

2000 Pollution Prevention Annual Report

A.R.S. §49-966

The pollution prevention program promotes industrial procedures, processes and improvements that result in the reduction of potential or actual releases of pollutants into the environment, and to assure the development of appropriate pollution prevention plans and the submission of toxic data reports by the regulated community. Reducing the release of pollutants to the environment protects public health and safety and the environment.

The program encourages pollution prevention through planning assistance, information sharing, partnering, recognition, providing grants and giving discounted hazardous waste fees for facilities with certified pollution prevention plans.

The EPA's Toxic Release Inventory (TRI) report data were used to identify trends in pollution prevention. With annual additions of more facilities and chemicals to the TRI program, it is now less useful as a measurement tool, but the report still contains information that shows decreases in air releases and waste generation for areas where the pollution prevention program operates. These are positive indications, especially considering the industrial growth since 1991. As Arizona industry grows, new facilities and increased production from existing facilities will continue to challenge the environment and increase the quantity of chemicals used. To sustain these gains, the department must continue to educate new Arizona industries.

The report lists the states that receive Arizona TRI wastes and Arizona cities with on-site releases, and includes the chemicals released in the largest amounts to the air and released in cities. The report lists facilities that failed to submit or submitted late pollution prevention plans and describes progress toward the state waste minimization goal.

The report shows the quantity and source of chemicals put into the Arizona environment, the trends in the amount of toxic chemical recycling and the environmental impact of industrial growth.

Information in the report is used to help evaluate and document the pollution prevention efforts. Also, information from section one of the report is used in required reports to the EPA for the "Pollution Prevention Incentives for States" grant. Information from section two of the report is provided on request to the public and business community from the EPA's annual Toxic Chemical Release Inventory data. The department's Pollution Prevention (P2) Unit promotes strategies to minimize

The program certifies comprehensive pollution prevention plans and annual reports from regulated facilities and maintains information on toxic use, pollutant releases, hazardous waste generation, pollution prevention plans, goals and methods. The department works directly with businesses to develop and pursue methods to

- ♦ *eliminate chemicals,*
- ♦ *substitute with less hazardous substances,*
- ♦ *change or improve manufacturing processes,*
- ♦ *increase recycling,*
- ♦ *improve control of chemical inventory or purchasing, and prevent spills and leaks before they occur.*

the quantity of toxic substances and the amount of hazardous waste generated by Arizona's private businesses and public institutions. The Pollution Prevention unit encourages businesses and institutions to develop options for the replacement and reduction of the use of toxic chemicals. Such strategies include substitution of highly toxic chemicals with less hazardous chemicals, changing or improving the manufacturing processes which use toxic chemicals, and, where appropriate, increasing the

Pollution prevention is a long-term program, which requires educating industry about this new concept, and sharing information between companies and between the department and industry. Pollution prevention education is provided through methods such as conferences, seminars, partnership formation, sector team meetings, businesses hosting site visits, classroom training and telephone help.

reuse and recycling of toxic materials. Other pollution prevention strategies aim to improve chemical inventory or purchasing practices and encourage best management practices to prevent spills and leaks. Arizona's successful pollution prevention programs and initiatives continue to reduce the exposure of the public and the environment to health and safety hazards.

The EPA's Toxic Release Inventory report (TRI) data were used to help identify trends in pollution prevention efforts. With annual additions of more facilities and chemicals to the TRI program, it is a less useful measurement tool than it was originally. TRI data still indicate decreases in air releases and waste generation for areas where the pollution prevention program operates. Reduction indications are positive, especially considering industrial growth since 1991. As Arizona industry grows, new facilities and

increased production from existing facilities will continue to challenge the environment and increase the quantity of chemicals used. The department continues to educate new Arizona industries to sustain these gains.

The report identifies states that receive Arizona TRI wastes and Arizona cities with on-site releases. It also lists facilities that failed to submit or submitted late P2 plans and reports progress toward the state waste minimization goal.

The state waste minimization goal is to achieve a 25 percent reduction between 1992 and 2000. Arizona progress from 1992 to 1997 exceeded that goal with a 39 percent reduction. The TRI data measure hazardous waste goals by indexing hazardous waste generation to the gross state product for the manufacturing, mining and utility industries to account for economic changes.

Pollution Prevention

The pollution prevention program, which numerous states have adopted, is successful in its unique approach to environmental protection. Rather than using a "control by permitting and enforcement" approach, pollution prevention allows industry and government to work together to find ways to use fewer or smaller quantities of toxic chemicals, save money, and protect public health and the environment. The pollution prevention program's mission is to protect public health and the environment by eliminating or reducing the use of toxic substances.

The department's pollution prevention program helps Arizona's large hazardous

waste generators and toxic substance users, those who use more than 10,000 pounds per year, to reduce hazardous waste, toxic substance use and environmental releases. The program helps the state meet its federal hazardous waste management capacity assurance requirements. It also helps Arizona meet the statewide waste minimization goal (required by ARS § 49-963.A) to reduce hazardous waste by 25 percent between 1992 and 2000.

Activities to Encourage Pollution Prevention *Information Clearinghouse/Technology Transfer*

A pollution prevention clearinghouse is available for industry use for researching new techniques and methods other companies have used to reduce toxic chemical use. The clearinghouse contains documents including articles, factsheets, case studies, product literature, books, journals, videos and guidance documents. A computerized database contains the holdings, and documents are added periodically.

Workshops and Conferences

ADEQ recognizes that information sharing about pollution prevention accomplishments will promote greater success in carrying out pollution prevention. Thus, the department encourages, develops and participates in pollution prevention workshops and conferences. More than 1,000 people attended pollution prevention workshops or conferences in which staff participated. FY 2000 conferences are listed at right.

Speakers Bureau

The department encourages pollution prevention efforts and provides pollution prevention training to industry by speaking at environmental events and displaying information regarding pollution prevention, waste minimization and environmental leadership, including:

- ♦ An outline of a presentation on recreational boating pollution prevention to the Verde River and Salt River watershed meeting in Mesa (July 1999)
- ♦ AMIGO (International P2) promotion event in Yuma/San Luis (August 1999)
- ♦ Presentation on recreational boating pollution prevention to the Verde River and Salt River watershed meeting in Mesa (August 1999)
- ♦ Pollution prevention presentation for medical waste reduction to Arizona Professionals for Infection Control in Tucson (September 1999)
- ♦ Binational workshop presentation, "Pollution Prevention in the Millennium" in Tucson (September 1999)

Workshops and Conferences of FY 2000

- ♦ International P2 program (AMIGO) promotion event in Yuma/San Luis (August 1999)
- ♦ Dust suppression seminar for the Arizona mining industry in Mesa (September 1999)
- ♦ Binational workshop presentation, "Pollution Prevention in the Millennium" in Tucson (September 1999)
- ♦ Phoenix pollution prevention partnership quarterly workshop in Mesa (October 1999)
- ♦ Pollution prevention workshop on toxic chemicals in foam blowing agents in Mesa (December 1999)
- ♦ Training workshop: Pollution prevention for Phoenix area automotive shops and fleet shops (March 2000)
- ♦ Training workshop: Pollution prevention for Yavapai County automotive shops and fleet shops in Prescott (March 2000)
- ♦ Training workshop: Pollution prevention for Flagstaff Automotive Service Association (March 2000)
- ♦ Training workshop: Pollution prevention for Coconino County fleet managers in Flagstaff (March 2000)
- ♦ Training workshop: Pollution prevention for Maricopa Automotive Service Association in Phoenix (March 2000)
- ♦ EPA and ADEQ "Environmental Building Workshop" for government procurement staff (March 2000)

- ◆ Pollution prevention exhibit and display table for “green construction” at the Regional Building Sustainability Conference in Tucson (October 1999)
- ◆ Arizona pollution prevention presentation at Western Regional Pollution Prevention Roundtable in California (October 1999)
- ◆ Pollution prevention presentation at Arizona State University hazardous waste class in Mesa (October 1999)
- ◆ Pollution prevention presentation at “sustainable products” workshop in Phoenix (October 1999)
- ◆ Solid Waste Association of North America and North American Hazardous Materials Management conjoint national conference: Pollution prevention information display booth in Tucson (November 1999)
- ◆ ADEQ “Green Accounting” in-house training workshop at ADEQ in Phoenix (November 1999)
- ◆ Pollution prevention presentation to City of Phoenix Environmental Committee in Phoenix (November 1999)
- ◆ Pollution prevention presentation at Arizona State University hazardous waste class in Mesa (November 1999)
- ◆ “Green building” workshop pollution prevention information display in Scottsdale (November 1999)
- ◆ Information booth and pollution prevention workshops at Arizona Clean and Beautiful's Governor's Pride Award in Phoenix (November 1999)
- ◆ Construction waste management presentation to the City of Phoenix Land and Water Use Planning Committee staff in Phoenix (December 1999)
- ◆ “Green construction” presentation to the City of Phoenix Land and Water Use Planning Committee in Phoenix (January 2000)
- ◆ Pollution prevention presentation at Honeywell's “Quest for Excellence” program in Glendale (March 2000)
- ◆ Pollution prevention workshop: Presentation to National Park Service's training session at Grand Canyon (March 2000)
- ◆ Arizona Association of Industries (AAI) meeting and pollution prevention presentation in Tucson (March 2000)
- ◆ Pollution prevention presentation at Grupo APSA in Nogales (April 2000)
- ◆ Pollution prevention presentation at Arizona State University hazardous waste seminar in Mesa (April 2000)
- ◆ Pollution prevention exhibit at the U.S. Army Yuma Proving Ground “Earth Day” in Yuma (April 2000)
- ◆ Pollution prevention information display at the Southern Arizona Environmental Management Society hazardous waste seminar in Tucson (May 2000)
- ◆ Watershed Outreach Conference – P2 presentation to the Verde Watershed Association (June 2000)
- ◆ Pollution prevention presentation at Northwest Watershed Group in Kingman (June 2000)

P2 Plan Development Training for Industry

For successful pollution prevention analyses, businesses need P2 training. The department staff provide free classroom training upon request and sponsors many other training seminars. In FY 2000, P2 training included the following courses.

- ◆ Pollution prevention plan training and assistance for Industry in Phoenix (December 1999)
- ◆ Pollution prevention plan amendment industry training in Phoenix (February 2000)

On-site Regulatory Assistance Visits

When businesses are unable to attend department training or seminars off-site, or do not submit the required pollution prevention plan, ADEQ provides on-site assistance to conduct the analysis and provide information on the regulatory requirements. An on-site visit is also an opportunity for the department to share P2 information, have the business participate in the analysis and provide P2 training. The department wants to increase the use of on-site visits when the opportunity is available, and the site visits increased 100 percent over the last period. These site visits also help companies meet compliance requirements or clear up compliance problems. Staff conducted 32 on-site regulatory visits in FY 2000.

Off-site Regulatory Assistance Meetings

To ensure that businesses understand P2 reporting requirements, the staff is available to answer questions and provide information. Staff responded to more than 525 individual requests for pollution prevention information by telephone, mail or meeting.

Pollution Prevention Meetings

The program also promotes P2 to other agencies and businesses and to encourage them to use P2 with their customers. Staff continue efforts to focus on special P2 programs for

- ◆ Boats and marinas
- ◆ Rivers and lakes
- ◆ Automotive industry
- ◆ “Green,” energy efficient, high performance homes and buildings
- ◆ Mines
- ◆ Watershed stewardship groups

Since 1999, ADEQ staff have organized or participated in more than 130 meetings other related environmental issues.

<i>On-site Regulatory Assistance Visits of FY 2000</i>
Cutler-Hammer, Tempe (June 1999)
Jackson and Company, Phoenix (August 1999)
Diagnostic Imaging, Gilbert (August 1999)
Accent Interiors, Tucson (September 1999)
Distinctive Marble, Tucson (September 1999)
PanGlo, Phoenix (September 1999)
Morris Industries, Phoenix (September 1999)
Motorola (52nd St.), Phoenix (October 1999)
ADOT, Tucson (October 1999)
Motorola (52nd St.), Phoenix (October 1999)
Russell Coil, Yuma (November 1999)
Sea Ray Boats, Tempe (November 1999)
BHP Copper Mine, San Manuel (December 1999)
AZ Castings, Tempe (January 2000)
ADOT, Tucson (October 1999)
Aviation Management Systems, Phoenix and Goodyear (January 2000)
Desert Sun Fiberglass, Phoenix (January 2000)
Mastercraft Cabinets, Phoenix (January 2000)
Palm Harbor, Tempe (February 2000)
Patterson, Goodyear (February 2000)
Mastercraft Cabinets, Mesa (March 2000)
Palm Harbor, Tempe (March 2000)
Polycon 2000, Phoenix (March 2000)
Motorola, Mesa (March 2000)
Oberg (regulatory), Chandler (March 2000)
ESH, Inc., Phoenix (April 2000)
Bolin Laboratories, Phoenix (April 2000)
Palm Harbor Homes, Casa Grande (May 2000)
OPTO Power Corporation, Casa Grande (May 2000)
Phoenix Brickyard, Phoenix (May 2000)
Mesa General Hospital, Mesa (June 2000)
Fiber Fab, Gilbert (June 2000)
Santa Rita Bottling Company, Tucson (June 2000)

Pollution Prevention Partnership (P3)

Pollution prevention includes developing partnerships with industry and other agencies to foster improved environmental practices. The department developed the Partnership for Pollution Prevention to provide a forum for companies to exchange environmental and P2 information. It is a voluntary government-industry partnership facilitated by the department. ADEQ promotes this program to improve environmental performance in waste reduction beyond what may be achieved under the traditional regulatory system. The goal of the P3 program is to improve communications and cooperation and share technical P2 successes between government and industry to reduce hazardous waste generation and toxic chemical use. More than one hundred P3 members are committed to evaluate, identify and enact pollution prevention activities at their facilities.

Industry members like the P3 program because it can increase operating efficiency while saving money. Pollution prevention partnership members are committed to making a good faith effort to promote source reduction, share pollution prevention information and set specific goals to reduce hazardous waste generation at their facilities, and most develop a pollution prevention plan. Waste reduction efforts documented in P2 plans are impressive. The department publishes summaries of the reported reduction methods by facilities and by chemicals.

ADEQ divides the P3 members into teams, which meet to discuss problems and solutions, exchange industry specific ideas on reducing hazardous waste, and provide facility tours to showcase successful P2 projects. Activities include sharing information on successful waste reduction efforts and identifying and resolving impediments to pollution prevention. The P3 members may also participate in an informal unused chemical exchange and mentor other companies in pollution prevention.

Pollution Prevention Meetings

July 1999

- ◆ Municipal pretreatment pollution prevention consultation in Mesa
- ◆ Spray paint pollution prevention consultation with Gateway Skills Center in Phoenix
- ◆ P3 Mining Team meeting at ASARCO mine in Sahuarita
- ◆ Lower Verde and Salt Watershed meetings in Phoenix
- ◆ P3 Aerospace Team meeting at Boeing in Mesa
- ◆ City of Scottsdale Green Construction meeting in Scottsdale
- ◆ P2 consultation on boating and marinas at Lake Pleasant
- ◆ P2 consultation to Arizona Game and Fish Department in Phoenix
- ◆ Lower Verde and Salt River Watershed meeting in Mesa
- ◆ Consultation on pollution prevention plan for city's compliance order in Gilbert

August 1999

- ◆ Lower Salt and Verde Watershed Planning Committee in Mesa
- ◆ General Instruments maquiladora facility visit (AMIGO) in Nogales, Mexico
- ◆ Arizona Clean and Beautiful planning meeting in Phoenix
- ◆ Lower Verde Watershed Association meeting in Mesa
- ◆ Arizona Clean and Beautiful meeting in Phoenix

- ◆ Consultation with Maricopa County Small Business Environmental Assistance Program in Phoenix
- ◆ BOTR (Buddies of the River) meeting in Lake Havasu City
- ◆ Pollution prevention meeting on construction waste with Dr. Tim Jones at the University of Arizona's Applied Anthropology (garbology and waste studies) project in Tucson
- ◆ Pollution prevention meeting with the staff of the University of Arizona's Integrated Pest Management (IPM) program for reducing build-up of whitefly resistance in Arizona farming in Tucson

September 1999

- ◆ Meeting with the Arizona Department of Commerce on environmental building in Phoenix
- ◆ Consultation with the Arizona Department of Administration on green building in Phoenix
- ◆ Arizona Clean and Beautiful planning meeting in Phoenix
- ◆ Green construction planning meeting with the city of Scottsdale in Scottsdale

October 1999

- ◆ Consultation with Arizona Clean and Beautiful in Phoenix
- ◆ Consultation with University of Arizona's Integrated Pest Management staff at Cotton Field Day in Maricopa
- ◆ Consultation with the U.S. Army Yuma Proving Ground on a pollution prevention military conference in Yuma
- ◆ Phoenix pollution prevention partnership quarterly workshop in Mesa
- ◆ Consultation with the Environmental Professionals of Arizona (EPAZ) on foam VOC reduction workshop in Mesa
- ◆ Pollution prevention partnership mining team meeting in Phoenix
- ◆ Innovative Home Tour and Southern Arizona Home Builder Association meeting in Tucson
- ◆ Verde Watershed Association Education/Outreach committee and general meeting in Flagstaff
- ◆ National Right-to-Know Conference and Exhibition in Denver
- ◆ Pollution prevention consultation with city of Phoenix staff in Phoenix

November 1999

- ◆ Pollution prevention meeting with Evergreen Recycling in Phoenix
- ◆ Pollution prevention meeting with vendors of government recycled products in Phoenix
- ◆ Green Building consultation with Scottsdale and the Arizona Strategic Alliance in Scottsdale
- ◆ Pollution prevention consultation with city of Yuma staff in Phoenix
- ◆ Participate at the "Buy Recycled" teleconference follow-up in Scottsdale
- ◆ Rocky Mountain Fleet Management Association meeting at Empire Machinery in Chandler
- ◆ Participate in Colorado River Sewerage and Septic Coalition (CRISSCO) stakeholder meeting in Lake Havasu City
- ◆ Meeting with the Arizona Department of Health Services staff on a possible mercury reduction pilot project in Phoenix

December 1999

- ◆ Meeting with the University of Arizona's Pesticide Office about IMP in Tucson
- ◆ Construction Waste Research proposal meeting (potential EPA grant) with the University of Arizona in Tucson
- ◆ Site visit with Tucson Roll-Off (construction waste recycling) in Tucson
- ◆ "Green Building 2000" promotion planning workshop in Scottsdale
- ◆ Deconstruction meeting (construction debris recycling opportunities) with the Scottsdale Redevelopment and Urban Design Studio in Scottsdale

- ◆ Boat and marina pollution prevention consultation with Arizona Game and Fish Department in Phoenix
- ◆ Pollution prevention consultation with Arizona State University in Phoenix
- ◆ Green building research meeting in Phoenix
- ◆ Pollution prevention partnership meeting for the electronics team in Tempe
- ◆ Verde Watershed Association meeting in Prescott
- ◆ Meeting with the University of Arizona's Agriculture Cooperative Extension staff in Prescott
- ◆ Meeting with the Yavapai County fleet manager in Prescott
- ◆ Green construction activities promotion meeting with the Yavapai County stakeholders in Prescott
- ◆ Construction waste management research proposal (potential EPA grant) meeting with the University of Arizona in Casa Grande

January 2000

- ◆ Publication meeting with Arizona Clean and Beautiful in Phoenix
- ◆ Arizona Clean and Beautiful outreach meeting in Phoenix
- ◆ Green demolition and construction meeting in Scottsdale
- ◆ Meeting with EPA Region IX staff on the Toxics Release Inventory in Phoenix
- ◆ Pollution prevention consultation with Arizona State University East in Chandler
- ◆ Arizona Association of Industries meeting in Phoenix
- ◆ AICHE water reuse meeting in Phoenix
- ◆ Environmental Professionals of Arizona Board of Directors meeting in Mesa
- ◆ Verde watershed education and outreach meeting in Cottonwood
- ◆ Meeting with the Natural Resources Conservation District in Camp Verde
- ◆ Meeting with the Arizona Association of Resource Construction Districts, State Land Department in Phoenix
- ◆ Pollution prevention consultation with marina operators in Lake Havasu City
- ◆ Colorado River Sewerage and Septic Coalition meeting in Lake Havasu City
- ◆ Pollution prevention partnership Aerospace Team meeting at TRW in Mesa
- ◆ Green Building 2000 planning meeting in Scottsdale
- ◆ Pollution prevention partnership environmental team meeting at Secor International in Mesa
- ◆ Lower Verde and Lower Salt River Watershed Association meeting in Mesa
- ◆ Arizona Clean and Beautiful planning meeting in Phoenix
- ◆ Green building EPA research grant proposal development meeting in Casa Grande

February 2000

- ◆ Arizona Association of Industries and Maricopa County Small Business Environmental Assistance Program non-Title 5 air permitting workshop in Tempe
- ◆ Arizona Clean and Beautiful meeting in Phoenix
- ◆ Environmental Professionals of Arizona meeting in Tempe
- ◆ Verde Watershed Outreach Education meeting in Chino Valley
- ◆ Verde Watershed Association general meeting in Chino Valley
- ◆ Northwest Watershed Advisory Group meeting in Kingman
- ◆ Non-point source marina concessions staff meeting in Boulder City, NV
- ◆ National Park Service Public Works meeting in Boulder City, NV
- ◆ Meeting with Kachina Tech Services in Phoenix
- ◆ Police Community Services meeting with Boating Safety Enforcement and Pollution Prevention in Bullhead City, NV
- ◆ Meeting with the manager of Engineering Services and Community Development in Bullhead

City

- ◆ Raytheon Missile Systems meeting in Tucson
- ◆ Rocky Mountain Fleet Manager's Association quarterly meeting in Casa Grande featuring Dave Boon, recommended by ADEQ and EPA
- ◆ Pollution prevention mining team meeting in Tucson
- ◆ Marine sanitation devices training put on by the U.S. Coast Guard and Coast Guard Auxiliary in Lake Havasu City

March 2000

- ◆ Army National Guard ecobuilding visit and discussion in Phoenix
- ◆ Arizona Clean and Beautiful meeting in Phoenix
- ◆ Oberg Engineering meeting in Phoenix
- ◆ Environmental Professionals of Arizona meeting in Mesa
- ◆ Chemical Engineering Society Meeting and Honeywell site visit in Phoenix
- ◆ Polycon 2000 site assistance visit in Phoenix
- ◆ City of Phoenix meeting with pollution prevention staff in Phoenix
- ◆ Colorado River Sewerage and Septic Coalition (CRISSCO) meeting in Lake Havasu City
- ◆ National Park Service meeting on pollution prevention for boating in Boulder City, NV
- ◆ U.S. Coast Guard meeting on pollution prevention for boating in San Diego, CA
- ◆ Sea grant meeting on pollution prevention for boating in San Diego, CA
- ◆ Verde Watershed Outreach Committee meeting in Sedona
- ◆ Environmental Professionals of Arizona Board of Directors meeting in Phoenix
- ◆ Verde Watershed general meeting in Sedona
- ◆ Army National Guard Ecobuilding visit and discussion in Phoenix
- ◆ Pollution prevention meeting with City of Mesa's Industrial Pretreatment Department in Mesa

April 1999

- ◆ Pollution prevention partnership mining team meeting at AMT in Tucson
- ◆ Green building support committee meeting in Scottsdale
- ◆ Environmental Professionals of Arizona meeting in Mesa
- ◆ Pollution prevention coordination meeting with Arizona State University's Industrial Assessment Center in Phoenix
- ◆ Pollution prevention partnership electronics team meeting and visit at Motorola in Mesa
- ◆ Buddies of the River (BOTR) meeting in Lake Havasu City

May 2000

- ◆ Pollution prevention coordination meeting with the city of Mesa in Mesa
- ◆ Pollution prevention plan meeting with Amber in Mesa
- ◆ Integrated Pest Management consultation with the University of Arizona Agriculture Pesticide Office in Tucson
- ◆ Pollution prevention information display at the Southern Arizona Environment Management Society hazardous waste seminar in Tucson
- ◆ Pollution prevention coordination meeting with Arizona Clean and Beautiful conference in Prescott Valley
- ◆ Pollution prevention conference planning at U.S. Army Yuma Proving Ground in Yuma
- ◆ Pollution prevention partnership mining team meeting in Phoenix
- ◆ SCERP meeting to incorporate pollution prevention into border activities in Phoenix
- ◆ Pollution prevention plan development off-site assistance with Palm Harbor Homes in Phoenix

June 2000

- ◆ Pollution prevention consultation meeting with Motorola in Mesa
- ◆ Pollution prevention coordination meeting with the Department of Defense Regional Environmental Coordinators in Phoenix
- ◆ Watershed outreach conference presentation planning with the University of Arizona, Yavapai County Extension Service staff in Black Canyon City
- ◆ Integrated Pest Management consultation with the Yavapai County Extension Service in Black Canyon City
- ◆ Pollution prevention consultation with the Maricopa County Environmental Compliance Assistance in Phoenix
- ◆ Pollution prevention coordination with the Intertribal Council and Arizona Clean and Beautiful in Phoenix
- ◆ Pollution prevention coordination at the Verde Watershed Association in Cottonwood
- ◆ Pollution prevention coordination with the Arizona Department of Transportation in Phoenix
- ◆ Pollution prevention incorporation into the Environmental Professionals of Arizona activities in Phoenix
- ◆ Planning meeting for the Arizona military pollution prevention conference in Yuma

International P2 Efforts – AMIGO

The pollution prevention program created the Arizona-Mexico International Green Organization (AMIGO) as an international extension of the Arizona Partnership for Pollution Prevention. AMIGO focused on maquiladoras, which are international manufacturing operations with twin plants on either side of the international boundary. AMIGO originally promoted pollution prevention by partnering and networking between facilities in Arizona and Mexico, was subsequently funded as a separate program by EPA, and is now administered by the department's Border Programs Unit in the Southern Regional Office.

The Pollution Prevention Unit continues to promote and support AMIGO by helping organize meetings, workshops and conferences and encouraging working relationships among organizations, industries and agencies along the border. Pollution prevention staff members conduct presentations and provide technical and other information as needed.

Arizona Pollution Prevention Awards

After consideration of comments received from inside and outside the department, ADEQ discontinued the Arizona Pollution Prevention Leadership Enhancement (APPLE) Awards. Although industry praised the positive reinforcement received for P2 work, others believed that a regulatory agency should not provide awards for specific achievements to companies it regulates or to those that are not perfect.

Arizona Clean & Beautiful, a nonprofit organization, added pollution prevention awards to their annual Governor's Pride in Arizona Awards program and asked the department for assistance. Arizona Clean & Beautiful's program includes awards in the categories of pollution prevention, criminal justice, environmental leadership, water conservation, community achievement, environmental education, recycling, environmental technology, transportation enhancement and distinguished communi-

ty leadership. Secretary of State Betsy Bayless presented the November 1999 awards.

Pollution Prevention Publications

The department publishes useful P2 information as another way to reinforce the idea of P2 and to exchange technical information. The department publishes *P2 Opportunities* bi-monthly, featuring successful pollution reduction case studies of Arizona facilities and highlighting outreach events and activities. More than 800 people in the regulated community, cities, academia, consultants, community groups, military installations and interested citizens in Arizona receive the publication.

Documents published or updated by the Pollution Prevention Unit-The department publishes P2 documents as another P2 educational opportunity. The following documents were developed or updated in FY 2000.

Toxic Data Reports

The department receives annual copies of reports from each facility that completes a TRI form as part of the EPA's community Right-to-Know program. EPA summarizes the TRI reports and publishes them in a TRI public data release each year. Facilities generate and handle wastes and/or create environmental emissions file the reports. Reports for the previous calendar year are due July 1.

EPA expanded the filing requirements so that many new facility types were required to file TRI forms in 1999. Facilities reporting to the EPA are required to perform a pollution prevention analysis and submit a pollution prevention plan under Arizona's pollution prevention policy and law. The number of Arizona manufacturing and non-manufacturing facilities filing TRI reports are shown in Table III.13.

Transfers and Releases of Hazardous Waste From Arizona Facilities

Arizona has made strides in managing its own wastes related to those chemicals on the EPA's Toxics Release Inventory (TRI) list. Reported TRI hazardous wastes transferred off-site from

Publications of FY 2000

- ◆ Creating a Successful Program, Guide (one page)
- ◆ A Method to Prioritize Options (one page)
- ◆ The Basics for Getting Started (one page)
- ◆ The P2 Program (brochure)
- ◆ Partnership for Pollution Prevention (brochure)
- ◆ Mining P3 Team (brochure)
- ◆ Internet Addresses and Bulletin Boards (brochure)
- ◆ Good Housekeeping (eight pages)
- ◆ Hazardous Waste Source Reduction (nine pages)
- ◆ Aerosol Cans (brochure)
- ◆ Industrial Rags (brochure)
- ◆ P2 for Lead (brochure)
- ◆ Lead in AZ (10 pages)
- ◆ Lithographic Printers
- ◆ AMIGO program brochure (English and Spanish versions)
- ◆ Awards, Grants and Loans (brochure)
- ◆ Chemical Suppliers and Pollution Prevention (brochure)
- ◆ Fiber Reinforced Plastic (brochure)
- ◆ Tank Storage of Volatile Organic Liquids (brochure)
- ◆ The Bottom Line P2 Can Save Your Company Money (brochure)
- ◆ How Does My Company Score? (brochure)
- ◆ Automotive Maintenance and Repair Shops (brochure)
- ◆ Residential Construction Industry
- ◆ Waste Minimization in AZ: It's Working! (brochure)
- ◆ Kool Web Sites for Kids (brochure)
- ◆ Green Building Resources List by title and subject
- ◆ Boating tip sheet for fueling

Table III.13. Total Facilities and Reports Filed, by Year

	1991	1992	1993	1994	1995	1996	1997	1998
Forms Filed	663	638	624	566	541	581	590	820
Facilities	222	218	216	214	202	221	215	251

facilities in 1998 decreased by approximately 40 percent (24 million pounds). Some of this waste went out of state. Facilities in Arizona and other

states receiving hazardous waste from Arizona businesses are shown in Table III.14. Arizona also received TRI hazardous waste from other states as shown in Table III.15. In Table III.14 ↓ is a decrease from 1997 and ↑ is an increase.

The EPA required more facilities to report 1998 TRI chemical releases than in the past. As a result, total reported on-site releases increased significantly. In Arizona, about 39 facilities who reported for the first time in 1998 accounted for about one

Table III.14. Pounds of TRI Waste Arizona Sent to Other States (Section 6)

Arizona	11,229,523 ↓	Nevada	474,041 ↑	New York	47,987 ↓
Texas	7,740,704 ↓	Tennessee	391,944 ↓	N. Carolina	38,650 ↑
California	6,651,893 ↑	Ohio	381,590 ↑	Iowa	35,515 ↑
Indiana	1,728,797 ↑	Kansas	323,773 ↑	New Jersey	6,431 ↑
Utah	1,274,402 ↓	Virginia	274,900 ↑	Georgia	2,724 ↓
Missouri	911,484 ↑	Arkansas	100,954 ↑	Minnesota	2,277 ↓
Montana	627,952 ↑	Michigan	75,412 ↓	Arkansas	105 ↑
Illinois	627,536 ↑	Louisiana	73,146 ↓	Oklahoma	2 ↓
Total in all states	33,021,742				

billion pounds of releases, which is about 95 percent of the state's total. The additional facilities reporting were metal mining, electrical generators, petroleum bulk terminals, chemical wholesalers, commercial hazardous waste treatment and solvent recovery services, and coal mining. The releases in each Arizona city are listed in Table III.16.

A few cities are affected by increased releases because new facilities filed in 1999. If the new facilities and sectors are removed from the table data, the releases for those affected cities are shown in Table III.17.

On-site Air Releases

Figure 1 shows releases of the "core chemicals." Core chemicals consist of about 329 TRI chemicals that have not changed during ADEQ's 1991-1998 data collection period. A change includes an addition, deletion or a qualification, which is a revision to the way a chemical is listed on the TRI chemicals list. An overall increase of releases for all facilities is due mostly to new reporting by six electrical generating facilities. A total of 39 new facilities reported for the first time in 1998, and the top the facilities generating air releases are the Coronado Generating Station (St. Johns), the Navajo Generating Station (Page) and the Cholla Power Plant (Joseph City).

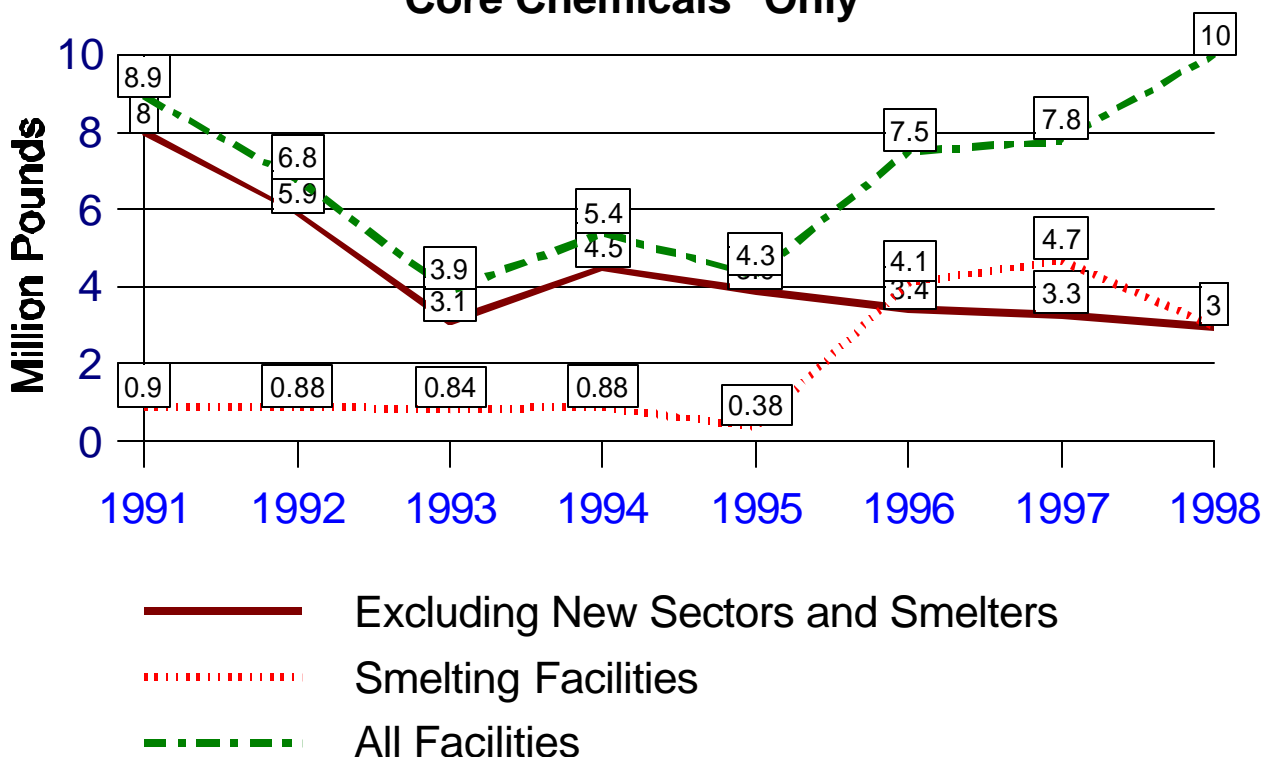
For the data group "Excluding New Facilities and Smelters," 1998 air releases have

continued a positive downward trend since 1991. These facilities are those reporting facilities typically found in the metropolitan areas of Arizona and which are a part of the department's pollution prevention program. The "new facilities" in this data group are those in the industry codes required to report for the first time in 1998.

Facilities Reporting and Filing Pollution Prevention Plans

Facility On-Site Air Releases

"Core Chemicals" Only



ADEQ approved 93 percent of the 327 plans submitted on or before July 1, 1998.

Table III.15. Pounds of TRI Waste Other States Sent to Arizona (Section 6)

Texas	9,081,449	Nevada	127,631	Iowa	15,941
California	3,103,590	Utah	125,879	Mass.	15,520
Alabama	915,378	Oregon	110,116	Illinois	10,544
New Mexico	832,213	Washington	106,116	Wisconsin	6,500
Missouri	349,470	Colorado	71,790	New Jersey	1,000
Connecticut	281,508	Oklahoma	42,561	Idaho	702
Arkansas	256,181	Nebraska	42,283	Delaware	479
Minnesota	204,840	Louisiana	31,171	Maryland	320
Ohio	175,790	Mississippi	22,661	Puerto Rico	29
Indiana	170,000	S. Carolina	20,000	Pennsylvania	1
Total from all states		16,122,339			

Table III.16. Releases in Arizona Cities - Including the New Sectors (Section 5)

Sahuarita	336,572,689	↑	Joseph City	1,194,206	↑	Goodyear	8,109	↓
Morenci	141,722,082	↑	Bisbee	1,050,000	↑	Prescott	7,200	↑
Green Valley	129,943,620	↑	Snowflake	882,559	↓	Gilbert	6,150	↑
Claypool	123,391,775	↑	Cochise	519,991	↑	Queen Creek	4,223	↑
Kearny	116,117,202	↑	Tucson	268,098	↑	Nogales	1,825	↓
Bagdad	93,486,877	↑	Mesa	250,947	↑	Holbrook	1,537	↑
San Manuel	55,889,684	↑	Kingman	172,779	↑	Glendale	1,456	↑
Hayden	45,993,381	↑	Eloy	124,230	↑	Flagstaff	1,365	↓
Miami	8,754,595	↑	Casa Grande	123,865	↓	Lake Havasu		
Page	3,660,727	↑	Chandler	111,261	↓	City	1,260	↑
Silver Bell	2,727,710	↑	Tempe	60,554	↓	Scottsdale	201	↓
Saint Johns	2,511,569	↑	Tolleson	49,335	↑	Rillito	71	↑
Springerville	1,571,742	↑	Benson	28,365	↑	Florence	27	↑
Phoenix	1,335,637	↑	Yuma	16,957	↑	Parker	10	↑
<i>Total for all cities</i>				<i>1,068,565,871</i>				

Table III.17. Pounds of TRI Releases of Arizona Cities Affected by the New Sectors and Excluding the New Sectors (Section 5)

Sahuarita	250	↓	Page	None	Joseph City	None	
Morenci	None		Silver Bell	None	Bisbee	None	
Green Valley	None		Saint Johns	None	Cochise	None	
San Manuel	None		Springerville	None	Kingman	164,967	
Miami	None		Phoenix	1,283,287	↓	Casa Grande	121,955

Table III.18. Pounds of Top 15 Chemicals (Excludes New Sectors and Smelters) Released to Air On- Site (Section 5)

Styrene	675,544	↑	Toluene	69,526	↓
Methanol	659,133	↓	N-Butyl Alcohol	64,847	↑
N-Hexane	265,259	↓	Dichloromethane	64,580	↓
Methyl Ethyl Ketone	189,448	↓	Sulfuric Acid (aerosols)	50,530	↑
Glycol Ethers	185,286	↑	Chlorodifluoromethane	49,168	↑
Ammonia (aqueous)	169,056	↓	Xylene	37,069	↑
Hydrogen Fluoride	92,293	↓	Trichloroethylene	33,386	↓
1,1-Dichloro-1-Fluoroethane	80,954	↑	<i>Top 15 Air Subtotal</i>		<i>2,686,259</i>

Table III.19. Top 20 Industries Grouped by SIC Code¹ - Pounds of Off-Site Transfers (Section 6)

3087 Custom Resins	5,618,193	3679 Electronic Components	978,622
3471 Electroplating	3,728,726	3324 Steel Foundries	564,529
3451 Screw Machine Products.	3,338,949	3089 Plastic Products	555,426
3312 Blast Furnaces & Steel Mills	3,256,923	3724 Aircraft Engines/Parts	433,845
3357 Nonferrous Wire Drawing.	2,183,469	3479 Metal Coating	410,722
3674 Semiconductors/Related Prod.	1,339,131	3841 Surgical Instruments	274,900
3714 Motor Vehicle Parts/Access.	1,296,096	3469 Metal Stamping	273,400
3714 Printed Circuit Boards	1,236,210	3559 Special Industry Machinery	252,746
3661 Telephone Apparatus	1,196,951	3369 Nonferrous Foundries	248,388

¹SIC Code is the U.S. Standard Industrial Classification system.

ADEQ approved 91 percent of the 359 plans submitted before July 1, 1999. New plans received during this reporting period are listed below.

Pollution Prevention Plans

	Before 7/1/99	7/1/99 to 6/30/00
Plans Received	327	32
Certificates Issued	303	24
Amendments Received	367	79

Plans submitted between July 1 and Dec. 31, 1999

- ◆ City of Goodyear
- ◆ Diagnostic Imaging, Inc.
- ◆ Health Factors International
- ◆ MGC Pure Chemicals America, Inc.
- ◆ Pan Glo Services
- ◆ Presto Casting Company
- ◆ Tucson Electric-Irvington Gen.
- ◆ UCSA (Urethane Construction Supply and Consulting)
- ◆ Cutler-Hammer (Tempe, AZ)
- ◆ Dole Vegetables
- ◆ Jackson and Company, Inc.
- ◆ OTI Metal Finishing
- ◆ Phelps Dodge-Sierrita
- ◆ Shipley Ronal
- ◆ Tucson Electric-Springerville Gen.

Plans submitted between Jan. 1 and June 30, 2000

- ◆ Amber Glass and Steel, Inc.
- ◆ Cavco Industries, Inc. Litchfield
- ◆ Kachina Tech Serv. and Process (KTSP)
- ◆ Palm Harbor Homes-Tempe
- ◆ Phoenix Brick Yard
- ◆ Recot, Inc.
- ◆ SCI, L.L.C. (On Semiconductor)
- ◆ Trenwyth Industries (Phoenix)
- ◆ Union Distributing Co., Inc.-Phoenix
- ◆ Union Distributing Co., Inc.-Tucson
- ◆ Ashland Distribution Company
- ◆ Corella Electric W.
- ◆ KC Panels, Inc.
- ◆ Phelps Dodge-Bagdad
- ◆ Praxair Distribution-Phoenix, AZ
- ◆ RSA Mircotech
- ◆ Trans-Matic Manufacturing, Inc.

Synopsis of Annual Progress

To encourage facilities to share pollution prevention information, the department distributes the "Summary of Arizona Pollution Prevention Plans: Goals, Methods and Target Chemicals (OFR 97-6)," which is a compilation of the progress reports, to all facilities that filed a plan.

In 1994, the department, as required by A.R.S. § 49-963.A, joined with external stakeholders to establish a state waste minimization goal to reduce hazardous waste by 25 percent between 1992 and 2000. This goal is indexed to economic data (manufacturing, mining and utilities) from the Arizona Department of Commerce. Based on these data, the reduction between 1992 and 1997 was 39 percent. Data after 1997

Reports Submitted at Least 90 Days Late

- ◆ America West Airlines
- ◆ Arizona Department of Transportation
- ◆ Avant Manufacturing
- ◆ AZ Castings
- ◆ AZ Pacific Wood Preserving
- ◆ City of Phoenix Police Academy
- ◆ City of Tolleson Wastewater Treatment Plant
- ◆ Insulated Shipping Containers
- ◆ Kalil Bottling Company
- ◆ Mastercraft Cabinets
- ◆ Metco Metal Finishing
- ◆ Procter and Gamble Manufacturing
- ◆ U.S.A.F.-Luke
- ◆ U.S. Marine Corps Yuma Air Station

Reports Not Submitted

- ◆ Arizona Department of Emergency Management
- ◆ Desert Sun Fiberglass

***Facilities that File a TRI Form
but do not File a Hazardous
Waste Generator Report***

AACCO Cast Products
Advanced Construction Products
Air Products/Chemicals
Allied Precious Metals
Allied Tool and Die
American Fiberglass
American National Can
Arizona Castings, Inc.
Arizona Marble
Badger Meter, Inc.
Baja Products, Ltd.
Borden Pasta Group
Casa Grande Enterprise
Creamette Co.
Desert Sun Fiberglass
Distinctive Marble
DQC Manufacturing
Earl's Fiberglass, Inc.
Fiber Fab. Inc.
GreenStone Industries
Ironite Products Co.
Insulated Shipping
L&M Laminates and Marble
Marlam Industries, Inc.
Maxx Spas, Inc.
Mesa Fully Formed
Monsey Products Co.
Patterson Laboratories
PAX Company
Patrician Marble
Royal Sterilization
Sunland Beef Company
Thermal Engineering
Ultra Installations
Valley Marble
West Fiberglass of AZ

are not available yet from the Arizona Department of Commerce. By continuing to work with industry, this goal can be maintained and improved upon into the future.

Facilities with Inadequate Plans or Reports

Toxic Data Reports: Toxic Data Reports are due July 1 of each year. Toxic Data Reports include pollution prevention plan amendments and/or annual progress reports, which were due July 1, 1999. A plan amendment is required when the time frame of the plan expires. These reports are inadequate when not submitted by the required date. The lists to the right contain those facilities that submitted their Toxic Data Reports at least 90 days late or not at all.

Recommendations for Form R Filers That Do Not Generate Hazardous Waste

The facilities listed to the left file a TRI form but do not file a hazardous waste generator report.

A few of these facilities requested a pollution prevention plan exemption because they do not generate hazardous waste and therefore believe they have nothing to reduce, for example, using ammonia in closed loop chillers, such as dairy and meat processors; machining chromium-laden stainless steel; extruding copper rods into wire; and using styrene in cultured marble manufacturing. Pollution prevention is multi-media, so reduction of air emissions or water useage may be possible even when there may be no hazardous waste reduction opportunities.

Only a pollution prevention opportunity analysis, as required by the statute, can determine whether opportunities exist. Facilities that are currently unable to reduce toxic chemical use are still certified in the program once they do an analysis, even if no opportunities exist. These facilities are provided "no opportunities" status with the realization that this status may change with new technology or when new processes are added. Several facilities with no hazardous waste completed analyses that determined opportunities when none were thought to exist. The department believes that requiring

these facilities to do the analysis, rather than giving an exemption, is fair treatment and is in the best interest of the public. The department recommends no change in the requirements.

Statutory and Regulatory Recommendations

Pollution prevention implementation shows great opportunities for achieving significant waste reductions in chemical use and waste generation while reaping significant

financial rewards to businesses. ADEQ recognizes that the lack of technical pollution prevention information continues to be an impediment to accelerating P2 at many smaller companies. As a result, technical assistance to industry to identify P2 opportunities has increased as much as possible within staff and budget limits. Besides regulatory assistance efforts, having an Arizona statute that requires pollution prevention planning and reporting advances P2.

At the same time, there is a continued dominance of technology-based, end-of-pipe regulations that continue to drive business decisions toward single-medium, pollution control compliance.

To advance P2 in the future, a transformation of environmental regulations from pollution control to P2 may be required so that P2 becomes the dominant regulatory ethic and framework (i.e., an invisible, yet pervasive, element in all state environmental policy, planning, permitting, enforcement and reporting activities).

To advance P2 in the future, a transformation of environmental regulations from pollution control to P2 may be required so that P2 becomes the dominant regulatory ethic and framework (i.e., an invisible, yet pervasive, element in all state environmental policy, planning, permitting, enforcement and reporting activities).

This is a formidable challenge and there is no guidance or consensus on how, or if, development of a comprehensive P2 regulatory integration agenda is worthwhile.

Further statutory changes are not recommended now.