

2001 APS Environmental, Health & Safety Report

Contents:

Executive Statement
Company Profile
Executive Summary and Key Indicators
Vision and Strategy
Policies, Organization and Management Systems
Community Participation and Accountability
Health, Safety and Social Performance
Environmental Performance

Executive Statement:

Welcome to the APS Environmental, Health and Safety Annual Report outlining our company's environmental, social and economic performance.

This report was prepared in accordance with guidelines set by the Coalition for Environmentally Responsible Economies (CERES) and Global Reporting Initiative (GRI). These guidelines were established to develop globally applicable standards for sustainability reporting.

In our continuing efforts to improve performance, we have decided to migrate from printing thousands of 50-page documents and bring this report online. We hope this simplifies locating the information you, our customers, have said is important. We also published a printed summary of this report available in limited quantities.

Last year may have been the most challenging in our industry's history. The California energy situation, volatile wholesale power prices and the struggles of some industry giants created much consternation about the reliability of energy supplies and the future of reasonable prices.

In light of these events, we at APS and our parent company, Pinnacle West Capital Corporation, reinforced our efforts to be a company our customers and shareholders can count on.

We lowered our prices for the seventh time in the last eight years. We produced one of the best financial years in our company's history. And, we increased our generating and transmission capacity to prevent electricity disruptions to our customers.

For us it's about reliability. It's at the core of our strategy and it's not just about the bottom line. Being reliable includes our commitment to the environment, to safety and to the needs of the community.

Some Highlights:

- After a difficult year in 2000, we redirected ourselves to working safely. Last year's "Back to Safety Basics" program helped our employees reduce recordable accidents by more than 16 percent over the prior year.
- APS and its parent company, Pinnacle West, were recognized for our environmental and social performance by international investment advisory firm Innovest Strategic Value Advisors Inc., receiving the firm's top rating - AAA.
- In 2001, our employees volunteered more than 127,000 hours and our employees and company donated more than \$6.5 million to local non-profit organizations, schools and worthy causes.
- The Better Business Bureau of Central and Northern Arizona presented APS with the Business Ethics Award.

We're proud of our performance in 2001. We work hard to positively impact the communities we serve - environmentally, socially and economically. This responsibility takes time, effort and a focus on what's truly important - and no other responsibility feels so good.

Thank you for your continued interest in our company.

Edward Z. Fox,
Vice President of Environmental Health, Safety and Communications

Company Profile:

Name of Reporting Organization: Pinnacle West Capital Corporation, parent of Arizona Public Service Company (APS), Pinnacle West Energy Corporation, APS Energy Services Company, Inc., SunCor* and El Dorado*

Contact: Bill Wiley

Address: P.O. Box 53999, Mail Station 8376, Phoenix, Arizona 85072

Phone: 602-250-3259

Facsimile: 602-250-3872

E-mail: William.Wiley@pinnaclewest.com

Dun & Bradstreet Number: 131155400

APS Dun & Bradstreet Number: 184147700

Corporate Tax ID Number: 86-001170

*SunCor and El Dorado environmental, health, safety, financial and social performance excluded from this report.

Major Products and/or Services:

APS is Pinnacle West Capital Corporation's principal subsidiary and Arizona's largest electric utility. With more than 874,000 customers, APS provides wholesale or retail electric service to the entire state except Tucson and about half of the Phoenix area. The Pinnacle West family of companies, directly or through Pinnacle West's power marketing division, sell and deliver electricity and energy-related products and services to wholesale and retail customers in the western United States.

GENERATION RESOURCES

Plant Type and Name	Location	Ownership or Interest (a)	Number of Units	APS Share (kW)	Percent of Generation
Arizona Public Service Company					
Nuclear-Fueled Steam Plant					
Palo Verde	Wintersburg, Arizona	29.1%	3	1,086,300	
Total			3	1,086,300	27%
Coal-Fueled Steam Plants					
Four Corners	Farmington, New Mexico	100	3	560,000	
Four Corners	Farmington, New Mexico	15	2	222,000	
Cholla	Joseph City, Arizona	100	3	615,000	
Navajo	Page, Arizona	14	3	315,000	
Total			11	1,712,000	42%
Gas- or Oil-Fueled Steam Plants (b)					
Ocotillo	Tempe, Arizona	100	2	220,000	
Saguaro	Red Rock, Arizona	100	2	210,000	
Total			4	430,000	11%
Gas- or Oil-Fueled Combustion Turbines					
Yucca	Yuma, Arizona	100	4	147,000	
West Phoenix	Phoenix, Arizona	100	2	110,000	
Ocotillo	Tempe, Arizona	100	2	110,000	
Saguaro	Red Rock, Arizona	100	2	110,000	
Douglas	Douglas, Arizona	100	1	16,000	

Total			11	493,000	12%
Gas- or Oil-Combined Cycle Plant					
West Phoenix 1-3	Phoenix, Arizona	100	3	255,000	
Total			3	255,000	5%
Hydro and Solar Generation					
Miscellaneous installations		100	13	6,585	
Total			13	6,585	Less than 1%
Total APS Facilities				3,982,885	
Pinnacle West Energy Corporation					
West Phoenix 4	Phoenix, Arizona	100	1	112,000	3
Total Generation Resources (c)			46	4,094,885	100

(a) Includes leased generating plants.

(b) Excludes West Phoenix steam units (108,300 kW), which were removed from mothballs and placed into service for 2001 summer reliability.

(c) Consolidated accredited capacity.

PINNACLE WEST ENERGY GENERATION EXPANSION PROGRAM

(as of December 31, 2001)

Plant Type and Name	Location	KW	Expected In-Service Dates (a)
Natural Gas-Fueled Combined Cycle			
Redhawk Unit 1	Arlington, Arizona	530,000	2002
Redhawk Unit 2	Arlington, Arizona	530,000	2002
Saguaro Unit 3	Red Rock, Arizona	80,000	2002
West Phoenix 5	Phoenix, Arizona	530,000	2003
Silverhawk (b)	Las Vegas, Nevada	570,000	2004
Redhawk Unit 3	Arlington, Arizona	530,000	2007
Redhawk Unit 4	Arlington, Arizona	530,000	2007
TOTAL		3,300,000	

(a) Our expansion plan will be sized to meet native load growth, cash flow and market conditions.

(b) Southern Nevada Water Authority has signed a participation agreement for 25 percent of the total project's 570,000 kW.

Revenue

In 2001, the company enjoyed one of its most successful years in its 116-year history. Income from continuing operations rose to \$327 million. These financial results were achieved while providing price decreases for our customers. These price decreases have totaled 13 percent over the last eight years, providing more than \$800 million in savings for our customers. This price reduction was implemented during a period of strong customer growth and while maintaining high reliability in an electric market fraught with the risk of blackouts and price volatility.

APS OPERATING REVENUES (Dollars in thousands)

	2001	2000	1999	1998	1997
ELECTRIC OPERATING REVENUES					

RETAIL Sales					
Residential	914,711	\$ 880,468	\$ 805,173	\$ 766,378	\$ 746,937
Commercial	805,326	771,909	733,038	699,016	687,988
Industrial	133,663	146,088	159,329	172,296	164,696
Irrigation	1,975	6,498	7,374	7,288	8,706
Other	11,663	10,719	11,708	10,644	11,842
Total retail	1,867,338	1,815,682	1,716,622	1,655,622	1,620,169
WHOLESALE REVENUE ON DELIVERED ELECTRICITY					
Traditional contracts	73,305	120,618	60,486	58,184	63,027
Retail load hedge management	577,784	560,493	108,153	--	--
Marketing and trading – delivered					
Generation sales other than native load (a)	148,316	115,476	29,551	--	--
Other delivered electricity (a)	1,560,185	874,619	345,067	258,058	163,801
Total delivered marketing and trading	1,708,501	990,095	374,618	258,058	163,801
Total delivered wholesale electricity	2,359,590	1,671,206	543,257	316,242	226,828
OTHER MARKETING AND TRADING					
Realized margins on delivered commodities other than electricity	(13,646)	(8,789)	2,483	7,192	3,618
Prior period mark-to-market (gains) losses on contracts delivered during current period	(1,059)	(2,079)	0	--	--
Change in mark-to-market for future period deliveries	126,580	13,831	975	--	--
Total other marketing and trading	111,875	2,963	3,458	7,192	3,618
Transmission for others	25,971	14,765	11,348	11,058	10,295
Other miscellaneous services	17,691	27,194	18,499	16,284	17,643
Total electric operating revenues	\$ 4,382,465	\$ 3,531,810	\$ 2,293,184	\$ 2,006,398	\$ 1,878,553

ELECTRIC SALES (MWH)

Retail Sales					
Residential	10,334,860	9,780,680	8,774,822	8,310,689	7,970,309
Commercial	10,504,044	10,057,707	9,543,853	8,697,397	8,524,882
Industrial	2,433,438	2,511,292	2,561,349	3,279,430	3,123,283
Irrigation	26,860	87,073	99,669	84,640	112,363
Other	99,810	97,772	94,877	90,927	86,090
Total retail	23,399,012	22,534,524	21,074,570	20,463,083	19,816,927

WHOLESALE ELECTRICITY DELIVERED

Traditional contracts	1,213,704	1,610,032	1,421,522	1,410,392	1,486,439
Retail load hedge management	3,039,905	6,673,658	630,945	--	--
Marketing and trading – delivered					
Generation sales other than native load (a)	1,387,860	1,494,299	1,267,349	--	--
Other delivered electricity	14,612,997	12,219,368	12,374,018	8,906,999	7,747,134

(a)					
Total delivered marketing and trading	16,000,857	13,713,667	13,641,367	8,906,999	7,747,134
Total delivered wholesale electricity	20,254,466	21,997,357	15,693,834	10,317,391	9,233,573
Total Electric Sales	43,653,478	44,531,881	36,768,404	30,780,474	29,050,500

ELECTRIC CUSTOMERS

(Average)					
Residential	776,339	749,285	719,774	689,871	663,493
Commercial	93,499	89,539	85,616	83,028	79,754
Industrial	3,320	3,243	3,165	3,166	3,155
Irrigation	366	412	798	747	810
Other	1,013	934	917	890	857
Total retail	874,537	843,413	810,270	777,702	748,069
Sales for resale	66	67	69	60	59
Increase over prior year	3.7%	4.1%	4.2%	4.0%	4.2%

(a) Generation sales figures, other than native load, are not available for 1997 and 1998.

Employees By Business Sector (excluding temporary employees)

Generation: 3,102
 Energy Delivery and Sales: 1,940
 Shared Services: 1,172
 Power Marketing: 91
 Pinnacle West Energy: 65
 APS Energy Services: 62
 SunCor: 110
 El Dorado: 0

	2001	2000	1999	1998	1997
Total Employees*	4,568	4,303	4,125	3,905	3,787
Total Customers (average)	874,551	837,130	806,638	777,674	748,128
Customer/Employee Ratio	191	195	196	199	198

* Number of APS employees adjusted based on ownership percentage of power plants.

Peak Load (kW)	2001	2000	1999	1998	1997
Actual	5,687,200	5,478,500	4,934,700	5,072,000	4,608,600
Weather-adjusted	5,547,800	5,597,900	5,082,400	4,874,800	4,685,000
Increase (decrease) vs. prior year					
Actual	3.8%	11%	(2.7)%	10.1%	0.7%
Weather adjusted	(0.9)%	10.1%	4.3%	4.1%	7.0%

Employees assigned to environmental, health and safety

105

Organizational Changes

There were no significant organizational changes in 2001.

Conversion Factors

Throughout this report, information is presented in United States measurement units. Conversions to international figures are:

1 pound = 0.454 kilograms
 1 ton = 907.185 kilograms
 1 gallon = 3.785 liters
 1 mile = 1.609 kilometers
 1 kilowatt = 3,600,000 joules
 1 megawatt = 3,600 joules

Key Indicators

Our goal for environmental, health and safety reporting is to provide far-reaching information that can be used not only in judging our performance, but also in comparing our company to others in our industry. Accordingly, we feel the following indicators offer a balanced perspective of APS and the industry:

Historic Environmental Risk:

We have an aggressive manufactured gas plant (MGP) remediation program and have completed projects at two of our eight sites.

Superfund Sites:

We are listed as a Potentially Responsible Party (PRP) at one EPA Superfund site. We have cleaned the site and expect to settle with EPA and the state of Arizona in 2002.

Ratio of Environment-Related Fines to Revenues:

In 2001, we received two notices of violation at our Cholla power plant. While we have not received any notice of penalty, the matters are not resolved with the regulatory agencies. Our 2001 electric operating revenues were \$3.3 billion.

Concentration of High-Risk Products in the Product Portfolio:

With the completion of our new natural gas-fired generation, our fuel mix will be approximately a third coal, a third nuclear and a third natural gas.

Emissions from Individual Plant Sites:

All of our power plants hold Title V air permits and are in compliance. System-wide, we maintain emissions in pounds per megawatt-hour that are below industry averages.

Environmental Management Capability:

We place environmental management at the facility level to ensure maximum accountability while providing assistance from the corporate level.

Environmental Audit Capacity, Frequency and Transparency:

We have an internal environmental audit group that functions independently of the environmental, health and safety department. We use the results of audits to improve performance but maintain the confidentiality of individual audit reports.

Adequacy of Staff Training on Environmental Risk Management:

Employees annually participate in an average of 6.5 environmental, health and safety training courses.

Policies, Organization and Management Systems**Policies**

Employees from APS and all Pinnacle West companies are held to the highest standards of ethical business conduct. Two documents, the "Ethics Policy" and "Standards of Business Practices" guide our conduct. Our values: honesty, integrity, fairness, accountability, caring and respect comprise the foundation of both the Ethics Policy and the Standards of Business Practices.

Our Ethics Policy provides guidelines for ethical business performance. These guidelines help us operate with integrity and avoid violations of the policy, laws or regulations. Our Standards of Business Practices establish a comprehensive set of rules that focus on company standards and legal requirements to guide the way we conduct ourselves, treat one another and engage in business. The Standards of Business practices also stipulate that we do not attempt to interfere or influence an employee's right to organize or bargain collectively, nor will we punish anyone who reports suspected illegal activity by the company or other employees. The Ethics Policy and the Standards of Business Practices were updated in 2000 to better guide employees through the complexities of our transition to competition.

In addition to the Ethics Policy and the Standards of Business Practices, we follow a very specific APS Code of Conduct that strictly outlines the relationship between our traditional energy delivery company, APS, and our competitive retail company, APS Energy Services. The Code of Conduct, approved by the Arizona Corporation Commission, directs business conduct between APS and APS Energy Services to ensure APS does not violate Arizona's rules of electric utility competition.

The Environmental, Health and Safety (EHS) Policy and the EHS Management Plan direct employee decisions to ensure regulatory compliance and encourage environmental, health and safety excellence.

The EHS Policy (http://www.aps.com/my_community/Environmental/Environmental_7.html) covers all environmental, health and safety aspects of our operations. The policy outlines our commitment to protecting the environment, employee and community health and safety; and protects adherence to the Coalition for Environmentally Responsible Economies (CERES) Principles.

The EHS Management Plan emphasizes employee accountability and recognizes that individual facilities are subject to many environmental, health and safety requirements. Those requirements include federal, state, county, municipal and applicable tribal environmental, health and safety laws and regulations. As these requirements become more complex and demanding each year, it is more important than ever that we understand our EHS responsibilities. The EHS Management Plan supports accountability throughout the company by providing environmental, health and safety direction and structure in a single document.

Issues Directly Addressed by APS Policies and Procedures

Environmental	Health & Safety	Social
<ul style="list-style-type: none"> • Water Quality • Air Quality • Energy Conservation Opportunities • Solid/Hazardous Waste • Storage Tanks • Chemical Releases • Spill Prevention/Leak Detection • Site Remediation • Chemical Inventory Reporting • Resource Use • Incident Investigation • Risk Management 	<ul style="list-style-type: none"> • Emergency Planning • Personal Safety • Transportation Safety • Materials/Equipment Safety • Industrial Health/Hygiene • Occupational Medicine • Public Safety • Fire Protection and Prevention • Incident Investigation • Risk Management • Substance Abuse 	<ul style="list-style-type: none"> • Diversity • Organized Labor • Contract Labor • Nuclear Safety • Confidentiality • Insider Trading • Political Participation • Antitrust • Foreign and Corrupt Practices

Organization

Ed Fox, Pinnacle West vice president of environmental health, safety and communications, oversees the communication of our goals and manages our EHS performance. Mr. Fox provides updates on EHS activities to executive management monthly, and on an as-needed basis, and updates the Board of Directors at least annually.

The core of Mr. Fox's EHS management team is two cross-departmental committees, the Environmental Advisory Team and the Safety and Health Advisory Team. These committees unite EHS professionals and tools from throughout the company to provide strategic direction, effective management and consistent implementation of our EHS programs. The teams also update the EHS Policy and the EHS Management Plan to ensure integrated implementation of these practices into our operations.

Because most environmental, health and safety issues arise in the field, we utilize a decentralized management structure. In 2001, 69 environmental, health and safety professionals were assigned to operating areas. These professionals report to their respective facility management and have primary responsibility for implementing day-to-day EHS compliance strategies at their workplaces. Decentralization allows for more rapid response to issues and places the accountability where it belongs, at the operations level.

There are 36 professionals assigned to our corporate EHS functions. The purpose of the EHS department is to support the needs of our field operations. EHS department professionals serve as technical experts for facilities applying environmental permits and offer counsel to regulators on operational matters. The department also develops strategies and programs that sharpen our competitive edge in the EHS field, and tracks the regulatory rule-making process by proactively seeking comments from the field and submitting those comments to regulators. Our corporate

EHS professionals also monitor technical and market trends, allowing us to embrace opportunities and address challenges in a timely manner.

Industry Participation

As a company, we maintain membership in the Edison Electric Institute and the Electric Power Research Institute. Our employees maintain memberships in numerous professional and business associations that cover every function of our business, including accounting, purchasing, environmental, health and safety, human resources, public relations, engineering and electrical trades.

Technical Research

We support and sponsor a variety of research activities devoted to EHS technology, management and performance at educational institutions and company facilities. We partner with Arizona State University and Northern Arizona University to collect performance data from our solar generating facilities.

In 2001, our external research activities focused on ways to reduce carbon dioxide emissions. We are participating in the Zero Emission Coal Alliance (ZECA), joined the International Network on Biofixation of Carbon Dioxide and Greenhouse Gas Abatement with Microalgae and began sponsoring research and development of hydrogen production from the electrolysis of hydrogen bromide.

Attracting Employees

To attract and train future employees, we offer school-to-work and scholarship opportunities. Our internship program introduces students to virtually every part of our business, while specific programs target students seeking education in finance, accounting, engineering, mathematics and electrical trades. In 2001, 162 students participated in our internship and school-to-work programs. Through a variety of partnerships, APS contributed more than \$60,000 in scholarships to students attending Arizona institutions of higher learning last year.

The Four Corners Power Plant in partnership with Public Service Company of New Mexico's (PNM) San Juan Generating Station and Farmington, New Mexico's San Juan College created a two-year program in industrial plant operation. Each utility contributed \$600,000 to support the program that was developed to address an anticipated shortage of workers lost to retirement.

Recognizing Employee Achievement

Outstanding individual environmental, health and safety performance and initiative are recognized through the Environmental, Health and Safety Excellence Awards program. This program is designed to reward employees who contribute significantly to improving overall environmental, health and safety performance. In 2001, 193 employees received EHS Excellence Awards.

Employee Training

Employee training is an important part of our successful EHS management. We have an active EHS training program that employs a variety of training media, including internal classes, pre-job safety meetings, external seminars and certification, computer-based instruction, hands-on training and video presentations.

In 2001, our employees completed training on 350 topics. Each employee completed an average of 10 training courses during the year, double the three-year average of five courses. The corporate EHS department maintains a computer-based training tracking system called TrainKing. The system helps facilities throughout the company track and implement required EHS training. We have also begun developing a Web-based training system to make completing required courses more convenient. In 2001, we launched two courses, "Ladder and Stairway Safety" and "Working On and Around Scaffolds."

We introduce new employees to our EHS vision and beyond-compliance commitment through an environmental awareness video.

In addition to environmental, health and safety training, we encourage employee continuing education through external course offerings and our internal Pinnacle West University. In 2001, Pinnacle West University offered 218 courses, with 2,673 employees participating.

We sponsor luncheon seminars on environmental, health, safety and new technology issues to educate and motivate employees. The lunch seminars are open to all employees, and employees in remote areas may participate via videoconference. In 2001, 320 employees attended the 11 seminars offered.

Management Systems

Each year, we develop targets for financial, environmental, health and safety and individual operating area performance, and reward outstanding achievement through annual incentive pay.

In 2001, those targets were:

For Generation:

Safety: zero preventable, recordable injuries per week. Result: 26 weeks without a preventable recordable injury. Ten percent improvement of the APS three-year average of Occupational Safety and Health Administration (OSHA) recordable injuries. Result: did not meet target.

Environment: Achieve two of four environmental targets. These targets included: zero reportable environmental incidents, zero notices of violation resulting in fines or penalties, completion of 16 EHS self-assessments, and 10 percent reduction of approved hazardous products in the Material Safety Data Sheet (MSDS) system. Result: Met target with two.

For Nuclear:

Safety: Zero preventable recordable injuries per week. Result: Forty-one weeks without a preventable recordable injury. Ten percent improvement of the three-year average of OSHA recordable injuries. Result: Did not meet target. No more than three significant human performance events. Result: Did not meet target (eight).

Nuclear Safety:

Achieve one of two nuclear safety targets (reactor trips, collective radiation exposure). Result: Did not meet target.

For Energy Delivery and Sales:

Safety: Ten percent improvement of the three-year average of OSHA recordable injuries. Result: Did not meet target. Zero preventable recordable injuries per week. Result: 21 weeks without a preventable recordable injury.

For the Environment:

Zero reportable environmental incidents per month. Result: Eight months without an environmental incident.

For Shared Services:

Safety: Ten percent improvement of the three-year average of OSHA recordable injuries. Result: Did not meet target.

Audits

We have an aggressive environmental, health and safety audit program. Our auditors use a comprehensive EHS audit manual and four of five are Board of Environmental Auditor Certifications (BEAC) certified to ensure thorough and consistent EHS audits.

In January 2001, the EHS audit section began reporting organizationally to the director of internal audits while maintaining direct reporting to the vice president of environmental health safety and communications. The EHS audit department also added two full-time auditors in 2001.

We use a risk-based audit scheduling process to determine audit frequency for specific facilities. Risk-based audit scheduling assesses the quality of a facility's EHS management system and determines the risk the facility poses to APS business, operations, personnel, the community and the environment. The process identifies facilities that may pose EHS exposure to the company and develops risk assessment criteria for evaluation and scheduling. Risk factors are placed into categories: EHS compliance and operation risk factors and business risk factors.

EHS Compliance and Operational Risk Factors Include:

- Audit history
- Compliance history
- Facility complexity
- Current practices and procedures
- Organizational changes
- Frequently cited EHS regulations
- EHS incidents

Business Risk Factors Include:

- Proximity to sensitive receptors
- EHS Planning and budgeting
- Age of the facility

- Impact to company reputation

The risk-based audit scheduling process is reviewed annually to ensure all criteria are current and applicable. The scope of individual audits is determined prior to an on-site audit based on the facility's risk factors. Even if the scope of an audit is expected to be limited, auditors may, once on site, perform a more comprehensive audit.

Our audits cover all regulatory requirements for air, water, waste, industrial hygiene, safety, Emergency Planning and Community Right to Know Act (EPCRA), Department of Transportation (DOT), pollution prevention, and internal policies, procedures and EHS management practices.

Upon completion of an audit, our auditors meet with the facility's manager to discuss the results of the audit and note any areas of concern or accomplishment. Significant areas of concern are noted as audit exceptions and are reported in a formal audit report. The primary causes of audit exceptions are identified in a final audit report to assist facility management with the implementation of a long-term solution. A corrective action plan (CAP) must then be completed by the facility management within 30 days. The audit team then enters the audit findings into a database to track the facility's progress toward correction, as well as identifying company-wide trends. Verification of closure is then performed on the completed CAP within two months after the document is received.

Results of EHS audit exceptions are reported quarterly to executive management and at least annually to the Board of Directors. Officers receive quarterly and annual reports on audit activities and trends in audit exceptions.* Additionally, facility managers are provided with quarterly summary reports on EHS audit exceptions for incorporation into their EHS self-assessment activities.

We adjust the scope of our audits according to the diversity of each facility's operations and risk factors. In general, we conduct audits of power plants and service centers every one to three years and audits of our business offices every three to five years.

In 2001, our audit team conducted unannounced audits of seven service centers, five business offices, one power plant and five other facilities, exceeding our goal of 14 unannounced audits. The audit team also completed one announced audit of an APS power plant, falling short of its goal of two. The second audit was not performed due to the facility being relocated.

We utilize an EHS self-assessment program to augment our audit program. With the EHS self-assessment program, individual facilities review their EHS programs and identify strengths and weaknesses. In 2001, APS power plants completed 31 EHS self-assessments, far exceeding the goal of 16.

Vendor Audits

APS uses a variety of means to monitor the environmental performance of suppliers. The EHS audit group conducts periodic audits of vendors. In January 2001, we joined CHWMEG; an association of manufacturers globally focused on waste, recycling and risk management. CHWMEG is made up of 91 enterprises that encompass 135 different companies. CHWMEG conducts comprehensive independent audits of commercial facilities that treat, store, dispose, recycle or transport waste. We participated in two CHWMEG audits in 2001. In addition to CHWMEG, we also belong to the Joint Utility Vendor Audit Consortium (JUVAC). We exceeded our goal of fourteen vendor audits performed in 2001 by two. We participated in five JUVAC audits, two CHWMEG audits, performed six of our own audits and used a third-party consultant to conduct three additional audits.

**An audit exception is an identified deficiency with respect to regulatory requirements, corporate policies and procedures and EHS management practices reviewed during an audit.*

Supplier Relationships

Fuels Procurement

We use three primary fuel types: nuclear, coal and natural gas. Each fuel requires different procurement approaches. For nuclear fuel, contracts must address uranium and fabrication of fuel assemblies. Coal contracts address matching coal composition with the plant's operational needs, mining and transportation. Natural gas is a commodity managed by Pinnacle West Power Marketing. The Fuels Procurement group manages contracts for transportation of the natural gas with El Paso Natural Gas Company. We developed best management practices and formed internal teams to manage process.

The Fuels Procurement department monitors supplier activity and associated costs for reclamation, and health and safety practices to ensure the work is cost-effective and environmental criteria are met. Our fuel contracts at the Four Corners Power Plant include the cost of mine reclamation.

All of our fuel suppliers are expected to maintain permits from applicable federal, state and local agencies that mandate each supplier's adherence to environmental standards. The regulating agencies are responsible for conducting inspections to ensure compliance with all requirements.

We work with fuel suppliers to develop environmentally preferable processes, materials and products by providing guidance with environmental studies and monitoring that work toward improving groundwater, land vegetation, animal habitats and air quality.

Increasing concerns in 2001 about the availability of natural gas led the Fuels Procurement group to begin investigating the feasibility of creating a salt-cavern natural gas storage facility that would serve as a supply buffer for APS and other El Paso Natural Gas customers. The feasibility studies will be ongoing in 2002.

It is our policy to provide energy from natural resources in the most efficient and economic means available. When feasible, we produce energy from local and regional fuel sources to limit the economic and environmental impacts of transportation. About 97 percent of our coal is purchased locally, the remaining three percent is procured regionally.

Small Minority and Women-owned Businesses

As a major employer and service provider in Arizona, we believe it is good practice to encourage business growth and community diversity. Accordingly, we ardently support the development of minority and women-owned business enterprises (MWBEs). In 2001, we purchased more than \$69 million worth of goods and services from MWBE vendors – exceeding our goal of \$38 million.

The APS Academy for the Advancement of Small Minority and Women-Owned Enterprises is a two-year program that teaches strategic planning, finance, operations, management and marketing to small minority and women-owned businesses. This program is offered free to the participants and combines core business skill training with advisors and mentors for each company to assist each in their individual success targets. In 2001, there were 23 companies participating in the Academy. Nine of those companies were in their second year, 14 were in their first year.

Community Participation and Accountability

The communities we serve are also the communities in which we live, work, play and raise our families. We believe that the health of the community is a reflection of our business and our goal is to continually improve both.

We engage community stakeholders through community advisory panels (CAPs), participating in the public and policy-making process and providing financial and in-kind donations to non-profit organizations. In addition, our employees generously donate their time and money to community organizations and causes.

As an electric utility in a rapidly growing area, we are engaging community stakeholders in two primary areas – line siting and construction of new power plants. We use a variety of forums to hear and address community concerns including public meetings, advisory boards, outreach events, monthly billing inserts, notices and newsletters. We open CAP membership to interested area residents who are willing to devote the necessary time for participation. In 2001, we had two active CAPs, one for the expansion of our West Phoenix Power Plant and one for construction of Pinnacle West Energy's new Redhawk Power Plant. The Redhawk CAP ended in April 2001 but has since evolved into the Pinnacle West CAP that includes the Palo Verde Plant.

We update local news media and residents about the most recent scientific information regarding EMF issues and we will measure ambient EMF levels for customers and provide third-party educational materials upon request.

Public Policy Participation

Our employees participate in the creation of public policy at the local, state, national and global levels. We believe being a good corporate citizen involves participation in the formation of sound public policy. We encourage our employees to hold elected office in their communities, and our vice presidents of government and federal affairs give APS a voice in the law-making process. Additionally, we participate in the formation of global climate change policy at the regional and global level.

In 2001, our public affairs team looked beyond its Arizona base to monitor and help shape the electric industry transition in other western states, especially New Mexico, Nevada and California. These states experienced varying degrees of public policy upheaval – from moderate changes in New Mexico to a reversal of divestiture in Nevada, to a catastrophic market failure in California.

Working with Arizona Governor Jane Hull and the Western Governors Association on energy issues, our government affairs scope has expanded to cover the entire western region. APS and Pinnacle West President Jack Davis serves as co-chair of the Western Governors' Transmission Work Group, which is developing a conceptual plan for transmission in the West and regional solutions to energy bottlenecks in the Western Systems Coordinating Council (WSCC) service area.

Pinnacle West Public Affairs is forming new alliances with governors, legislative leaders, trade groups and associations in the West. We are also involved in developing a new coalition of western businesses and energy interests to support the development of balanced energy policy in the U.S. and the West.

Corporate Citizenship

Arizona's explosive growth has fueled its economy, but managing this growth and its potential negative impacts is a challenge. In 2001, APS stepped forward, contributing \$60,000 in grants through the Arizona Department of Commerce's Growing Smarter Planning Grant Program. The program gives community and county governments funding for developing plans to manage growth.

Our employees are active community contributors. Whether sponsoring Fourth of July celebrations and Getting Arizonans Involved in Neighborhoods (GAIN) events, lighting community ball fields, hosting holiday events for underprivileged children or helping school-based health clinics, APS is proud to support its employees' involvement in civic and community activities.

Our volunteers generously give of their spare time. In 2001, employees contributed more than 127,000 hours helping over 200 charitable causes. They also contributed generously to local charities. In 2001, employees gave nearly \$2.2 million through our annual United Way campaign, APS matched every employee dollar by 50 cents, increasing our 2001 donation to United Way charities to nearly \$3.3 million. APS and its Foundation also gave \$6.5 million to local organizations supporting education, health, the environment and the arts.

Although Arizona was many miles from the devastation of the Sept. 11 attacks in New York, Washington, D.C. and Pennsylvania, our employees demonstrated their support for those affected, donating more than \$96,000 to the Crisis Response Fund with the company matching every dollar for a total gift of over \$192,000. Employees also demonstrated their patriotism by displaying placards bearing the U.S. flag on office, car and home windows and contributed money by purchasing nearly 4,000 T-shirts bearing "Old Glory".

Customer Satisfaction

From our largest commercial accounts to our smallest residential customers, exceeding expectations is one of our critical goals and every employee's focus. To measure our customer satisfaction success, we participate in third-party surveys and conduct our own market research. According to internal market research, 85 percent of our customers reported being "satisfied" or "very satisfied" with APS – the highest such score since the company began using the survey in 1998. The increase in customer satisfaction can be attributed to APS' leadership in communicating energy issues, a personalized letter from Chairman Bill Post and increased outreach to large customers.

Emergency Response

APS employs qualified fire and emergency response teams at the Palo Verde nuclear plant and the Four Corners and Cholla coal plants. Emergency response plans at each facility detail the role of APS employees in responding to emergencies. We actively participate in local emergency planning committees and provide emergency planning and on-site chemical storage and hazard information to state and local agencies through SARA (Superfund Reauthorization Act of 1986) Tier I and Tier II reports.

The Palo Verde plant annually provides neighbors with information regarding plant operations, emergency planning zone maps, emergency classifications, important telephone numbers, procedures, locations of care centers and suggested protective actions. Palo Verde also conducts joint emergency planning drills with local, state and federal emergency response agencies at least twice per year.

The APS Energy Delivery and Sales Division also maintains an emergency response plan that helps the organization safely respond to disasters, both natural and man-made. Periodic reviews and trial implementations help the division improve its emergency response procedures for use during potentially dangerous emergency outages.

Health, Safety and Social Performance

Safety is one of our overriding values and no accident is acceptable. We have held a goal of zero preventable recordable accidents since 1995. To achieve that goal, we encourage and support leaders and employees in creating safe work environments.

Our employees participate in a number of health and safety programs, including general safety meetings, hands-on training and safety interventions. The programs are communicated through internal publications and electronic newsletters.

After two consecutive years of disappointing safety performance, we created the "Back to Safety Basics" program in September 2000 and implemented it throughout 2001. The program focused on the basics of working safely. From CEO to frontline employees, this program was top of mind throughout the year and successfully reduced preventable recordable injuries by 16 percent.

Safety Performance

	'01	'00	'99	'98	'97
Total Recordable Cases					
APS Total	117	140	112	101	114
Target Maximum	0	0	0	0	0
APS All Injury Incident Rate (AIIR) ^(a)	1.83	2.26	1.88	1.74	1.95
Target Maximum	0	0	0	0	0
Electric and Gas Utility Industry Average ^(b)	3.63	3.78	3.47	3.87	3.79
Lost Work Day Cases					
APS Total	20	23	24	16	12
Target Maximum	0	0	0	0	0
APS Lost Work Day Incident Rate (LWIR) ^(a)	0.31	0.37	0.40	0.28	0.21
Target Maximum	0	0	0	0	0
Electric and Gas Utility Industry Average ^(b)	0.86	0.94	0.81	0.85	0.83
Lost Work Days					
APS Total	425	458	348	216	301
Target Maximum	0	0	0	0	0
APS Severity Incident Rate (SIR) ^(a)	6.66	7.40	5.83	3.73	5.17
Target Maximum	0	0	0	0	0
Electric and Gas Utility Industry Average ^(b)	22.17	23.96	19.02	19.54	18.18
APS Fatalities	0	1	1	0	0

(a) All Injury Incident Rate (AIIR): The total of all recordable cases multiplied by 200,000 and divided by the actual employee exposure hours worked. Lost Work Day Incident Rate (LWIR): The total of all lost work day cases multiplied by 200,000 and divided by the actual employee exposure hours worked. Severity Incident Rate (SIR): The total of all workdays lost multiplied by 200,000 and divided by the actual employee exposure hours worked.

(b) Source: Accident facts, National Safety Council, 1994, 1995, 1996 and 1997 editions and Edison Electric Institute Safety Survey, 1998, 1999 and 2000.

Public Safety

Although electricity is safe when used properly, it can be extremely dangerous and sometimes deadly if misused. Our Public Safety department is responsible for keeping our customers and the public safe and informed about the possible dangers of electricity.

Our Public Safety and Customer Service departments work together to keep our customers and the public safe and informed about the possible dangers of electricity. These departments ensure our customers have access to accurate, relevant information on the proper use and handling of electricity. In 2001, our Public Safety employees targeted students throughout Arizona, reaching more than 900 schools with safety presentations.

The department also reached an additional 2,500 students, maintenance workers, city employees, firefighters and arborists with targeted presentations. To support the outreach efforts, the department launched a safety billboard campaign that encouraged people to be cautious around electric lines and equipment.

Our Construction department maintains three electrical safety demonstration trailers that dramatically show the impact of electrical current on living tissue. To ensure the highest level of safety, only trained, experienced personnel operate the trailer. Department employees conducted 68 presentation reaching approximately 3,500 people in 2001.

Human Resources

Like many successful companies, our employees are the core reason for our success. Employee turnover within the Pinnacle West family of companies is extremely low, indicating that most employees who come to work for us are pleased with the work environment and rewards that are offered.

Our low turnover coupled with a 95 percent job acceptance rate from external applicants is a true barometer that the company is regarded as an employer of choice by many who are seeking to advance their careers. The company maintains a salary structure that is competitive within both the industry and the area that it serves. We value employee participation in the management process and provide opportunities for employee involvement in decision-making. We offer leadership training and performance management processes to allow employees to have continuous input into how work can best be performed. It is common for cross-sectional teams of employees and management to be formed in order to address work process issues. All managers from the frontline leader to the CEO have an open door policy for employees to express ideas or concerns.

Human resources representatives who are assigned to various field locations are available to assist employees and leaders in maintaining a high-involvement culture. Formal issues resolution processes are also available for employees should they wish to escalate concerns in a more structured manner.

Job opportunities are usually posted for either internal or external job candidate consideration. These job opportunities can be viewed on the company's Web site: www.pinnaclewest.com. A review of these opportunities will readily indicate the broad range of diverse skills that are utilized within the company.

The company also enjoys a positive relationship with Local 387 of the International Brotherhood of Electrical Workers (IBEW). That positive relationship has contributed to many workforce initiatives designed to elevate overall company performance. Union employees represent approximately one-third of our workforce.

Examples of joint efforts include a multi-skill training and advancement program, a rapid hire supplemental workforce, a drug free program, a model joint apprenticeship program, a driver qualification program and numerous other safety initiatives.

Environmental Performance

Stewardship of Natural Resources

The "Environmental, Health and Safety Policy" outlines our vision for recycling, source reduction and conservation of natural resources. We target nearly every aspect of conservation including:

- Reduced consumption of virgin materials through product or process redesign
- Water conservation
- Energy conservation
- Habitat conservation
- Risk reduction
- Procurement of goods with recycled content
- Recycling solid waste
- Recycling hazardous waste and toxic materials

Our facilities work with supply chain and design staff to make environmentally sensitive purchasing decisions and to encourage reuse and recycling efforts. We use integrated computer programs that help manage purchasing, chemical use and reuse of company equipment. Additionally, we have a Chemical Review Team consisting of representatives from nearly every operating area. The Chemical Review Team is charged with examining and approving chemical purchases.

Our purchasing and inventory system – called Materials Logistics Information System (MLIS) – allows us to better manage purchasing and inventory activities and increasing employee awareness of purchasing practices. We also use our electronic Material Safety Data Sheet (MSDS) system in conjunction with the MLIS program to facilitate tracking and reporting of the types and quantities of chemicals purchased and stored. The integration of the MLIS and MSDS systems allows us to create baselines to more effectively plan and set goals.

Chemical Use Reduction

We track chemicals from purchase through disposal. We also track chemical use at both the corporate and facility levels and require employees to follow specific practices when purchasing hazardous chemicals. These practices help ensure worker safety and compliance with hazardous chemical communication regulations. Although we track chemical use in compliance with regulations, we also seek programs that will result in cost control, pollution prevention and, in some cases, revenue generation.

Reducing the number of approved hazardous chemicals has been one of our environmental priority targets since 1998 and we have successfully reduced the number and types of chemicals in our inventories every year. In 2001, we had a total of 4,162 chemicals listed in our MSDS database, compared with 4,288 in 2000 and 5,024 in 1999.

Sharing Materials

To facilitate equipment trading and sharing among employees, we developed the Materials Exchange computer program. Materials Exchange provides a "marketplace" for employees and managers to post and shop for surplus materials rather than procuring new goods. Our employees completed a total of 87 exchanges in 2001, representing more than \$77,000 in savings.

Facility Energy Conservation

Our decentralized EHS management structure encourages our operating areas to create conservation practices and procurement methods that address their individual and sometimes diverse needs.

Our Facilities Implement a variety of energy efficiency measures including:

- Operating air conditioning systems with energy efficiency software that manages duty-cycling and set-backs
- Replacing outdated air conditioning with high-efficiency equipment
- Writing all new construction specifications with energy efficiency in mind
- Specifying energy-efficient Energy Star computers whenever new computer equipment is needed

More than 97 percent of our facility space is equipped with energy efficient fixtures. We estimate energy savings of more than 13 million kilowatt-hours (kWh) per year from the use of energy efficient products. In 2001, we consumed 59,277,055 kWh of electricity to operate our facilities (excluding generation). This constituted a one percent reduction in energy use from our 2000 usage of 59,755,589 kWh.

As part of our internal conservation efforts in 2001, we replaced T12 lamps with more efficient T8 lamps in six floors of our corporate headquarters building. We also installed motion detectors in most of our conference rooms and raised cooling thermostats to 79 degrees at all of our facilities. We also turned off accent lighting, signage and reduced task lighting where possible and reduced general office lighting by 18 hours per week. Our employees were encouraged to turn off their computer monitors every night and their computers on weekends.

Travel Reduction

Travel reduction is an important part of our EHS program, particularly in the Phoenix area — a U.S. Environmental Protection Agency (EPA) non-attainment area for ozone, particulate matter and carbon monoxide. We encourage employee travel reduction activity and offer subsidies to further persuade our employees of the value of travel reduction. Our subsidies include discounts on vanpool and public and private bus fares, as well as reduced parking charges for carpools. We accommodate compressed workweeks, alternative work schedules, telecommuting and videoconferencing.

In 2001, 3,379 out of 4,500 employees living in the Phoenix metropolitan area participated in our trip reduction program.

Land Use and Biodiversity

Our power plant cooling lakes often become habitats for migratory birds and recreation spots for residents. The Four Corners and Cholla power plants host a variety of bird species. Cholla Lake at the Cholla power plant is used for water skiing and boating while Morgan Lake at the Four Corners power plant is a popular spot for windsurfing.

APS' Fleet

The APS fleet consists mostly of large vehicles and trucks used to haul materials, for facility construction and in making repairs to internal and external facilities. In 2001, we maintained 35 electric and low-emission vehicles in our fleet.

Fleet Fuel Consumption

Vehicle Fuel	2001	2000	1999	1998	1997
--------------	------	------	------	------	------

Gasoline (gallons)	1,712,593	1,712,594	659,537	1,646,617	1,696,015
Diesel (gallons)	1,306,491	1,277,177	639,692	1,154,855	1,177,952
Biodiesel (gallons)	27,335	12,460	N/A	N/A	N/A

Fleet Statistics

	2001	2000	1999
Average miles per gallon for gas/diesel fleet	4.9	4.9	4.6
Total miles traveled for gas/diesel fleet	15,033,828	14,635,736	13,185,348
Total miles traveled for electric vehicle fleet*	58,687	61,355	59,254

* In 2001, we maintained 35 electric and low-emission vehicles in our fleet.

Electricity Conversion, Distribution and Sales

In 2001, Pinnacle West Energy, our generation affiliate, completed 120 MW capacity of new clean-burning natural gas-fired generation to help address population growth in the West. Our goal is to offer a diverse fuel mix of nearly equal portions of nuclear, coal and natural gas generation. We also broke ground on our West Phoenix unit 5 (530 MW) and Redhawk units 1 and 2 (1,000 MW).

Water is one of our most precious resources and APS facilities are sensitive to the need for minimizing water usage. Examples of water conservation activities include recycling water in power plant cooling towers several times before discharging, adapting evaporative coolers to reduce blow-down at large facilities and capturing car wash water as well as other recycling where feasible.

Water is a predominant component of most traditional generation sources and we work to minimize our impact on the fresh water supply. At our Palo Verde nuclear plant, we use treated effluent, purchased from seven cities in the Phoenix metropolitan area as a cooling agent. We constructed a 35-mile pipeline that carries treated water from a City of Phoenix sewage treatment facility to Palo Verde, where we use an advanced water treatment process that is capable of preparing 90 million gallons of water each day for use in the plant. The adjacent Redhawk, natural gas-powered facility, currently under construction, will also use treated effluent for cooling. APS' new generating facilities at Redhawk and West Phoenix will use brine concentrators and crystalizer technology to minimize water usage. These technologies result in up to 98 percent of water being recycled allowing the facilities to recover nearly 500 million gallons of water annually.

In 2001, the Palo Verde plant's water reclamation facility received a total of 21,160,763,940 gallons of treated effluent, reducing the amount of effluent discharged into the lower Salt River.

Solar

With more than 300 sunny days a year, Arizona has an abundant natural resource. While APS is actively looking at wind and hydro technology as affordable renewable energy solutions, they are not viable options for a sustainable renewable energy base in Arizona.

In 2001, through the APS Solar Partners Program, we added 498 kW of solar capacity to our system. Each month, customers voluntarily purchase 15 kilowatt-hour blocks of energy generated by the solar power plants, paying a \$2.64 per month premium. At year-end, we had 2,616 Solar Partners and a total of 1,200 kW of installed solar capacity, with plans to add 1,375 kW.

APS also began collecting an Environmental Portfolio Standard (EPS) surcharge, mandated by the Arizona Corporation Commission (ACC) in 2001. We will use the money from the surcharge to purchase and fund construction of additional renewable energy sources.

To meet the EPS standard, APS produced 7,848,000 kWh of solar credits and purchased 9,390,000 kWh solar credits and 17,550,000 kWh of other qualifying generation. We applied a total of 34,788,000 kWh of credits, falling just short of the required 35,099,000 kWh.

APS recently began offering a one-time cash credit of \$2 per watt to customers who purchase and install solar generating systems for their homes through its EPS Credit Purchase Program. For example, customers installing a new 1,000-watt solar system on their homes will receive a one-time program payment of \$2,000 from APS.

Additionally, APS offers an off-grid solar electric service that provides customers with a photovoltaic system for a flat

monthly fee that includes all service and maintenance. The cost of the service is similar to that of owning, operating and maintaining individual generators. In 2001, we maintained a total of 39 remote solar energy systems.

Transmission

We own high-voltage transmission lines that transfer power from our power plants to our customers throughout Arizona. By the end of 2001, we had 4,908.4 miles of overhead 69-kilovolt (kV) and above transmission lines and nearly 20 miles of 69-kV and above underground transmission.

Distribution

Our distribution network takes power from high-voltage transmission lines and delivers it to our customers. During 2001, we added 207 miles of overhead distribution and 503 miles of underground distribution. With the added distribution, we maintained 11,888 miles of above-ground local distribution and 11,834 circuit miles of below-ground distribution.

Customer Conservation

We offer residential customers three rate plans: the Standard Plan, the Time Advantage Plan and the Combined Advantage Plan. While each of the rates is charged based on consumption, the Standard Plan offers the lowest rates for the least consumption. As of Dec. 31, 2001, 59.5 percent of our customers were on the Standard Plan.

In addition to rate plans, we regularly produce brochures promoting energy efficiency and offer these brochures in our customer service offices. Topics include installing sunscreens, planting trees, electric heat pumps, and ways to reduce summer and winter electric bills. The brochures offer helpful hints for customers who are looking for ways to use less energy.

During the summer of 2001, we launched a successful customer conservation campaign with the message "Energy. Enough to use. Not enough to waste." in anticipation of increased customer demand and the potential of energy shortages in the western U.S. To support the campaign, we posted conservation tips and an energy survey on our Web site to help our customers find ways to lower their electric bills and save energy.

Pinnacle West's independent retail company, APS Energy Services Company, Inc., offers energy efficiency products to its customers. In 2001, APS Energy Services installed energy efficiency and heating, cooling and ventilation upgrades in 80 large commercial customers saving more than 3,839,000 kWh per year.

APS Energy Services continued to sell capacity in its Northwind Phoenix district cooling project. Located in downtown Phoenix, Northwind shares chillers and ice storage capacity with the Arizona Diamondbacks' home, Bank One Ballpark. A 20,000-ton cooling system plant uses the Ballpark's existing chillers with two additional chillers and an ice-based thermal storage tank. With thermal storage, water can be frozen at night, when electricity demand is low. During the day, the ice melts and is distributed to cool downtown buildings. The water is then returned to the ice tank to be frozen and used again.

Managing Rights of Way

Proper maintenance of our transmission and distribution system is critical to our ability to deliver reliable power to our customers. Electric line maintenance involves more than identifying line faults; it includes pole selection, vegetation management, and raptor and wildlife protection.

In 1998, we began replacing chemically preserved wooden poles with steel utility poles. Research and life cycle analysis indicated that steel was the preferred pole material. Steel poles are less vulnerable to high winds and do not transfer any chemicals to the land.

Our vegetation management program follows industry tree trimming standards to limit damage and improve overall tree health. We follow the Edison Electric Institute's (EEI) strategy on pesticide use. Many industry and environmental groups have recognized us for our practices and commitment to arborist education. In 2001, we received our fifth consecutive Tree Line USA Award from the National Arbor Day Foundation.

Preventing birds of prey and other wildlife from contacting electric lines is another reliability program. Our wildlife protection program focuses on three areas: prevention, training and partnerships. Prevention activities include line construction standards and installation of raptor protection devices. We train all key personnel in handling raptor protection issues. Our partnerships with non-profit wildlife rehabilitation organizations improve our wildlife protection programs. Two non-profit organizations in particular, Liberty Wildlife and Wild at Heart have provided valuable input and support for our program.

Emissions and Waste

We have policies to reduce or eliminate routine emissions of environmentally harmful substances such as:

- Greenhouse gases (GHG)
- Ozone depleting substances (ODSs) as defined by the Montreal Protocol
- Key air pollutants including carbon monoxide, lead, volatile organic compounds, nitrogen oxides (NOx), particulate matter (PM-10) and sulfur oxides (SOx)

Throughout our system, we maintain air emissions per megawatt-hour generated at or below industry averages. We achieve this record by a combination of nuclear power, emissions control technology, improved power plant efficiency and a cleaner fuel mix.

All of our power plants are required by law to limit their emissions and operate within parameters set by federal, state and/or local environmental agencies. In addition, all major stationary sources of air pollution (including power plants) are required under Title V of the 1990 Clean Air Act Amendments to obtain air quality operating permits from local permitting authorities that are approved by the EPA. All our plants maintain Title V permits and we update our permit applications as required.

Air Emissions APS Operations

		2001	2000	1999	1998	1997
GREENHOUSE GASES						
CO₂	total (tons)	27,378,942	25,594,386 ^(a)	24,565,372	23,600,000	22,300,300
	Normalized (lb/MWh)	984	928	908	897	880
	Industry average (lb/MWh) ^(b)	N/A	N/A	1358	1,375	1,372
KEY AIR POLLUTANTS						
VOCs	total (tons)	653	585	483	453	405
	Normalized (lb/MWh)	0.023	0.02	0.02	0.02	0.02
NO_x	total (tons)	66,339	64,405	61,008	59,207	53,078
	Normalized (lb/MWh)	2.385	2.34	2.26	2.24	2.09
	industry average (lb/MWh) ^(b)	N/A	N/A	4.40	4.50	4.63
Particulate Matter (PM10)	Total (tons)	3,388	3,173	3,022	2,888	2,751
	Normalized (lb/MWh)	0.122	0.12	0.11	0.11	0.11
	Industry average (lb/MWh) ^(b)	N/A	N/A	0.14	0.19	0.18
SO_x	Total (tons)	61,151	56,421	61,599	57,604	53,977
	Normalized (lb/MWh)	2.199	2.05	2.28	2.18	2.13
	Industry average (lb/MWh) ^(b)	N/A	N/A	7.40	7.74	7.89
Mercury	Total (tons)	0.434	0.42	0.41	N/A	N/A
	Normalized (lb/GWh)	0.016	0.02	0.02	N/A	N/A
Carbon Monoxide	Total (tons)	5,042	4,564	3,957	N/A	N/A
	Normalized (lb/MWh)	0.181	0.17	0.15	N/A	N/A
Lead	Total (tons)	0.299	0.28	0.27	N/A	N/A

	Normalized (lb/GWh)	0.011	0.01	0.010	N/A	N/A
--	------------------------	-------	------	-------	-----	-----

^(a) Emissions from APS-owned facilities met the 1990 Climate Challenge Cap. Our rapid load growth, however, will make this difficult to sustain.

^(b) Industry and APS calculations include nuclear generation in the pounds per megawatt-hour normalization. Industry average source: National Air Pollutant Emissions Trends, 1990-1996 report, (EPA, 1997), Emissions of Greenhouse Gases in the United States (DOE/EIA-0573, 1996), Volume II of the Electric Power Annual for 1997, 1998 and 1999 (DOE/EIA). Industry averages for 2000 and 2001 emissions will be updated when available.

**Air Emissions
APS Ownership**

		2001	2000	1999	1998	1997
GREENHOUSE GASES						
CO₂	Total (tons)	16,889,576	15,974,666	14,323,343	13,645,326	12,900,000
	Normalized (lb/MWh)	1,324	1,324	1,274	1,261	1,256
KEY AIR POLLUTANTS						
VOCs	Total	486	432	321	294	257
	normalized (lb/MWh)	0.038	0.04	0.03	N/A	N/A
Nox	Total	40,904	39,070	34,294	35,710	31,560
	Normalized	3.208	3.24	3.41	3.25	3.05
Particulate Matter (PM-10)	Total	2,348	2,241	2,005	1,892	1,814
	normalized (lb/MWh)	0.184	0.19	0.18	0.18	0.18
Sox	Total	29,439	26,881	28,488	31,949	32,616
	normalized (lb/MWh)	2.309	2.23	2.53	2.90	3.16
Mercury	Total	0.226	0.233	0.21	N/A	N/A
	normalized (lb/GWh)	0.018	0.02	0.02	N/A	N/A
Carbon Monoxide	Total	3,582	3,234	2,532	2,323	N/A
	normalized (lb/MWh)	0.281	0.27	0.03	N/A	N/A
Lead	Total	0.248	0.24	0.22	N/A	N/A
	Normalized (lb/GWh)	0.019	0.02	0.02	N/A	N/A

We track emissions in both the plants we operate and the plants in which we hold ownership. We operate the Palo Verde, Four Corners, Cholla, West Phoenix, Ocotillo, Childs-Irving, Fairview, Yucca and Saguaro power plants.

Our Management Plan for ozone-depleting substances requires tracking the use of equipment containing chlorofluorocarbons (CFCs) and CFC-based refrigerants. The plan provides for proper maintenance and service of CFC-containing equipment to prevent CFC releases to the environment. Our policy is to replace old or obsolete CFC containing equipment with non-CFC chemicals as our operations allow.

Our commitment to reduce greenhouse gas emissions began when we became one of the first electric utilities to sign the Climate Participation Accord. We committed to a multi-pronged approach. In anticipation of above normal population and load growth in the Southwest, we acquired additional carbon dioxide (CO₂) credits from Niagara Mohawk Power Corporation (NMPC) to ensure we could meet our year 2000 commitment. In exchange for the CO₂ credits, we gave NMPC sulfur dioxide (SO₂) credits. NMPC subsequently "retired" the SO₂ allowances, donating them to environmental organizations.

We also committed to help others reduce their global greenhouse gas emissions. We built a solar/wind-based renewable energy plant to provide 24-hour electric supply to a remote fishing village in Baja California Sur, Mexico that previously relied on a diesel generator that operated three-hours per day. APS and NMPC, in cooperation with Mexico's national utility, Commission Federal de Electricidad (CFE), completed the wind and solar hybrid power plant in April 1999. The new plant offers the opportunity for the community to further develop its commercial fishing and tourism business ventures without air emissions.

Designated as a pilot project under the U.S. Initiative on Joint Implementation (USJI), the Baja California Sur project supports the U.S. National Action Plan on Global Climate Change to reduce greenhouse gas emissions.

We are exploring various ways of reducing Greenhouse Gas emissions cost-effectively. For example, we are a member of the Chicago Climate Exchange, which is developing a pilot-scale emissions trading program to reduce greenhouse gas emissions.

Reporting Toxic Releases

We track oil and chemical releases and spills and provide information as required to state and federal regulatory agencies.

In July 1999, we issued our first Toxics Release Inventory (TRI) report to the EPA under the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA). Previously, the EPA only required companies classified as manufacturing industries to file annual TRI reports. The EPA expanded that list in May 1997 to include electric utilities and six other industry groups.

All our fossil fuel-fired power plants are required by the EPA to track and report chemicals listed by the EPA as TRI substances. The majority of the chemicals we report are captured by pollution control equipment or are contained in ash that is either stored in ash ponds on site or sent to the coal mine for reclamation. In 2001, we returned 152,020 tons of ash and scrubber sludge to the mine. The ash and scrubber sludge used as backfill in the mine are considered chemically stable and pose no environmental or health risk to the community.

While TRI quantities reported by APS and other utilities are large, EPA studies have concluded that health risks relative to the volume of the substances emitted from power plants are low.

Coal ash has many beneficial uses and we are working to sell much of that ash for use in cement products. We sold 491,423 tons of ash and cenospheres, or approximately 25 percent of the ash we produce, to Phoenix Cement Company in 2001. When ash is added to cement products, it enhances the strength and quality of the cement. Continued commitment to ash sales will help decrease some of our TRI numbers while providing a useful ingredient for other industries.

APS Reportable Releases

Pounds released	Water	Air	Land	Total
Barium	0	2,463	2,783,125	2,785,588
Benzo(ghi)perylene	0	0.5	0	0.5
Beryllium	80	27	24,904	25,011
Chromium	0	568	144,355	144,923
Cobalt	0	80	29,720	29,800
Copper	5,783	689	242,964	249,436
Dioxin	0	4	0	4
Hydrochloric Acid	0	402,935	0	402,935
Hydrofluoric Acid	0	292,980	0	292,980
Lead	4	725	178,636	179,365
Manganese	433	1,409	444,056	445,898
Mercury	0	787	623	1,410
Nickel	1	610	90,075	90,686
PACs	0	15	0	15
Selenium	0	816	25,896	26,712
Sulfuric Acid	0	98,034	0	98,034

Vanadium	0	709	61,958	62,667
Zinc	2,398	2,271	167,973	172,642
2001 Total	8,698	805,123	4,194,285	5,008,106
2000 Total	8,138	638,674	4,439,800	5,086,612
1999 Total	8,434	709,497	4,195,890	4,913,821
1998 Total	9,567	833,895	4,121,579	4,965,041

Used Nuclear Material

The Department of Energy (DOE) and the Nuclear Regulatory Commission (NRC) rigorously control the management of the nuclear fuel cycle and its radioactive byproducts. Our Palo Verde plant was designed and built with facilities that safely store these wastes on site. In addition, we play an active role in shaping future legislation and regulations that affect the handling of radioactive waste.

There are two forms of radioactive waste produced by nuclear power plants like Palo Verde: high-level waste and low-level waste. High-level waste consists of relatively small amounts of uranium fuel. This used fuel is highly radioactive for many years, but can be safely isolated in above-or below-ground storage.

Low-level waste includes material and substances that have had some contact with the nuclear process and become radioactive. Although some low-level waste has been stored on-site in a low-level waste facility, we currently ship most low-level waste to off-site facilities. We believe that interim low-level waste storage methods are or will be available for Palo Verde to continue operation and to safely store low-level waste until a permanent disposal facility is available.

We have existing fuel storage pools at Palo Verde and are in the process of completing construction of a new facility for on-site dry storage of used fuel. With the existing storage pools and the addition of the new facility, we believe used fuel storage methods will be available for use by Palo Verde to allow continued operation through the term of the operating license for each of Palo Verde's three units. On average, Palo Verde permanently discharges 200 fuel assemblies annually. These discharged assemblies contain approximately 88 Metric Tons Uranium (MTU) and fission product inventory of 990 million curies.

Hazardous Waste

We have specific programs in place to reduce and minimize hazardous waste. Tracking our hazardous waste stream is accomplished through waste manifest data for hazardous wastes shipped off site. APS hazardous waste primarily consists of light bulbs, solvents, paint waste, lead-based paint debris and aerosol cans.

APS Hazardous Waste Generation

Year	Tons
2001	180.4 ^(a)
2000	78.6 ^(b)
1999	24.3
1998	23.8
1997	20.8

(a) The increase in the amount of hazardous waste generated in 2001 resulted from separate incidents at our Cholla Power Plant that required a one-time cleanup. These incidents led to issues of Notices of Violations from the Arizona Department of Environmental Quality, which have not been resolved.

(b) Waste figures for 2000 include 55.4 tons of soil removed during remediation of the Prescott Manufactured Gas Plant.

2001 Management of Hazardous Wastes

Management type	Onsite (tons)	Offsite (tons)
Recycled	0	12.6
Incinerated with energy recovery	0	0
Incinerated without energy recovery	0	139.8
Treated	0	0
Landfilled	0	28.0

Non-Hazardous Waste

Our facilities employ a wide variety of pollution prevention activities based on their individual and diverse needs.

The Deer Valley Service Center is charged with managing the waste and recycling for our service centers and the gas/oil power plants. Through a centralized facility, we are able to implement a variety of reuse and recycling activities. In 2001, we recovered more than \$2.5 million through surplus sales, auctions and recycling activities while diverting more than 3,445 tons of solid waste from landfills.

Managing Historic Properties

Manufactured Gas Plants (MGPs) that operated from the early 1800s to about 1950 made synthetic gas for domestic heating and lighting. Several APS predecessors operated plants in Arizona communities including Phoenix, Globe, Miami, Prescott, Douglas and Yuma. The manufactured gas process created by-products including tar and oils, some of which remained at the sites after operations ceased.

We began evaluating each site in 1993, and began remediating the sites in 1996. We continue to monitor the remediated sites in Phoenix and Prescott. Activities to remediate an MGP site in Yuma began in 2001. Remediation activities in Yuma are expected to be completed in 2002.

In 2001, APS also removed portions of an old underground pipeline that was used to transport the waste by-product, lampblack, from an MGP site located in downtown Phoenix to settling basins several blocks away. The pipeline was removed to make way for critical electrical upgrades to add electric capacity to the downtown area.

Waste from APS Operations

Non-Coal Combustion Waste

APS reports figures for non-coal related waste resulting from other operational activities such as vegetation management and metal recycling.

APS Non-Coal Combustion Waste Management

Waste Stream	Volume generated in 2001 (tons)	Volume generated in 2000 (tons)	Volume generated in 1999 (tons)	Volume generated in 1998 (tons)
Solid	12,053	6,988	127,398*	8,645
Vegetative	13,800	10,800	N/A	3,000
Total	25,853	16,883	127,398	11,645

*Includes 120,851 tons of metal and aluminum recycled at the Deer Valley Service Center.

Management Type	Tons of waste managed	Percentage
Recycled/reused	18,488	71.51
Incinerated	14	0.01
Landfilled offsite	6,136	23.73
Used for Energy Recovery	943	3.70
Landfilled on-site	272	1.05

APS Recycled/Reused Materials Breakdown 2001

Material	Tons
Paper and cardboard	656
Scrap metals	5,125
Used oil	943
Wood	560

Vegetative	10,800
Non-PCB equipment	214
Miscellaneous	190

Coal Combustion Waste

Much of the waste resulting from coal at our Cholla and Four Corners plants is either sold as an ingredient in cement products or reused as mine backfill material. In 2001, nearly 63 percent of coal combustion wastes produced were recycled or reused.

APS Coal Combustion Waste Management

Volume generated in 2001 (tons)	Volume generated in 2000 (tons)	Volume generated in 1999 (tons)	Volume generated in 1998 (tons)
2,586,017	2,158,500	2,524,748	2,433,4515

Management Type	Tons of waste managed	Percentage
Recycled	493,196	19.1
Reused	1,130,605	43.7
Landfilled	962,216	37.2

Accidental Releases

We track oil and chemical releases and spills and provide information as required to state and federal regulatory agencies.

Spill Prevention and Leak Detection

We have spill prevention counter measure plans for facilities that have a potential to release into waters of the U.S. At a minimum, all fuel, oil or waste oil storage tanks contain engineering controls for secondary containment. Our secondary containment engineering controls help ensure spills and leaks are captured and not allowed to exit APS property. Examples of secondary containment include double-walled tanks, concrete containment and liners.

We physically inspect exterior portions of our natural gas pipelines annually and immediately repair any leaks. We do not have any on-site natural gas storage facilities.

When coal is delivered to the power plants, the piles are treated with a chemical surfactant to minimize dust. The power plants also implement secondary containment measures to collect any storm runoff from coal piles. Fly ash from the coal-fired power plants is stored in wet disposal ponds, sent to the mine for reclamation or sold to a local cement company for use in concrete products. We monitor groundwater around the ash ponds quarterly and annually for self-evaluation and regulatory reporting.

2001 Spill Summary

We track oil and chemical releases and other spills and provide required information to all regulatory agencies.

Oil Spills

- Approximately 50 gallons of non-PCB mineral oil spilled onto an asphalt-covered parking lot when a vehicle struck a pole mounted 3-phase transformer. Three gallons of the oil reached a nearby storm drain. The visible oil was removed and the asphalt replaced.
- A pole-mounted transformer fell onto a street after a car struck the pole. Approximately 19 gallons of non-PCB mineral oil spilled onto the pavement, of which about five gallons reached a storm drain. The visible oil was removed.
- When a car struck a transformer approximately 50 gallons of non-PCB mineral oil spilled and approximately fifteen to twenty gallons ran into a nearby dry well. The contaminated soil was removed.

- Approximately 120 gallons of non-PCB mineral oil was released onto a parking lot when a windstorm blew down a pole with three transformers attached to it. A small amount of the oil flowed into a nearby storm drain. The spill was cleaned up.

Chemical Spills

- During a boiler cleaning process at the Four Corners Power Plant, the boiler's drum vent overflowed. Approximately 100 gallons of a mixture of water and EDTA ran into a plant drain.

Other Releases

- Approximately 500,000 gallons of cooling water overflowed the Unit 1 cooling towers at Palo Verde. Approximately 340,000 gallons of this overflow could not be contained in a lined portion of a storm water canal and flowed into an unlined sedimentation basin.
- During maintenance work at the Palo Verde water reclamation facility, approximately 500 gallons of effluent was released accidentally into the plant's storm drain system.
- An electric fault caused the NPDES sump at the Four Corners Power Plant to lose power, which caused water to overflow the sump into the plant's cooling water discharge canal.
- An underground service pipe at the Four Corners ruptured causing mud to be washed into the plant's cooling water intake canal. The ruptured pipe was repaired.
- A bottom ash decant line at the Four Corners developed a leak at an elbow junction resulting in a spill to the plant's cooling water discharge canal. The line was repaired.
- A cooling tower at the West Phoenix Power Plant overflowed releasing about 8,900 gallons of cooling water into a nearby unlined retention basin. The water soaked into the ground before it could be pumped back into the cooling tower.
- During the maintenance of a re-circulating water pump on a cooling tower at the West Phoenix Power Plant, a small amount of cooling tower sludge was released to a nearby irrigation canal. The canal was inspected and determined that no clean up was necessary.
- A circulating cooling water line at the Cholla Power Plant cracked and leaked approximately 60,000 gallons of lake water into the Little Colorado River. The water soaked into the dry streambed.

Spill History

	Oil Spills		Chemical Spills		Other releases (please specify)	
	Number	Gallons	Number	Gallons	Number	Gallons
2001						
Released to land	1	50	0	0	3	500,000
Released to water	3	5	1	100	5	60,000
Released to air	0	0	0	0	0	0
2000						
Released to land	1 ^(a)	50	2 ^(b)	37,525	3 ^(c)	208,545
Released to water	2 ^(d)	30	0	0	0	0
Released to air	0	0	0	0	0	0
1999						
Released to land	6 ^(e)	3	0	0	2 ^(f)	38,300
Released to water	1 ^(g)	25	0	0	2 ^(h)	400
Released to air	0	0	0	0	0	0
1998						
Released to land	0	0	3 ⁽ⁱ⁾	603	0	0
Released to water	0	0	0	0	5 ^(j)	480
Released to air	0	0	0	0	0	0

^(a) 50 gallons of hydraulic oil spilled when a line truck tipped into a dry wash.

^(b) 25 gallons of sulfuric acid discharged into a sump at the Four Corners Power Plant. 37,500 gallons of chlorinated secondary treated effluent water was released to a sedimentation basin.

^(c) 200,000 gallons of water containing slurried bottom ash was released into a dry streambed at the Cholla Power Plant when a bottom ash pipeline ruptured. 500 gallons of water containing ash was released when a discharge pipe

ruptured. A blowdown reuse pipe was damaged and 8,045 gallons of water was released at the Palo Verde Plant, 4,000 gallons were recovered.

^(d) 20 gallons of non-PCB mineral oil spilled into irrigation ditch when a transformer failed. 10 gallons of non-PCB mineral oil spilled onto a parking lot and into a storm sewer.

^(e) 8 ounces of mineral oil containing PCBs spilled when a capacitor bushing failed. Two unknown quantities of mineral oil containing PCBs leaked from transformers. Less than 3 gallons of mineral oil containing PCBs released when a capacitor ruptured. Two capacitors ruptured seeping PCBs but no oil reached the ground. An unknown quantity of non-PCB mineral oil spilled when a transformer fell off a line truck.

^(f) 7,300 gallons of non-radioactive water to an unlined storm water drain. 31,000 gallons of water from a HVAC cooling tower into and unlined storm water ditch.

^(g) 25 gallons of oil discharged into a canal at the Four Corners Plant when turbine lube oil leaked.

^(h) 300 gallons of water containing fly ash released into a canal when a pipe failed. 100 gallons of low-volume wastewater released into a canal when equipment failed.

⁽ⁱ⁾ 600 gallons of 96 percent sulfuric acid. .5 gallons of mineral oil containing PCBs from a transformer. 2 gallons of mineral oil containing PCBs from a capacitor.

^(j) 280 gallons of water from a spray pond filter at Palo Verde. Three separate discharges at Four Corners, two of 100 gallons each and one of unknown quantity.

Compliance

Compliance is our minimum standard of performance and we strive to reach beyond compliance in all areas of our business. All our managers and employees are required to uphold regulatory compliance as part of their daily activities and business planning. When non-compliance issues do arise, we take appropriate steps to address those issues and prevent them from happening again.

As an energy supplier and producer, we are subject to environmental, health and safety regulations on the federal, state, county and local levels. In addition, the Four Corners Power Plant, located on the Navajo Nation near Farmington, New Mexico, works with the Navajo Nation Environmental Protection Agency to address environmental issues.

We maintain a goal of zero notices of violation (NOVs) resulting in fines or penalties. Success in meeting this target is reflected in individual employee performance evaluations and compensation.

Notices of Violation (NOVs) Resulting in Fines or Penalties

	'01	'00	'99	'98	'97
Environmental					
Clean Air Act (CAA), State, County and City Regulations	1 ^(a)	0	0	2 ^(f) (\$600)	0
Clean Water Act (CWA) and State Water Regulations	0	1 ^(b) (\$15,000)	0	0	1 ^(g) (\$42,000)
Resource Conservation and Recovery Act (RCRA) and State Waste Regulations	1 ^(a)	0	0	0	0
Superfund Amendments and Reauthorization Act (SARA)	0	0	0	0	0
Toxic Substances Control Act (TSCA)	0	0	0	0	0
Local Statutes/Regulations	0	1 ^(c) (\$2,500)	1 ^(e) (\$600)	0	0
Safety					
Occupational Safety and Health Act (OSHA) and State OSHA Regulations	0	1 ^(d) (\$10,500)	0	0	0
Nuclear					
Atomic Energy Act	0	0	0	0	0

^(a) These incidents occurred in Sept. 01 and Oct. 01 and while we have not received any notice of penalty, the matters are not resolved with the regulatory agencies.

^(b) Release of slurried bottom ash into a dry stream bed at the Cholla Power Plant.

(c) Fine for raptor electrocution in Winslow, Arizona.

(d) Arizona Department of Occupational Safety and Health for safety training violations at the Cholla Power Plant.

(e) Arizona Revised Statute 41-2123, Area A; gasoline at West Phoenix Power Plant found to be below oxygen requirements (\$300). Arizona Revised Statute 41-2123, Area A; gasoline at Deer Valley facility found to be below oxygen requirement (\$300).

(f) Issued by the City of Phoenix for violation of a City parking ordinance, no fines were assessed. Vehicles were parked on an unpaved surface at the Deer Valley Substation. Maricopa County issued the second to the West Phoenix Power Plant for violation of a County environmental rule. A wooden handled brush containing decreasing solvent was found in a sink during an inspection.

(g) Release of effluent from a pipeline going to Palo Verde Nuclear Generating Station.

Arizona Department of Occupational Safety and Health for safety training violations at the Cholla Power Plant.

APS Environmental, Health and Safety Policy

APS is committed to a clean, safe and healthy workplace and environment. All aspects of our business will be managed in a safe and environmentally responsible manner in accordance with the principles set forth in this policy. We believe these actions benefit our customers, shareholders, employees and the public, both now and for the future, while improving the quality of the environment in which we live. This policy reaffirms our commitment to environmental stewardship and protecting the well being of our customers, employees and the public.

Management Commitment

All levels of APS management are committed to, and accountable for, implementing, maintaining, measuring and improving the environmental, health and safety programs of the Company. Self-assessments of our performance in these areas will be routinely conducted. We will measure performance and hold all employees accountable through performance enhancement processes.

Culture

We will foster a culture that encourages safe, healthy and environmentally responsible behavior by clearly defining the responsibilities of all employees. We will encourage proactive employee involvement in these efforts. Incentives for extraordinary performance will be provided.

Health & Safety

Safety is the overriding value of all aspects of our business. We will continually provide a safe and healthy environment for our employees, our customers and the community. We demand safe work behavior, practices, design and systems.

Pollution Prevention

Pollution prevention is an operating objective. We strive to prevent or reduce the generation of waste at the source. Our impact on the environment is minimized through good engineering practices. Where waste cannot be eliminated, it will be managed in compliance with all applicable requirements.

Community

We support and participate in the design, development and establishment of sound public policy and educational initiatives that protect human health and the environment. We will work with governments and others in creating responsible laws, regulations and standards to safeguard the community, workplace and environment. We will share with the communities our performance in the environmental, health and safety areas.

Compliance

Compliance with all applicable environmental, health and safety laws and regulations is required. All of our employees, from the officer level to the front line, are responsible and accountable for compliance and have an obligation to bring issues and concerns forward for resolution. We will actively seek sound business opportunities to go beyond regulatory requirements.

Stewardship of Natural Resources

We will responsibly use natural resources, such as air, water, soils and forests, and we will help conserve these natural resources through efficient use and careful planning. We will pursue an energy resource plan that emphasizes environmental protection, energy conservation and efficiency. We will responsibly address conditions that endanger health, safety or the environment.

The CERES Principles

By adopting these Principles, we publicly affirm our belief that corporations have a responsibility for the environment, and must conduct all aspects of their business as responsible stewards of the environment by operating in a manner that protects the Earth. We believe corporations must not compromise the ability of future generations to sustain themselves.

We will update our practices constantly in light of advances in technology and new understandings in health and environmental science. In collaboration with CERES, we will promote a dynamic process to ensure the Principles are interpreted in a way that accommodates changing technologies and environmental realities. We intend to make consistent, measurable progress in implementing these Principles and to apply them to all aspects of our operations throughout the world.

Protection of the Biosphere

We will reduce and make continual progress toward eliminating the release of any substance that may cause environmental damage to the air, water the Earth or its inhabitants. We will safeguard all habitats affected by our operations and will protect open spaces and wilderness, while preserving biodiversity.

Sustainable Use of Natural Resources

We will make sustainable use of renewable natural resources, such as water, soils and forests. We will conserve non-renewable natural resources through efficient use and careful planning.

Reduction and Disposal of Wastes

We will reduce and where possible eliminate waste through source reduction and recycling. All waste will be handled and disposed of through safe and responsible methods.

Energy Conservation

We will conserve energy and improve the energy efficiency of our internal operations and of the goods and services we sell. We will make every effort to use environmentally safe and sustainable energy sources.

Risk Reduction

We will strive to minimize the environmental, health and safety risks to our employees and the communities in which we operate through safe technologies, facilities and operating procedures, and by being prepared for emergencies.

Safe Products and Services

We will reduce and where possible eliminate the use, manufacture or sale of products and services that cause environmental damage or health or safety hazards. We will inform our customers of the environmental impacts of our products or services and try to correct unsafe use.

Environmental Restoration

We will promptly and responsibly correct conditions we have caused that endanger health, safety or the environment. To the extent feasible, we will redress injuries we have caused to persons or damage we have caused to the environment and will restore the environment.

Informing the Public

We will inform in a timely manner everyone who may be affected by conditions caused by our company that might endanger health, safety or the environment. We will regularly seek advice and counsel through dialogue with persons in communities near our facilities. We will not take any action against employees for reporting dangerous incidents or conditions to management or to appropriate authorities.

Management Commitment

We will implement these Principles and sustain a process that ensures that the Board of Directors and chief executive officer are fully informed about pertinent environmental issues and are fully responsible for environmental policy. In selecting our Board of Directors, we will consider demonstrated environmental commitment as a factor.

Audits and Reports

We will conduct an annual self-evaluation of our progress in implementing these Principles. We will support the timely creation of generally accepted environmental audit procedures. We will annually complete the CERES Report, which will be made available to the public.

These Principles establish an environmental ethic with criteria by which investors and others can assess the environmental performance of companies. Companies that endorse these Principles pledge to go voluntarily beyond the requirements of the law. The terms may and might in Principles one and eight are not meant to encompass every

imaginable consequence, no matter how remote. Rather, these Principles obligate endorsers to behave as prudent persons who are not governed by conflicting interests and who possess a strong commitment to environmental excellence and to human health and safety. These Principles are not intended to create new legal liabilities, expand existing rights or obligations, waive legal defenses or otherwise affect the legal position of any endorsing company, and are not intended to be used against an endorser in any legal proceeding for any purpose.

***CERES can be contacted at 99 Chauncy Street, Boston, MA 02116-3411 USA,
(617) 247-0700 Phone, (617) 267-5400 Fax, www.ceres.org***