opptintr/greenbuilding/index.htm] and the Department of Energy's Energy Efficiency Portal [http://www.eere.energy.gov/] are two examples.

- *Buildings and Life-Cycle Costing* [http://irc.nrc-cnrc.gc.ca/cbd/cbd212e.html] provides information on the economic evaluation of these costs to give those involved in the design and ownership of a building some basis for selecting the best investment in buildings or building systems.

- *Costing Green: A Comprehensive Cost Database and Budgeting Methodology* [http://davislangdon-usa.com/Attachment Files/Research/costinggreen.pdf] is a paper that provides an economic evaluation of the costs to give those involved in the design and ownership of a building some basis for selecting the best investment in buildings or building systems. (July 2004)

- *Economic Benefits of Green Building Design* [http://www.ciwmb.ca.gov/greenbuilding/design/EcoBenefits.ppt] is a presentation for government decisionmakers.

- *Actual Costs-Is Building Green too Expensive?* [http://www.housingzone.com/topics/nahb/green/nhb00ca029.asp] is an excerpt from the book Building Green in a Black and White World.

- *General Services Agency LEED Cost Study* [http://www.wbdg.org/ccb/GSAMAN/gsaleed.pdf] provides comprehensive analysis the costs to develop "green" federal facilities using the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Building Rating System, Version 2.1. (October 2004)

- *Managing the Cost of Green Buildings* [http://www.ciwmb.ca.gov/greenbuilding/design/ManagingCost.pdf] provides general cost-saving strategies for green building, and by exploring the cost issues associated with four specific building types in the context of the green building rating systems. (October 2003)

- *What Every State Executive Should Know About Sustainable Buildings* [http://www.ciwmb.ca.gov/greenbuilding/design/Managers.ppt] information from California on what are sustainable buildings, how sustainable buildings create a healthier workplace, and the executive's role in promoting sustainable building practices.

- *New Air Quality Standards Report Knocks Down Economic Stumbling Blocks to Green Building* [http://aqs.com/DesktopDefault.aspx] provides evidence that building green is not cost prohibitive.

- *Life-Cycle Cost Programs for the Federal Energy Management Program* [http://www1.eere.energy.gov/femp/information/download_blcc.html] is a program developed by the U.S. National Institute of Standards and Technology to provide computational support for the analysis of capital investments in buildings.

- *U.S. EPA's Energy Star Building Manual: Financing* [http://www.resourcesaver.org/file/toolmanager/O16F21669.pdf] provides information on how energy performance projects may be different from many other business investments and how to finance energy efficient purchases.

- *Energy-10: Tool to Identify Cost-effective, Energy Saving Measures* [http://www.nrel.gov/buildings/energy10.html] is a PC-based design tool for architects and building designers of small commercial and residential buildings.

- *RETScreen Renewable Energy Project Analysis Software* [http://www.retscreen.net/ang/home.php] offers information to build the capacity of planners, decision-makers and industry to implement renewable energy and energy efficiency projects.

- *CFL Economics: Lifetime Economics of Compact Fluorescent Lamps and Incandescent Lamps* [http://www.susdesign.com/cfl/] enables users to determine, among other things, at what point in time the lower operating cost of a more efficient lamp offsets its typically higher purchase price.

APPENDIX H. POLLUTION PREVENTION SUCCESS STORIES

This appendix provides examples of successful pollution prevention projects implemented by tribes. While not an exhaustive list, these success stories provide a survey of the range of activities into which pollution prevention can be incorporated and demonstrate the multiple benefits – resource conservation, regulatory compliance, cost savings – of incorporating pollution prevention into all operations. Tribes can find additional pollution prevention examples, information resources, and share their own success stories at the Tribal Pollution Prevention Web site [http://www.tribalp2.org/]. Tribes and others can also join the Tribal P2 Workgroup [http://www.tribalp2.org/subscribe.php].

Green Building: Baca/Dlo'ay azhi Community School

The Leadership in Energy and Environmental Design Certified Baca Dlo'ay azhi Community School [http://leedcasestudies.usgbc.org/overview.cfm?ProjectID=387], on the Navajo Nation reservation in Prewitt, New Mexico, serves students in kindergarten through grade six. The 78,900 ft^2 building incorporates Native American cultural concepts, including an orientation that reflects the meanings associated with the four cardinal directions. The school employs daylighting, low-emissivity windows, shading, an efficient mechanical system, and a sophisticated energy-management system; energy use at the school is expected to be 20% below that of a minimally code-compliant facility. The school is also expected to use 30% less water than a conventional facility. Materials were selected for their recycled content and proximity to the building site. Daylighting, air filtration, a track-off entryway system, and a green housekeeping plan contribute to a healthy indoor environment.

Green Building: Hopi Nation Straw Bale Home

Red Feather Development Group is a nonprofit whose mission is to educate and empower American Indian nations to create sustainable solutions to the severe housing crisis in reservation communities. They teach affordable, replicable and sustainable approaches to home construction. As part of Red Feather's Elder Housing Initiative, a strawbale home was recently completed on the Hopi Reservation [http://homes-across-america.org/search/details.cfm?who=161&Feature=all&action=showDetails&Query=byState]. It was built as a replicable model to introduce straw bale homes as a viable solution and provide housing for one family and a learning tool for others. Straw bale construction, especially when built with a frost-protected shallow foundation, provides an affordable and energy-efficient

house. The home was constructed with community involvement, transferring straw bale construction skills to tribal members. This home also demonstrates efficient layout in a small footprint, the use of low-impact products (on both health and environment), and barrier-free design.

Sustainable Forestry: Tribes Supply Green Building Market with Certified Lumber

The First Nations Development Institute reported (2002) that tribes have gained increased control over their forests in recent years, and tribal foresters are seeking exposure for their sustainable forestry practices, which are part of their traditional way of life. One vehicle for exposure is the Forest Stewardship Council (FSC) [http://fscus.org/], which provides third-party certification for environmentally sound forestry operations.

Tribes completing certification assessments include: The Confederated Tribes of the Warm Springs in Oregon, the Nez Perce Tribe in Idaho, the Confederated Salish and Kootneai Tribe in Montana, the White Mountain Apache Tribe in Arizona, the Mescalero Apache Tribe in New Mexico, the Spokane Tribe of Washington, the Red Lake Band of Chippewa Indians in Minnesota and the Ft. Bidwell Indian Community in California. Several of these have obtained full FSC certification, while twenty-seven more tribes have gone through scoping assessments.

Renewable Energy: Wind Powering Native America

The *Wind Powering Native America* On-line video [http://www.eere.energy.gov/windandhydro/windpoweringamerica/filter_detail.asp?itemid=749] documents the installation of the first Native American-owned, large, utility-scale wind turbine in Indian country, Rosebud Sioux Reservation in South Dakota. A printable video transcript is also available. Year Published: 2005

Pollution Prevention Programs: Mohegan Sun Resort

The Mohegan Tribe was honored with a 2004 National Pollution Prevention Roundtable MVP2 Award for their Environmental Protection Department's outstanding P2 program. They have done work implementing fuel cell technology, photovoltaics, heat pumps, and in recycling food and other materials. The Mohegan Sun Resort [http://www.mohegansun.com/www.p2pays.org/ref/37/36109.pdf] installed infrared sensors in hotel rooms

for heating and lighting, and established a rainforest in Costa Rica to sequester carbon produced by the casino. Mohegan Sun, the third largest casino in the United States, is also a member of the Mohegan Nation, a leader in "Green Purchasing" that requires every employee take a course on P2. More information about their efforts are available on their Web site:

Solid Waste Management: Tribal Composting Nourishes Land and Tradition

This issue of EPA's *Tribal Waste Journal* [http://www.epa.gov/epaoswer/non-hw/tribal/resource.htm - twj] focuses on a variety of innovative composting approaches, including: backyard, fish and wood waste, food waste and biosolids, vermicomposting in schools, green waste composting in an arid climate, mixed solid waste composting in Alaska, and cultural gardens and green roofs. It features the stories and experiences of the Blackfeet Tribe of Montana, Eastern Band of Cherokee Indians, Fond du Lac Reservation, Haines Sanitation, Inc., Ho-Chunk Nation, Kake Tribal Corporation, Mashantucket Pequot Tribe, Oneida Tribe of Wisconsin, Redwood Valley Rancheria, and Slat River Pima Maricopa Indian Community in Arizona. It also contains an extensive list of resources and a Kids Page. Published annually, the Journal is available on the Web or free printed copies are available from the National Service Center for Environmental Publications at (800) 490-9198; e-mail: ncepimal@one.net. Document Number: (EPA530-N-05-001).

Additional Tribal Pollution Prevention Case Studies

Waste Management in Indian Country

EPA's *Tribal Solid Waste Management Program* encourages municipal solid waste and hazardous waste management practices in Indian country that protect human health and the environment. The experience of other tribes, villages, and tribal consortia that have successful programs already in place or on the way is a valuable resource for tribes and Alaska native villages developing solid waste management programs. The Tribal Solid Waste Management Program Web site [http://www.epa.gov/tribalmsw/] offers studies of tribal waste management programs in the "where you live" section.

Mohegan Tribe (EPA Region 1)

The Mohegan Tribe has undertaken a major effort to reduce waste. The result is that the Tribe has reduced 44 percent of its solid waste stream by source reduction, green purchasing, education, and contractor certification.

Assiniboine and Sioux Nations, Fort Peck Reservation (EPA Region 8)

The Fort Peck tribes offer a combination of affordable curbside collection service and permanent waste drop-off sites to facilitate proper solid waste disposal. The tribes established a Public Works Committee Board to speed up the solid waste management decision-making process.

Eastern Band of Cherokee Indians (EPA Region 4)

When the federal RCRA Subtitle D landfill regulations went into effect, tribe closed its landfill and constructed a transfer station that can accept 300 tons of waste per day. The transfer station is successful because the tribe sized it properly, sited it carefully, and provided employees with extensive training.

Confederated Tribes of the Umatilla Indian Reservation (EPA Region 10)

It took the Confederated Tribes of the Umatilla Indian Reservation 10 years to plan and build a transfer station, but their persistence paid off. The northeastern Oregon reservation now has a successful waste management system in place that is proving well worth the wait.

Jicarilla Apache Nation (EPA Region 6)

The tribe used information collected from site visits and a feasibility study to select the perfect transfer station design. The completed transfer station is a split-level, enclosed facility that handles 12 to 16 tons of waste per day.

Oglala Sioux Tribe (EPA Region 8)

The tribe constructed a balefill that meets the federal landfill requirements. The tribe obtained funding from EPA, the Indian Health Service (IHS), and the U.S. Department of Agriculture to complete the project. The first cell of the balefill can handle waste from the reservation for 25 years.

Onondaga Nation (EPA Region 2)

The nation funded and constructed a small transfer station without help from the IHS or any other federal agencies. The nation worked directly with private waste haulers to design and complete its transfer station, which consists of a concrete surface with two roll-off bins inside of a gated chainlink fence.

St. Regis Mohawk Reservation (EPA Region 2)

After conducting a waste audit, completing a feasibility study, and examining different transfer station designs, the tribe chose to install two 53 cubic yard, self-contained waste storage units. The tribe's transfer station facility will also include a gated entrance, an unpaved road, a vehicle scale, a drop-off area for recyclables, and an operations building.

Tule River Indian Tribe (EPA Region 9)

After closing five open dumps, the tribe implemented a solid waste management plan to provide waste disposal alternatives. The tribe worked with the Indian Health Service to site, design, and construct a transfer station.

Interagency Open Dump Cleanup Project

A multi-agency funding commitment to help tribes throughout Indian Country close open dumps, clean up waste on tribal land, and develop safe solid waste management practices. The Open Dump Cleanup Project document [http://www.epa.gov/tribalmsw/pdftxt/opendump.pdf] provides more information. Cooperating agencies include: Environmental Protection Agency, Bureau of Indian Affairs, Indian Health Service, USDA's Rural Utilities Service, Department of Defense, and Housing and Urban Development.

Pueblo of Taos

The Pueblo used federal grants to close its 5.4-acre open dump, identified by IHS as a high-threat site. The grant funding enabled the Pueblo to cap its open dump, provide post-closure maintenance and monitoring, establish a transfer station and curbside collection service, and provide community outreach. The tribe implemented a solid waste management plan in conjunction with the open dump closure activities in order to prevent the degradation of wetlands and to protect the Pueblos' bison herd. To assess the effects of a transfer station or curbside collection service, the tribe is monitoring illegal dumping activity. The tribe worked as a team,

with several federal agencies and a consortium of 19 federally recognized tribes, to successfully close the 5.4-acre dump. By working together to close the open dump and develop alternative solid waste management options, the team helped protect the health of the community and prevent environmental damage to wetlands, the aquifer, and the Pueblos' bison herd.

White Earth Band of Chippewa Indians

The White Earth Band of Chippewa Indians used a Tribal Open Dump Cleanup Project grant to clean up the Cherry Lake Road dumpsite on its reservation. This highly visible and well-known illegal dumpsite spanned a 4.5-mile stretch of Cherry Lake Road. All types of waste were removed from the site, ranging from common household trash to large items such as furniture, appliances, and tires. The council also used the grant funds to improve service at its five solid waste satellite transfer stations. In the past, many residents felt the user fees were too high and the stations were not staffed reliably. With the grant money, the tribal council evaluated the fee schedule for the stations and established prices more conducive to residents. Since the cleanups and the improvements to the transfer station, most of the illegal dumpsites have remained clean, and residents are much more aware of the illegal dumping problem.

APPENDIX I. AVAILABLE SECTOR NOTEBOOKS

Direct questions and comments on the sector notebooks to the Compliance Assistance and Sector Programs Division at (202) 564-2310 unless otherwise noted below. See the Notebook Web page [http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/] for the most recent titles and links to refreshed data.

EPA Publication Number	Government Series
EPA/310-R-05-001.	Profile of Tribal Government Operations
EPA/300-B-96-003.	Profile of Federal Facilities
EPA/310-R-99-001.	Profile of Local Government Operations
	Industry Series
EPA/310-R-95-001.	Profile of the Dry Cleaning Industry
EPA/310-R-95-002.	Profile of the Electronics and Computer Industry*
EPA/310-R-95-003.	Profile of the Wood Furniture and Fixtures Industry
EPA/310-R-95-004.	Profile of the Inorganic Chemical Industry*
EPA/310-R-95-005.	Profile of the Iron and Steel Industry
EPA/310-R-95-006.	Profile of the Lumber and Wood Products Industry
EPA/310-R-95-007.	Profile of the Fabricated Metal Products Industry*
EPA/310-R-95-008.	Profile of the Metal Mining Industry
EPA/310-R-95-009.	Profile of the Motor Vehicle Assembly Industry
EPA/310-R-95-010.	Profile of the Nonferrous Metals Industry
EPA/310-R-95-011.	Profile of the Non-Fuel, Non-Metal Mining Industry
EPA/310-R-02-001.	Profile of the Organic Chemical Industry, 2nd Edition*
EPA/310-R-95-013.	Profile of the Petroleum Refining Industry
EPA/310-R-95-014.	Profile of the Printing Industry
EPA/310-R-02-002.	Profile of the Pulp and Paper Industry, 2nd Edition
EPA/310-R-95-017.	Profile of the Stone, Clay, Glass, and Concrete Industry
EPA/310-R-95-018.	Profile of the Transportation Equipment Cleaning Industry
EPA/310-R-97-001.	Profile of the Air Transportation Industry
EPA/310-R-97-002.	Profile of the Ground Transportation Industry
EPA/310-R-97-003.	Profile of the Water Transportation Industry
EPA/310-R-97-004.	Profile of the Metal Casting Industry
EPA/310-R-97-005.	Profile of the Pharmaceuticals Industry
EPA/310-R-97-006.	Profile of the Plastic Resin and Man-made Fiber Industry
EPA/310-R-97-007.	Profile of the Fossil Fuel Electric Power Generation Industry

EPA/310-R-97-008.	Profile of the Shipbuilding and Repair Industry
EPA/310-R-97-009.	Profile of the Textile Industry
EPA/310-R-98-001.	Profile of the Aerospace Industry
EPA/310-R-00-001.	Profile of the Agricultural Crop Production Industry Contact: Ag Center, (888) 663-2155
EPA/310-R-00-002.	Profile of the Agricultural Livestock Production Industry Contact: Ag Center, (888) 663-2155
EPA/310-R-00-003.	Profile of the Agricultural Chemical, Pesticide and Fertilizer Industry Contact: Agriculture Division, (202) 564-2320
EPA/310-R-00-004.	Profile of the Oil and Gas Extraction Industry
EPA/310-R-05-002.	Profile of the Healthcare Industry
EPA/310-R-05-003.	Profile of the Rubber and Plastic Industry, 2nd Edition

* Spanish translations of 1st Editions available in electronic format only.