

A REPORT
TO THE
ARIZONA LEGISLATURE

Performance Audit Division

Performance Audit

Department of Environmental Quality— Water Quality Division

August • 2004
REPORT NO. 04 – 05



Debra K. Davenport
Auditor General

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AUDITOR GENERAL

STATE OF ARIZONA
OFFICE OF THE
AUDITOR GENERAL

WILLIAM THOMSON
DEPUTY AUDITOR GENERAL

August 18, 2004

Members of the Arizona Legislature

The Honorable Janet Napolitano, Governor

Mr. Stephen A. Owens, Director
Arizona Department of Environmental Quality

Transmitted herewith is a report of the Auditor General, A Performance Audit and Sunset Review of the Department of Environmental Quality—Water Quality Division. This report is in response to a November 20, 2002, resolution of the Joint Legislative Audit Committee. The performance audit was conducted as part of the Sunset review process prescribed in Arizona Revised Statutes §41-2951 et seq. I am also transmitting with this report a copy of the Report Highlights for this audit to provide a quick summary for your convenience.

As outlined in its response, the Department of Environmental Quality agrees with all of the findings and plans to implement all of the recommendations.

My staff and I will be pleased to discuss or clarify items in the report.

This report will be released to the public on August 19, 2004.

Sincerely,

Debbie Davenport
Auditor General

Enclosure

PROGRAM FACT SHEET

Arizona Department of Environmental Quality Water Quality Division

Mission:

"The mission of the Water Quality Division is to protect and enhance public health and the environment by ensuring safe drinking water and reducing the impact of pollutants discharged to surface and groundwater."

Services:

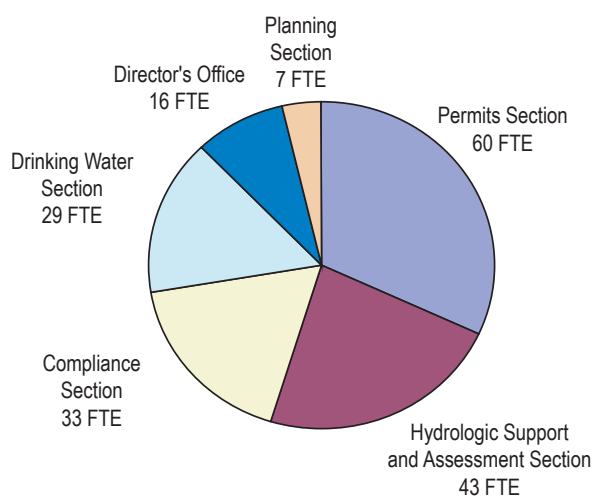
The mission of the Division is to protect and enhance public health and the environment by ensuring safe drinking water and reducing any impacts of pollutants to surface and groundwater. The Division strives to protect the public and water quality by developing water quality management plans, establishing water quality standards, anticipating problems through ongoing water quality monitoring and assessment, and responding to emergencies. Additionally, it regulates discharges from a variety of sources, including wastewater treatment plants, landfills, mining operations, industrial facilities, irrigated agriculture, and urban runoff. Finally, the Division promotes voluntary programs to protect the aquifers for drinking water use.

Facilities:

The Division's staff is primarily located on the 5th floor at 1110 West Washington in Phoenix; the building is a private lease-to-own facility at an annual cost of approximately \$3.6 million for the entire Department. In addition to the Central Phoenix Office, the Division has some staff working on issues who report to assistant directors located in the Northern Regional Office (NRO) located in Flagstaff and the Southern Regional Office (SRO) located in Tucson. The NRO is located in a privately owned facility where the Department rents space on an annual lease of \$80,600 for 4,600 square feet. The SRO is located in a state-owned building at 400 West Congress that the Department rents from the Department of Administration on an annual lease of \$116,000 for 5,700 square feet. The Department does not break down these building costs by division.

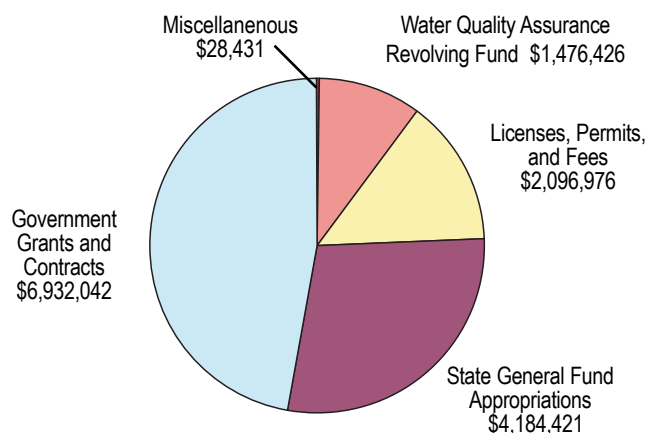
Program staffing:

188 (as of January 2004) includes 20 vacancies



Program revenue:

\$14.7 million (fiscal year 2003, actual)



Special equipment:

The Division uses standard office equipment, such as furniture, desktop computers, and laptop computers. The Division also has 15 vehicles (5 SUVs, 5 pick-up trucks, 4 vans, and 1 sedan) that it uses mostly for compliance/enforcement inspections and monitoring and field investigations. In addition, the Division has specialized equipment, such as global positioning system (GPS) units for determining the latitude and longitude of a particular location, flowmeters to measure the water flow of streams, turbidimeters to measure water clarity, and a pontoon boat with motor for collecting water samples from large reservoirs.

Core goals:

- To provide value to Arizona's citizens, meet customer needs, and promote Arizona's interests.
- To provide clean and safe water.
- To provide clean and safe drinking water by increasing the percentage of water attaining designated uses.
- To protect clean and safe water by protecting groundwater and surface water.
- To ensure that nonpoint sources of pollution are reduced to meet water quality standards in 30 percent of the State's watersheds.

Adequacy of performance measures:

Although the Division's performance measures appear to be generally aligned with its mission, auditors identified opportunities to improve the Division's performance measures.

First, the Division should consider adding output measures that quantify such things as the following:

- Number of Notice of Violation (NOVs) issued;
- Number of new Community Water Systems (CWS) certified;
- Percentage of CWS out of compliance; and
- Percentage of CWS in compliance.

Additionally, the Division should consider adding outcome measures that quantify the following:

- Percentage of Notices of Opportunity to Correct (NOC) resolved within the statutorily allotted time; and
- Percentage of NOVs resolved within the statutorily allotted time.

Source: Auditor General staff compilation of unaudited information obtained from the Department's Web site, Arizona Financial Information System (AFIS) Accounting Event Transaction File for the years ended June 30, 2002 and 2003, the Office of Strategic Planning and Budgeting's Arizona Master List of State Government Programs 2002-2005, and other information provided by the Department.

SUMMARY

The Office of the Auditor General has conducted a performance audit of the Department of Environmental Quality, Water Quality Division pursuant to a November 20, 2002, resolution of the Joint Legislative Audit Committee. This audit was conducted as part of the Sunset review process prescribed in Arizona Revised Statutes (A.R.S.) §41-2951 et seq and is the first in a series of four reports on the Department of Environmental Quality. The subsequent reports will focus on the Waste Programs Division, the Air Quality Division, and an analysis of the 12 statutory Sunset factors.

The Water Quality Division has primary responsibility for enforcing federal and state water quality standards in Arizona, thus helping to ensure that Arizona's citizens have access to safe drinking water. Drinking water can be potentially contaminated by a variety of dangerous substances, such as high levels of fecal coliform or nitrates. High levels of some contaminants can cause short-term health risks and even death to those at special risk. As a result, the federal and state governments have established water quality standards enforced by the Division, which are designed to identify those systems that are potentially providing dangerous drinking water.

Division could improve its oversight of drinking water quality monitoring (see pages 7 through 12)

The Division serves as the primary agency for enforcing state and federal water quality regulations under agreement with the federal Environmental Protection Agency (EPA) to ensure that Arizona's citizens have access to safe drinking water. Contaminants such as fecal coliform or nitrates can cause short-term health risks and even death to those at special risk. As of October 2003, there were approximately 1,650 regulated drinking water systems throughout the State, which vary in size between 25 and more than 1.2 million connections.

All public drinking water systems are required to monitor their water and report specified contaminant levels at specific intervals, often monthly, to the Division. The

Division then electronically submits the monitoring reports to the EPA, which analyzes these results and identifies which systems are considered to be significantly noncompliant (SNC).

Between the time a system commits a violation and the EPA identifies the system on the SNC list, the Division may make informal efforts to help bring the system into compliance. However, the Division typically waits for the SNC list to develop its Drinking Water Priority Log, which lists all the facilities that the Division would like to further investigate. As of March 2004, there were 111 facilities on the log. However, the Division reports that it does not have enough staff to assign enforcement staff to every facility on the log at any one point in time. Therefore, it must prioritize which facilities to assign to enforcement staff. In agreement with the EPA, the Division currently focuses on violations that allege unallowed levels of nitrates or the failure to test for nitrates. As of March 2004, 44 of the 68 facilities with nitrate violations on the Priority Log were assigned to enforcement staff.

As the Division does not immediately assign enforcement staff to every new Drinking Water Priority Log entry, violations can continue for a considerable amount of time. For example, the facilities listed on the March 2004 Drinking Water Priority Log that were not yet assigned enforcement staff had been considered significantly noncompliant by the EPA typically for 3 years, with one system considered significantly noncompliant for almost 8 years. During this time, nearly 100,000 homes and businesses served by these facilities were potentially exposed to unhealthy drinking water. Unassigned facilities with nitrate violations had been typically considered significantly noncompliant for about 2-1/2 years, with one system considered noncompliant for almost 4 years. These facilities served nearly 60,000 homes and businesses.

The Division could increase the impact of its limited resources by expanding the Monitoring Assistance Program (MAP). All public drinking water systems that serve fewer than 10,000 connections are required to join the fee-based MAP, which hires private contractors to conduct and report some required water quality test results directly to the Division. While MAP currently provides many of the required water quality tests for these systems, it does not provide testing for contaminants such as lead, copper, and nitrates. The majority of the facilities on the Drinking Water Priority Log are small water systems that often do not obtain these tests on their own, and therefore incur monitoring and reporting violations. Expanding MAP to conduct all the required tests would eliminate these violations. In turn, the Division's limited staff resources could be concentrated on a smaller number of violations. Additionally, after the Division has decided whether to expand MAP and has implemented any changes, it should re-evaluate enforcement staff levels.

Division should charge fees for drinking water plan reviews (see pages 13 through 16)

The Division should charge fees for performing drinking water plan reviews, as Arizona statute requires. These reviews cover the planning and construction of wells, water treatment plants, and a variety of other facilities. In response to industry opposition in 1996, the Division does not charge fees as required. Instead, the Division primarily uses a combination of General Fund and federal grant monies to cover the cost of conducting the reviews. In fiscal year 2003, these costs came to \$676,200, according to the Division.

Despite industry concerns about these fees, all counties with delegated authority to perform drinking water plan reviews already charge fees and have done so for many years. Additionally, although some industry representatives still have some concerns about these fees, other representatives appear to recognize the Division's general need to charge fees to recover costs.

To comply with statute, reduce the review function's reliance on the General Fund, and potentially free federal grant monies for other purposes, the Division should adopt administrative rules to implement the statutorily required fees. To establish these fees, the Division will need to begin tracking the hours it spends reviewing applications. However, it could adopt forms and processes already used by other plan review functions within the Department to track their hours.

Division has made significant progress in processing APP applications (see pages 17 through 21)

Although the Division has had difficulties processing Aquifer Protection Permit applications in the past, it has made significant progress in meeting a statutory APP permit-processing deadline. One of the Division's key responsibilities is to limit discharges to the State's aquifers by issuing APP permits. The aquifer is a layer of permeable rock, sand, or gravel through which groundwater flows, containing enough water to supply wells and springs. Arizona is significantly dependent on aquifers for its water supplies.

The APP program allows facilities to operate under two types of APPs, general and individual, both intended to protect Arizona's aquifers. Specifically, general permits can only be considered for certain types of discharges to the aquifer, such as septic

tanks and vehicle- and equipment-washing facilities. In contrast, individual permits are more flexible. The Division issues four types of individual permits: industrial, mining, wastewater, and drywell.

Auditors' review of division data indicated that, as of December 2003, the Division has processed all but one of the nonmining APP applications by developing and implementing a strategy known as OPERA (Operation Permit Arizona). OPERA was a department-wide effort that involved assigning staff from a variety of units to help process pending APP applications. As of December 2003, division data indicated that the Division had issued a total of 524 individual APP permits, referred 23 facilities to its compliance unit for a variety of reasons, such as failing to submit a required APP application, and had one APP application pending for nonmining facilities. Similarly, division data indicated that 61 nonmining applications have been denied or withdrawn.

The Division is further refining this approach to address the remaining mining APP applications as the statutory 2006 deadline approaches. Division data indicated that, as of December 2003, the Division was in the process of handling 13 mining facilities' applications and had referred 11 facilities to its compliance unit. Additionally, the division data indicated that another 10 facilities had not yet submitted but were expected to submit APP applications. Before the 2006 deadline, the Division will need to take some sort of action regarding these facilities. For example, if the Division receives applications for these facilities, it will need to process them. Conversely, those facilities that fail to submit required APP applications will need to be referred to the Division's compliance unit for appropriate enforcement action.

Division could more accurately recover APP costs (see pages 23 through 26)

The Division should change how it calculates and applies the fees it charges for processing APP applications. Statute requires the Division to charge fees to recover the direct costs of processing applications; General Fund monies are used for the remaining costs. In fiscal year 2003, the Division generated approximately \$1.2 million from these fees.

To help ensure the accurate recovery of costs, the Division should make sure its APP processing fees are appropriately calculated and applied. First, the Division should set the fees based on the actual direct costs to perform the reviews. Now the Division is setting the fees to recover only those costs not covered by General Fund monies. Second, the Division should recalculate the fees regularly. The Division has not

recalculated the fees since 2001 even though billable hours and costs have changed over time. Third, the Division should charge for time traveling to permit sites. Due to negotiations with the regulated community, the Division does not charge fees for travel time to permit sites, even though it falls under the standard definition of direct costs.

Finally, after these changes have been made so that the Division is accurately recouping its direct costs through appropriate fee levels, it should also ensure its future General Fund appropriation requests to the Legislature reflect true indirect costs for issuing APP permits.

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INTRODUCTION & BACKGROUND

The Office of the Auditor General has conducted a performance audit of the Department of Environmental Quality, Water Quality Division pursuant to a November 20, 2002, resolution of the Joint Legislative Audit Committee. This audit was conducted as part of the Sunset review process prescribed in Arizona Revised Statutes (A.R.S.) §41-2951 et seq and is the first in a series of four reports on the Department of Environmental Quality. The subsequent reports will focus on the Waste Programs Division, Air Quality Division, and an analysis of the 12 statutory Sunset factors.

Water Quality Division monitors and protects water quality

The Water Quality Division has primary responsibility for enforcing water quality standards in Arizona. The Division's mission is "to protect and enhance public health and the environment by ensuring safe drinking water and reducing the impact of pollutants discharged to surface and ground water." Specifically, it is responsible for assessing the quality of the State's waters, supporting the cleanup of water contamination when it occurs, regulating and taking enforcement action when drinking and waste-water systems regulations are violated, and providing technical assistance and public education about water quality issues.

These responsibilities are important because Arizona's citizens need access to safe drinking water. Drinking water can potentially be contaminated in a number of ways, such as high levels of fecal coliform or nitrates. While a low level of contamination is generally allowed, high levels of some contaminants can cause short-term health risks and even death to those at special risk.

Through the United States Safe Drinking Water and Clean Water Acts, the federal government has set many of the

Examples of Potential Drinking Water Contaminants

Fecal Coliform—The major source of fecal coliform in drinking water is human and animal fecal waste. Microorganisms in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, and headaches, and they may pose a special health risk for infants, young children, and people with severely compromised immune systems. The presence of these bacteria can indicate that other harmful organisms are also present in the water.

Nitrates—The primary sources of nitrates in drinking water are human and animal waste, and fertilizer. Infants younger than 6 months who drink water containing excess nitrates could become seriously ill and, if untreated, may die.

water quality standards enforced by the Division. For example, the United States Environmental Protection Agency (EPA) sets specific allowable levels for individual compounds, such as fecal coliform and nitrates. States cannot substitute less-stringent standards, but may impose standards that exceed federal law. Arizona has also established its own regulatory program to protect groundwater for drinking water purposes. Specifically, the Aquifer Protection Permit (APP) program requires individuals and businesses to operate under permits that reduce or eliminate the migration of pollutants into Arizona's aquifer (see Finding 3, pages 17 to 21).

Organization, staffing, and budget

As of January 2004, the Division was divided into six sections with a total of 188 FTEs, each providing a variety of services intended to maximize Arizona's water quality.

- **Permits (60 FTEs), 5 vacancies**—This section issues permits that regulate discharges from domestic wastewater treatment plants, mining operations, drywells, industrial facilities, and certain sewage and reclaimed water systems. The Department has delegated some responsibility regarding certain sewage permits and onsite wastewater treatment systems to some local governments.
- **Hydrologic Support and Assessment (43 FTEs), 7 vacancies**—This section analyzes water pollution problems across the State and helps establish water quality standards. In addition, the section provides the Division with scientific and technical support for investigating groundwater and surface water pollution from spills, illegal discharges, and unregulated sources.
- **Compliance (33 FTEs), 2 vacancies**—This section enforces federal and state water quality laws and regulations and inspects drinking water and wastewater facilities. For example, federal and state rules require public drinking water systems to be inspected at least every 10 years. When the Department detects a water quality violation, it can take a variety of enforcement actions, including issuing Notices of Violation and filing Civil Complaints.
- **Drinking Water (29 FTEs), 3 vacancies**—This section aims to protect public health by protecting drinking water sources. For example, it runs the Monitoring Assistance Program, which assists small water systems with water quality monitoring, and it conducts outreach activities, such as conducting workshops and publishing information about drinking water. Section employees also review swimming pool and public drinking water plans, and certify drinking water system operators. This section conducts these reviews throughout Arizona except where the State has delegated the responsibility to a local jurisdiction. This section also implements the Source Water Protection Program, which is

designed to protect drinking water sources from becoming contaminated in the future, and provides assistance on water system security issues.

- **Planning (7 FTEs), 0 vacancies**—This section assists the Division's other sections by conducting short- and long-range budget and strategic planning, applying for and managing federal grants to support division activities, coordinating state and federal fiscal budget oversight activities, and helping other outside governmental agencies and other organizations to support a coordinated, state-wide planning process.
- **Director's Office (16 FTEs), 3 vacancies**—The Director's Office provides leadership, management, and support for the Division. In addition, the Director's Office supports the Division's data systems, including the drinking water, groundwater, dry well, water permits and certifications, plan reviews, and wastewater databases.

As illustrated in Table 1 (see page 4), the Division receives funding from a variety of sources. For fiscal year 2003, the Division received approximately \$4.2 million from the General Fund. Additionally, it received a total of approximately \$10.5 million from a combination of other sources, including user fees and federal funds.

Key Hydrology Terms

Aquifer— layer of permeable rock, sand, or gravel through which groundwater flows, containing enough water to supply wells and springs (see also Figure 1, page 18 for a diagram of an aquifer).

Drywell—A bored, drilled, or driven shaft or hole constructed specifically for storm-water disposal.

Groundwater—Water that flows or seeps downward and saturates soil or rock, supplying springs and wells. The term also refers to water stored underground.

Reclaimed Wastewater—Treated wastewater that can be used for beneficial purposes, such as irrigating plants.

Surface Water—Water that is on the Earth's surface, such as in a stream, river, lake, or reservoir.

Watershed—The land area that drains water to a particular stream, river, or lake.

Wastewater—Water that has been used in homes, industries, and businesses that should not be reused unless it is treated.

Table 1: Water Quality Programs Division
 Schedule of Revenues and Expenditures
 Years Ended June 30, 2002 and 2003¹
 (Unaudited)

	2002 (Actual)	2003 (Actual)
Revenues:		
State General Fund appropriations	\$ 4,196,487	\$ 4,184,421
Government grants and contracts	6,270,467	6,932,042
Licenses, permits, and fees	1,868,942	2,096,976
Water Quality Assurance Revolving Fund ²	1,129,033	1,476,426
Miscellaneous	<u>70,127</u>	<u>28,431</u>
Total revenues	<u>13,535,056</u>	<u>14,718,296</u>
Expenditures:		
Personal services and related benefits	8,327,780	8,543,498
Professional and outside services	3,307,265	3,468,575
Travel	281,855	218,363
Other operating	275,478	301,111
Equipment	120,156	79,370
Allocated costs ³	<u>1,971,640</u>	<u>2,346,769</u>
Total expenditures	<u>14,284,174</u>	<u>14,957,686</u>
Excess of revenues over (under) expenditures ⁴	<u>\$ (749,118)</u>	<u>\$ (239,390)</u>

¹ This schedule presents revenues and expenditures of the Division's operations. However, 2004 estimates are not readily available because the Department's budgets are based on its appropriated budget units and are not consistent with the format of this schedule. In addition, the Northern and Southern Offices' water-related expenditures are not included in this table because the Department does not allocate expenditures among their divisions. The Offices conduct water, waste, and air activities and have expenditures of approximately \$4.1 million.

² Primarily consists of the Division's portion of corporate income taxes, water use taxes, fines and forfeits, and fees deposited in the Water Quality Assurance Revolving Fund (WQARF), as well as WQARF's available fund balance, which are used to pay for water quality monitoring in accordance with A.R.S. §49-225.

³ Amount is the portion of Department-wide overhead expenditures allocated to the Division, such as administrative personnel, rent, general accounting, telecommunications system, and risk management costs.

⁴ The excess of revenues under expenditures was paid by the Division's available fund balance.

Source: Auditor General staff analysis of the Arizona Financial Information System (AFIS) Accounting Event Transaction File for the years ended June 30, 2002 and 2003.

Audit scope and methodology

This audit focused on the Division's efforts to enforce drinking water standards, whether the Division should charge fees for drinking water plan reviews, the progress the Division has made in completing backlogged Aquifer Protection Permit (APP) applications, and how the Division should change how it calculates its APP fees. This report presents findings and recommendations in the following areas:

- The Division could improve its oversight of drinking water quality monitoring;
- The Division should charge fees for drinking water engineering reviews;
- The Division has made significant progress in processing APP applications; and
- The Division could more accurately recover APP costs.

Several methods were used to study the issues addressed in this audit. Specifically, auditors reviewed Arizona Revised Statutes and the Arizona Administrative Code. Auditors also interviewed division and legislative staff, as well as representatives of individual companies, associations of businesses that the Division regulates, the Arizona Attorney General's Office, Maricopa County, and the EPA. Additionally:

- To evaluate drinking water enforcement, auditors obtained, validated, and analyzed database listings of all administrative actions taken by the Division and Maricopa County regarding drinking water quality between October 1998 and 2003, and the most recent listing of drinking water systems deemed to be significantly out of compliance by the EPA for the period between April 1, 1996, and March 31, 2003.
- To determine whether the Division should establish drinking water plan review fees, auditors reviewed statutory requirements, obtained information regarding the review fees charged by other department and county government engineering review functions, and interviewed three key industry representatives.¹
- To determine the status of the Aquifer Protection Permit program, auditors obtained, validated, and analyzed a listing of all industrial and mining APP applications received and permits issued by the Division from December 1, 1989, through December 2, 2003, and reviewed the Division's plans for addressing backlogged mining APP applications.

¹ Auditors obtained information about review fees charged by a) the Water Quality Division's wastewater plan review function, b) the Waste Programs Division, Solid Waste Section's solid waste plan review function, and c) Maricopa, Pima, Yavapai, and Yuma Counties' drinking water plan review functions.

- To assess the appropriateness of APP application fees, auditors reviewed the methods that the Division used to develop its most recent fee calculation, as well as accounting literature about the definitions of direct and indirect costs.¹

This audit was conducted in accordance with government auditing standards.

The Auditor General and staff express appreciation to the director, management, and staff of the Water Quality Division for their cooperation and assistance throughout the audit.

¹ Auditors specifically reviewed OMB Circular A-87, Attachment A, Sections D, E and F.

FINDING 1

Division could improve its oversight of drinking water quality monitoring

The Division's oversight of drinking water quality monitoring could be improved. The Division is responsible for enforcing state and federal water quality regulations to ensure that Arizona's citizens have access to safe drinking water. However, the Division does not assign staff to investigate and initiate enforcement actions against all facilities that violate water quality monitoring requirements in a timely manner. The Division could increase the impact of its limited resources by better assisting small systems to reduce the number of monitoring violations they commit, thus reducing its enforcement staff's workload. Specifically, the Division could expand the Monitoring Assistance Program (MAP), which helps small systems conduct some monitoring tests. After the Division decides whether to expand MAP and implements any changes, it will need to review its enforcement staff levels.

Safe drinking water is an important division responsibility

The Division serves as the primary agency for enforcing state and federal water quality regulations under agreement with the EPA to ensure that Arizona's citizens have access to safe drinking water. Contaminants such as fecal coliform or nitrates can cause short-term health risks and even death to those at special risk.

As of October 2003, there were approximately 1,650 regulated drinking water systems throughout the State, which vary in size between 25 and more than 1.2 million connections. New systems are built largely because of expanding development. For example, in 2003, approximately 33 new water systems came under the Division's regulation.

A Drinking Water System provides water, intended for human consumption, through a set of pipes or other structures and has at least 15 service connections or regularly serves an average of 25 people a day at least 60 days a year.

Source: Auditor General staff summary of A.R.S. §49-352.

As of October 2003, there were approximately 1,650 regulated drinking water systems in Arizona.

Division oversight impacted by staff resources

The Division's efforts to oversee water quality monitoring are impacted by its staff resources. Specifically, the Division only assigns enforcement staff to investigate and take enforcement action against some of the high-priority, water quality monitoring violations that exist at any given time because it reports that it lacks enforcement staff resources. As a result, some violations go unaddressed for an extended period of time, potentially exposing Arizona's citizens to dangerous drinking water.

Division and EPA monitor water quality—All public drinking water systems are required to monitor their water and report specified contaminant levels at specific intervals, often monthly, to the Division. Failing to conduct and/or submit these test results is a violation of state water quality rules. Similarly, systems whose test results show higher-than-allowed levels of regulated contaminants, also called an exceedence, may be required to submit additional test results and take action to lessen the contamination. The Division then electronically submits the monitoring reports to the EPA, which analyzes these results and identifies which systems are considered to be significantly noncompliant (SNC).

A considerable amount of time can elapse between when a violation first occurs and when the EPA lists the violations on the SNC list. According to the EPA, a system may already have been out of compliance for 6 or more months for bacteriological contaminants, or as much as 6 years for certain chemical contaminants, due to monitoring frequencies and data reporting lags. Between the time a system commits a violation and the EPA identifies the system on the SNC list, the Division may make informal efforts to help bring the system into compliance. For example, the Division may send letters or make phone calls reminding the system of monitoring requirements and/or attempt to rectify problems contributing to the violations.

The EPA provides the SNC list to the Division on a quarterly basis. The Division reviews the SNC list and identifies those facilities on the list that are continuing to violate water quality monitoring or contaminant level standards and have not corrected the violations on their own. The Division then uses this information to develop its own list, known as the Drinking Water Priority Log, from which the Division assigns enforcement staff to specific facilities. Once assigned, enforcement staff investigate each facility's violations further and start the process of issuing enforcement actions to bring the facilities back into compliance.

Enforcement staff assigned to investigate some water quality monitoring violations—The Division does not assign enforcement staff to every facility that is included in the Drinking Water Priority Log at any one point in time and some facilities continue to violate for years without being assigned to an enforcement staff member. For example, by March 2004, 53 of the 111 facilities (47 percent) on the Drinking Water Priority Log were assigned to enforcement staff.¹ The Division

¹ There were 132 facilities on the March 2004 Priority Log. However, the Division has delegated enforcement responsibility to Maricopa County for 21 of these facilities. Therefore, auditors focused their analyses on the 111 remaining facilities for which the Division has primary enforcement responsibility.

reports that it does not assign enforcement staff to every facility because of a lack of staff resources. Specifically, the Division's enforcement staff was reduced from five to three officers between July 2000 and November 2003.

Because staff cannot address every violation occurring at any one time, the Division determines how it will prioritize which facilities will be assigned to enforcement staff. With the agreement of the EPA, the Division is currently focusing its staff resources on violations involving nitrates, including facilities that exceed allowable levels of nitrates and facilities that fail to test for nitrates. According to the EPA, the primary sources of nitrate contaminants in drinking water are human and animal waste, as well as fertilizer. As a result, both the EPA and the Division currently consider these types of violations a high priority. Of the 111 facilities on the March 2004 Drinking Water Priority Log, 68 involved facilities with nitrate violations. Enforcement staff were assigned to 44, or 65 percent, of these facilities. Enforcement staff were also assigned to 9 facilities not currently involving nitrate violations for a variety of reasons including staff training needs and prior assignment, in which enforcement action was already in progress.

The Division is focusing its staff on nitrate violations.

As the Division does not immediately assign enforcement staff to every new Drinking Water Priority Log entry, violations can continue for a considerable amount of time. For example, the facilities listed on the March 2004 Drinking Water Priority Log that were not yet assigned enforcement staff had been considered significantly noncompliant by the EPA typically for 3 years, with one system considered significantly noncompliant for almost 8 years. During this time, nearly 100,000 homes and businesses served by these facilities were potentially exposed to unhealthy drinking water. Unassigned facilities with nitrate violations had been typically considered significantly noncompliant for about 2-1/2 years, with 1 system considered noncompliant for almost 4 years. These facilities served nearly 60,000 homes and businesses.

Division piloting new tools to improve enforcement—In response to resource constraints, the Division has recently piloted new techniques to encourage facilities with violations to correct their problems with minimal enforcement staff involvement. For example, rather than using enforcement staff to address only individual violators, enforcement staff sent a mass mailing of certified letters to all facilities on the Drinking Water Priority Log with nitrate violations. The letters reminded the facilities of their responsibilities regarding nitrate testing and allowable contaminant levels, and requested that they return to compliance. The Division reports that some facilities corrected their violations after receiving this letter, although the specific success rate is not known. Complying facilities were removed from the Drinking Water Priority Log and did not need to be assigned to enforcement staff.

In addition, the Division reports that it has begun to use automatically generated letters to notify facilities of any failure to meet monitoring and reporting requirements, which require a response within 10 days. If the facility fails to respond in a timely

manner, the Division reports that it issues a series of escalating violations and orders, potentially including the imposition of fines. As a result of these changes, the Division reports that the number of significantly noncompliant systems dropped by about 40 percent.

Expanded small systems compliance assistance could help

In addition to sending out compliance letters, the Division could increase the impact of its limited resources by expanding the Monitoring Assistance Program (MAP), a water testing assistance program for small systems. The majority of drinking water systems on the Drinking Water Priority Log are relatively small drinking water systems that are required to join MAP. By expanding the number of tests conducted under MAP, more small drinking water systems would likely be in compliance with water quality monitoring requirements and the Division's enforcement staff's efforts could be concentrated on a smaller number of violations.

Small systems comprise vast majority of Division's workload—The Division may be able to greatly reduce the number of significantly noncompliant systems by expanding its water testing assistance program for small systems. The majority of drinking water systems on the Drinking Water Priority Log are relatively small. For example, about 100 facilities on the March 2004 Drinking Water Priority Log serve 10,000 or fewer connections, including some that could serve as few as 25 connections. Therefore, if the number of compliant small systems were increased, the Division's enforcement workload would likely be notably reduced.

Expanding MAP assistance could potentially reduce small system violations—The Division may be able to decrease the number of monitoring violations by expanding the breadth of testing provided under MAP. Specifically, MAP charges members fees and hires a private contractor to conduct some required water quality tests and report the results directly to the Division. All public water systems that serve fewer than 10,000 service connections are required to participate in the program, although those that serve more than 10,000 connections can also join voluntarily.

As exempted by statute, MAP does not conduct all of the tests that public drinking water systems are required to perform, such as those for lead, copper, and nitrates. MAP participants must therefore obtain these tests on their own, but many are not doing so. If MAP were expanded to provide all the required testing, the number of monitoring and reporting violations by small water systems should significantly decrease. Division staff estimate that approximately 95 percent of the small systems on the priority log are on the log exclusively for monitoring or reporting violations.

About 100 facilities on the March 2004 Drinking Water Priority Log serve 10,000 or fewer connections.

Expanding MAP's testing may decrease the number of monitoring violations.

Expanding MAP to include additional testing would require statutory and rule changes. A.R.S. §49-360(A)(3) explicitly excludes copper, lead, and nitrate testing from MAP. The Division also interprets this statute to effectively exclude total coliform from MAP. In addition, the Division would need to increase program fees currently listed in Arizona Administrative Code R18-4-225 to cover the costs of the additional tests. According to division data, the total annual cost of MAP for calendar year 2003 was \$954,000. The Division estimates that the program would need to collect at least an additional \$700,000 per year to cover such a program expansion. While this would mean an increase in the fees that systems would have to pay, in theory some of these added costs would be no higher than the amount that participating systems are supposed to be paying to conduct the tests themselves. Further, it may be possible to minimize some new costs by allowing facilities to collect some water quality testing samples themselves and then pay only for the outside analysis of those samples.

An expansion would also provide an opportunity to review how fees are assessed. Currently, participants pay an annual fee of \$250 and \$2.57 per meter or service connection. The Division reports that this structure results in relatively larger participants effectively subsidizing tests conducted for smaller participants. However, if MAP is expanded, this could be reviewed and changed, if needed, to ensure that test costs are fairly shared.

Although division management reports that expanding MAP could require statutory changes, fee increases, and a change in the fee structure, the potential benefits could be substantial. Therefore, the Division should research the costs and benefits of expanding MAP to help small systems come into compliance and thereby reduce the Division's compliance and enforcement workload.

Division should review enforcement staff levels in future

The Division should evaluate its enforcement staffing levels in the future. The Division's enforcement staff was reduced from five to three drinking water officers between July 2000 and November 2003.¹ Specifically, the Department reports it eliminated these two positions as a result of funding reductions passed by the legislature in 2002.² The Division reports that it needs two new enforcement staff, for a total of five enforcement staff, to better handle its workload. However, the number of additional drinking water enforcement staff needed cannot be reliably estimated until the Division decides whether to expand MAP. Further, if MAP is expanded, the Division should wait to evaluate staffing needs until the program has had an opportunity to reduce the number of violating systems.

The number of additional drinking water enforcement staff needed cannot be reliably estimated until the Division decides whether to expand MAP.

¹ In addition to three enforcement staff who work out of the Division's central Phoenix office, regional office staff also assist the Division in addressing water quality issues. Similarly, the Division employs another three officers who focus on wastewater facilities. In addition, the Division reports that it is in the process of hiring for a new position that will provide analysis of drinking water system compliance on a weekly basis.

² Laws 2002, Chapter 1, §18 required the Department to eliminate a total of 51 positions, but did not specify which positions

Recommendations

1. The Division should research the costs and benefits of expanding its Monitoring Assistance Program to help small water systems carry out all of their testing requirements and come into compliance, thereby reducing the Division's compliance and enforcement workload.
2. After the Division decides whether to expand the Monitoring and Assistance Program, and any changes have taken effect, the Division should review its Drinking Water enforcement workload and staff levels to determine whether additional staff are needed.

FINDING 2

Division should charge fees for drinking water plan reviews

The Division should charge fees to applicants for performing drinking water plan reviews. Statute requires the Division to establish and charge fees to recover the costs of these reviews, which are for the planning and construction of facilities ranging from wells and water treatment plants to public swimming pools. However, in response to opposition from the regulated community, which believed the costs would be too great for small water companies, the Division does not charge any such fees, and uses General Fund monies and a federal grant to support the function instead. Although the Division does not charge fees, the counties that the Division has authorized to conduct these reviews already charge fees and have done so for years. To comply with statute, reduce the review function's reliance on the General Fund, and potentially free federal grant monies for other purposes, the Division should take steps to put drinking water plan review fees in place. To establish these fees, the Division will need to begin tracking the hours it spends reviewing applications, and could use forms and processes already used by other plan review functions within the Department.

The Division reviews plans for drinking water facilities, spas, and swimming pools.

Division performs drinking water plan reviews

The Division is charged by A.R.S. §49-353(A)(2) to perform pre- and post-construction plan reviews of drinking water facilities and issue Approvals to Construct (ATCs) and Approvals of Construction (AOCs), or delegate this responsibility to local governments.¹ Facilities requiring reviews range from complex water treatment plants to simple wells serving 25 people, and also include public spas and swimming pools. The Division's unit that performs the reviews also performs informal consulting, fielding phone calls and e-mails from builders and potential applicants regarding issues such as application requirements and general engineering questions.

¹ A.R.S. §49-107 allows the Division to delegate duties to local governments. The Division currently delegates drinking water facility plan and construction review authority to Maricopa, Pima, Yavapai, and Yuma Counties, and the cities of Flagstaff, Kingman, and Sierra Vista. The level of authority delegated to each local jurisdiction varies, depending on the delegation agreement between the Division and the local jurisdiction.

Applications for ATC Certificates generally include detailed construction plans and specifications, a design report, and any other data necessary to understand the plans. A division engineer reviews the plans and determines whether they provide for the use of appropriate materials, the development of adequate water volume capacities, and the appropriate levels of water quality. If the engineer finds the plans to be technically sound, the Division will issue the applicant an ATC Certificate, approving the plans and authorizing construction on the project.

Upon receiving an ATC, an applicant has 1 year to begin construction of the facility. Once the facility has been constructed, the applicant must request an Approval of Construction (AOC) Certificate from the Division. Similar to the ATC process, the applicant submits an application to the Division, this time including a professional engineer's Certificate of Completion, "as-built plans," inspection and testing data, and an operations and maintenance manual. A division engineer verifies that the project was built in accordance with the approved plans, and an AOC Certificate is issued.¹

The Division does not currently track the actual number of hours it spends reviewing applications. However, the Division estimates that it generally spends between 140 and 210 hours reviewing each ATC application, and between 35 and 70 hours reviewing each AOC application.² According to the Division, it reviewed 316 applications for ATCs and 259 applications for AOCs in fiscal year 2003. Of those, 37 ATC and AOC applications were for public pools or spas, and the remainder were for other drinking water facilities.

The Division reviewed 316 ATC applications and 259 AOC applications in fiscal year 2003.

Division does not charge fees

Despite a statutory requirement to charge fees for drinking water plan reviews, the Division does not do so. However, the counties with delegated review authority currently charge review fees and have done so for many years.

Division does not charge fees—The statute requiring the Division to perform drinking water plan reviews also requires the Division to charge fees to recover the review costs.³ However, the Division does not charge fees for the reviews, and instead pays for the plan review costs primarily from State General Fund monies and a discretionary federal grant.⁴ According to the Division, the cost of performing

Plan review costs are supported mainly by General Fund and federal grant monies.

- 1 If a facility is not constructed in accordance with approved plans, the Division requires remediation before issuing an AOC. As provided for in Arizona Administrative Code R18-4-507(A) and R18-5-204(A), drinking water facilities may not be operated without an AOC.
- 2 According to the Division, the broad range in the amount of hours it spends reviewing applications is related to the complexity and size of facilities being reviewed. For example, large, complex water treatment facilities are likely to require a relatively high number of review hours. In contrast, simpler projects, primarily reviewed by the delegated counties, may require as few as 4 or 5 hours of review time.
- 3 A.R.S. §49-353(A)(2) requires the Division to charge fees to recover drinking water plan review costs.
- 4 The source of the federal grant monies used to fund the drinking water reviews is the EPA's Performance Partnership Grant. This grant gives recipients discretionary spending authority for water quality programs.

drinking water plan reviews in fiscal year 2003 was approximately \$676,200. Of this amount, approximately \$346,300 came from the General Fund, \$271,500 from federal grant monies, and \$58,400 from the Water Quality Fee Fund.¹

The Division wanted to adopt rules establishing drinking water plan fees in 1996, but withdrew them in response to strong opposition from the regulated community. Many stakeholders contended that the economic burden of the fees would be too great for small water companies, as they were already operating at or near a loss and had a difficult time recovering costs. For this audit, auditors interviewed three key industry representatives and found that they recognize the Division’s need to charge fees to recover review costs; however, some industry concerns from 1996 appear to remain. Specifically, representatives reported that they either doubt the Arizona Corporation Commission’s willingness to increase rates or feel the approval process is too slow to be economically viable for small water facilities.

Some industry representatives recognize the Division’s need to charge fees.

Delegated counties charge fees—

Despite industry’s concerns about the effect of fees on small water companies, all counties that have received delegated authority from the Division to perform drinking water plan reviews already charge fees for these services, as illustrated in Table 2. Further, although industry strongly opposed the Division wanting to establish fees in 1996, Maricopa and Pima County representatives report that they have been charging fees long before 1996, without significant industry opposition. In fiscal year 2003, the delegated counties, including Maricopa, Pima, Yavapai, and Yuma, reviewed a total of approximately 1,300 and 875 ATC and AOC applications, respectively, compared to the Division, which reviewed 316 and 259 ATC and AOC applications, respectively.² According to division records, 477 of the 877 small water systems in Arizona fall within these counties.³

Table 2: Drinking Water Plan Review Fees Charged by Counties As of February 2004

County	Fee	Comments
Maricopa	\$70 / hour	
Pima	Flat fees ranging from \$500 to \$1,000/application	No authority to review pools and spas
Yavapai	\$90/ hour for incorporated areas	Authority to review only pools, spas, and extensions of existing water sources; incorporated-area reviews contracted to private engineering firms; unincorporated-area review fees cannot be determined, as they are included with sewer review fees
Yuma	\$80/hour for line extensions; \$275 flat fee for pools and spas	County reviews line extensions; more complex reviews contracted to a private engineering firm

Source: Auditor General staff compilation of county fee schedules for drinking water plan reviews.

¹ The Water Quality Fee Fund was established by A.R.S. §49-210 and can be used for issuing aquifer protection permits (APPs), APP registration fee procedures, drywell registration fee procedures, technical review fee procedures, and inspection fee procedures.

² According to the Division, some Pima County applicants opt for a division review rather than a county review, thus avoiding fees.

³ For this analysis, auditors considered systems serving 10,000 or fewer connections to be small systems, in accordance with the Monitoring Assistance Program discussed in Finding 1 (see pages 7 through 12).

Division should use proven methods to develop fees

In order to comply with A.R.S. §49-353, the Division should establish, by rule, fees for drinking water plan reviews. The resulting fee revenues will allow the Division to reduce the review function's reliance on the General Fund. Further, the fee revenues may allow the Division to free up the review function's federal monies, which, because they are part of a discretionary grant, could be reallocated to support other programs or functions that are in line with the grant's requirements. However, because of timing differences between review costs and revenue collections, the Division may need to phase out its reliance on the current funding structure over a period of time, as fee revenue is received.

In addition, although A.R.S. §49-353 does not specify a fee structure the Division must follow, the Division should use an approach used by other department plan review functions or by the counties that conduct drinking water plan reviews on a designated basis. Currently, these organizations charge either hourly rates or flat fees. Whichever method is used, the Division will need to begin tracking the hours it spends reviewing applications to ensure an accurate fee structure. Perhaps the easiest way for the Division to do this is to use the processes already used by other department review functions. Specifically, the Division's wastewater plan review function and the Waste Programs Division's solid waste plan review function require employees involved with the review process to record the time they spend on certain plans each pay period. Both functions have developed detailed forms and procedures for their time-tracking methods, which the Division could readily adopt.

The Division could use existing methods to set fees.

Recommendations

1. To comply with A.R.S. §49-353 and lessen reliance on the State General Fund, the Division should establish, by administrative rule, fees for performing drinking water plan reviews.
2. To establish the fees, the Division should begin tracking the hours it spends reviewing applications, and, in doing so, should consider using the forms and processes already used by other department plan review functions.

FINDING 3

Division has made significant progress in processing APP applications

Although the Division has made significant progress in issuing nonmining Aquifer Protection Permit (APP) applications, a significant number of mining APP applications remain to be processed. These permits, required since 1986 to help ensure that Arizona's aquifers are protected, have historically experienced lengthy delays. However, the Division has made significant progress in addressing its past backlog, and auditors' review of division data indicates that one nonmining facility's permit was pending as of December 2003. Although permits remain outstanding for about one-third of mining facilities, the Division has developed a strategy to help address these remaining facilities.

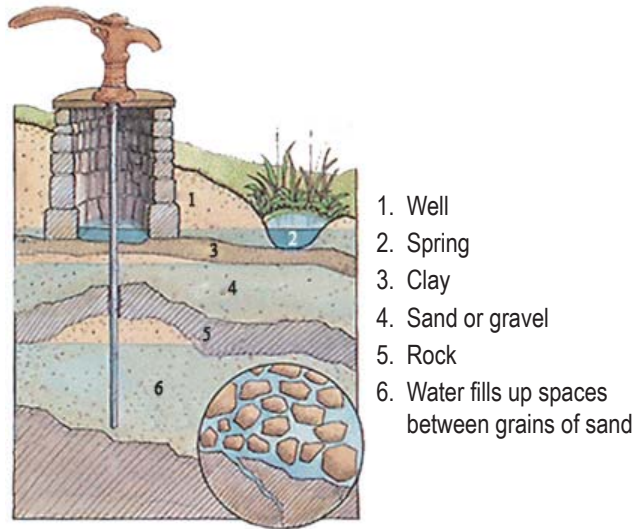
APP permits intended to protect groundwater

One of the Division's key responsibilities is to limit discharges to the State's groundwater and surface waters. In 1986, the Legislature enacted the Environmental Quality Act, which established a comprehensive groundwater protection program for Arizona. The Act requires the Department to regulate the discharge of pollutants. In response, the Division developed the APP program, which aims to ensure that contamination from sources such as wastewater treatment plants, industrial facilities, and mines does not reach the aquifer. The aquifer is a layer of permeable rock, sand, or gravel through which groundwater flows, containing enough water to supply wells and springs (see Figure 1, page 18). Arizona is significantly dependent on aquifers for its water supplies.

APPs restrict discharge to aquifers.

If the Division identifies a facility that discharges or may discharge into the aquifer, it notifies the facility that it might be required to apply for an APP. If the facility fails to reply to the Division's notice, it is referred to the Compliance Section, which may take enforcement action.

Figure 1: Components of an Aquifer



Source: Gulf of Maine Research Institute (www.gma.org). Used with permission.

Division offers different types of APPs

The APP program allows facilities to operate under two types of APPs, general and individual, both intended to protect Arizona's aquifers. General permits, which are created and approved through the rule-making process, regulate similar facilities and activities. Specifically, the Division can use general permits for certain types of discharges to the aquifer, such as septic tanks and vehicle- and equipment-washing facilities, that meet statutory criteria.

In contrast, individual permits are more flexible. They allow the Division to customize the permit specifically for the individual facility, and the contents of the permit language are negotiable to meet the facility's specific needs. Additionally, individual APPs must go through a public notice period and, in some instances, a public hearing. As a result, individual APPs are more complex than general APPs and require more staff time to review and process.

The Division issues four types of individual APPs, each to a different type of facility, which could potentially pollute Arizona's aquifers:

- **Industrial APPs**—Industrial sites can potentially pollute Arizona's aquifers in a variety of ways, depending on the nature of the facility. For example, runoff from car- and truck-washing facilities and discharges from power-generating facilities can reach and potentially pollute an aquifer. The Division has issued 186 individual industrial APP permits out of 231 facilities.
- **Mining APPs**—Mining facilities sometimes use toxic chemicals, which can eventually reach the aquifer. For example, copper mining operations often use toxic chemicals to separate copper ore from rock. These chemicals can migrate into the aquifer and, therefore, are restricted by an APP. The Division has issued 40 individual mining APP permits out of 98 facilities.
- **Wastewater APPs**—Wastewater facilities can leak, resulting in aquifer contamination. For example, sewage from treatment plants can be released and contaminate groundwater. Auditors' review of division data indicates that the Division has issued 307 individual wastewater APP permits out of 391 facilities.
- **Drywell APPs**—Drywells are man-made shafts or holes that can directly funnel contaminated water into the aquifer. As a result, drywells that are used to handle fluid other than stormwater runoff are subject to the APP requirements. Auditors' review of division data indicates that the Division has issued 31 individual drywell APP permits out of 45 facilities.

Division has made progress in processing nonmining APP permits, but a significant number of mining APP permits remain to be issued

The Division has made strides in addressing APP applications for nonmining facilities. Historically, the Division has had difficulty processing APP applications in a timely manner. However, the Division has made significant strides in processing individual, APP permits for nonmining facilities (industrial, wastewater, and drywell) by developing and implementing a strategy known as OPERA (Operation Permit Arizona). Similarly, the Division is further refining this approach to address the remaining mining APP applications as a statutory 2006 deadline approaches.

Prior audits identified APP permit processing backlogs—Historically, the Division has had difficulty processing APP applications in a timely manner. In 1992, the Legislature gave the Division a deadline of 2001 to eliminate its APP application backlog, including general and individual permits for all permits. In 1993,

The Division has historically struggled to issue APPs in a timely manner.

the Auditor General reported (Report No. 93-5) that an estimated 650 facilities would require an individual APP as of that time, but the Division had issued a total of only 63 APPs since 1986, when APPs were created. In 1999, the Legislature extended the deadline to 2004 for nonmining facilities, including industrial facilities, and 2006 for mining facilities. In that same year, the Auditor General reported (Report No. 99-21) that the Division still had at least 255 nonmining facilities that had not yet received an APP.

OPERA helped Division process nonmining permits—Using a department-wide strategy known as OPERA, department staff processed all but one of the nonmining APP applications it had received. As of December 2003, Division data indicates that the Division had issued a total of 524 individual, nonmining permits and one application for nonmining facilities was pending. Further, data indicates that the Division referred approximately 23 nonmining facilities to the Division's compliance unit for a variety of reasons, including failing to submit an application for a needed APP permit. Similarly, division data indicates that 61 nonmining applications have been denied or withdrawn.

OPERA, a department-wide concentrated effort created in February 2002, contributed to the Division's processing of nonmining applications. OPERA included several key changes to the Division's usual procedures. The most significant change was a shift to an enhanced customer assistance focus, under which the Division assumed the burden of assembling much of the information that it had previously relied on the applicant to provide. For example, the Division attempted to supply any missing information from existing data or technical journals, or from other ADEQ sources before formally requesting the information from the applicant.

OPERA also provided a streamlined, defined process through which all permits were handled. In the initial phase of OPERA, the Division notified the facility owners/operators that they need to apply for an APP. Next, the Division categorized each application by type, which determined how it would be processed. Because the permit section did not have enough staff to handle all of the applications, some processing work was reassigned to staff from other areas within the Department who had a background in and knowledge of the APP permitting process. In addition, the Division developed a comprehensive APP manual to provide guidance and training to staff for processing APPs, as recommended by the 1992 audit (see Auditor General Report No. 99-21).

Division implementing strategy to eliminate remaining mining APP applications—While the Division has significantly addressed its remaining nonmining APP applications, numerous mining APP applications are still pending. However, the Division has developed plans to assist in resolving the remaining applications by the 2006 statutory deadline.

A department-wide effort helped process nonmining applications.

At least 34 APP mining permits have not yet been issued. Specifically, auditors' review of division data indicates that applications for 13 mining facilities were in process as of December 2003. Additionally, the division data indicates that another 10 applications were considered past due, meaning that an anticipated APP application had not yet been received. Division data also indicates that it has referred another 11 facilities to its compliance unit. Before the 2006 deadline, the Division will need to take some sort of action regarding these facilities. For example, if the Division receives applications for these facilities, it will need to process them. Conversely, those facilities that fail to submit required APP applications will need to be referred to the Division's Compliance Unit for appropriate enforcement action.

The Division has developed a new strategy, OPERA2, to assist in resolving the remaining applications. Largely based on OPERA, this effort started in January 2003 and involves three main strategies:

- **Past-Due List**—The Division has created a list of mining facilities that are required to submit an APP application, but have failed to do so. The Division has already sent letters to these facilities notifying them that they need to submit an APP application.
- **Prioritization Schedule**—The Division has created a schedule to track each application through the various processing stages. Division management report that they are using this schedule to monitor the progress of each application through the permitting phases, including the percentage of work completed within each phase.
- **Completion Analysis**—Technical reviews are conducted biweekly to help identify each application's current status and ensure adequate staffing resources are available to complete needed reviews. Similar to OPERA, division and section managers have reassigned work to staff from other areas within the Division who have background knowledge of the APP permitting process.

Recommendation

This finding presents information only. Therefore, no recommendations are presented.

FINDING 4

Division could more accurately recover APP costs

The Division should change the way it calculates and applies the fees it charges for processing APP applications. Statute requires the Division to charge fees that will recover the direct costs of processing applications up to a set maximum. However, the Division did not develop the current fees in keeping with cost accounting principles and has not recalculated the fees for several years. As a result, the current fee level may not be correct. Further, the Division does not charge fees for all direct activities, resulting in decreased revenues. To ensure an accurate, fair fee level, the Division should regularly recalculate its fees using appropriate methods, and should apply the fees consistently. Regular recalculations are also needed so that the Division may provide an accurate report on the adequacy of statutory maximum fees to the Legislature in 2009.

APP program charges user fees

As discussed in Finding 3 (see pages 17 through 21), the Division established the APP program to regulate facilities that could potentially discharge pollutants into groundwater. The program is a state rather than a federal requirement, and does not receive any federal assistance. Instead, it operates on a combination of General Fund monies and user fees.

As allowed by statute, the Division charges fees for the APP program's two major activities: 1) processing individual and general permit applications, and 2) performing "post-permitting" activities for individual permits, such as annually registering permits, tracking compliance with monitoring and reporting requirements, and conducting inspections to ensure permit requirements are met.¹ The fee schedule for post-permitting activities (which the Division categorizes as annual registration fees) is outlined in A.R.S. §49-242(E). Additionally, A.R.S. §49-241 allows the Division to develop fees for processing permit applications. A 1992 session law also clarified

¹ As discussed in Finding 3 (pages 17 through 21), individual APPs are developed to meet the specific needs of individual facilities, whereas general APPs are standardized permits developed for facilities with defined discharges.

that APP processing fees must be set at the level necessary for recovering the “reasonable direct costs” of the processing function. The text box below contains general definitions for “direct costs” and, for comparison purposes, “indirect costs,” in accordance with cost accounting principles.

To recover the costs of the APP processing function, the Division developed an hourly fee rate for individual APPs and various flat fees for general APPs. As of January 2001, the Division charges applicants an hourly fee of \$61 per hour to process individual APPs, and various flat fees ranging from \$300 to \$1,800 to process general APPs. According to division records, the Division generated approximately \$1.2 million from APP processing fees in fiscal year 2003.

Direct Costs—Costs that can be easily and accurately traced to a cost objective, such as a division, program, or function, and are clearly identifiable. Common examples are travel expenses and compensation for employee time dedicated to the cost objective.¹

Indirect Costs—Costs that benefit multiple cost objectives, but cannot be easily and accurately traced to any individual cost objective. A common example is the cost of utilities that benefit numerous cost objectives.¹

¹ There is no universal rule for classifying costs as either direct or indirect under every accounting system. These examples are intended to illustrate items that are typically considered to be direct versus indirect costs.

Source: OMB Circular A-87, Attachment A, Sections D, E, and F; Hansen, Don R. and Mowen, Maryanne M., *Cost Management, Second Edition*. South-Western College Publishing, Cincinnati: 1997.

Division could better ensure accurate cost recovery

To help ensure the accurate recovery of costs, the Division should make sure its APP processing fees are appropriately calculated and applied. The current fees are generally based on the costs and billable hours associated with the Division’s Water Permits Section (Section), which processes the APPs.^{1,2} However, auditors’ review of the fees found that the Division did not appropriately calculate the costs that could be recovered by the fees (recoverable costs), has not recalculated the fees to reflect changes to costs and hours, and does not charge fees for all direct activities.

- **Fees not based on direct costs**—Rather than calculating the actual direct costs to be recovered by the fees, the Division based recoverable costs on available General Fund monies. Specifically, the Division estimated how much it expected the Section to receive in General Fund monies in fiscal year 2002 based on

¹ The Division considers billable hours to be those hours that technical staff, such as environmental engineers, hydrologists, and project managers, spend working on a client’s specific project.

² The Division did not include costs associated with the Water Permits Section’s Federal Permits/Program Development Unit when calculating Aquifer Protection Permit processing fees.

Fees are based on General Fund allocation rather than direct costs.

historical information, subtracted the estimate from total estimated section costs, and developed the fees to recover the remaining amount. However, while General Fund monies are allocated to the Section using a variety of methods, they are not allocated based on the Section's direct or indirect costs.¹

- **Fees based on obsolete estimates**—The Division has not recalculated fees since 2001. However, billable hours and costs can change over time. For example, based on the Division's 2002 analysis of billable hours, the percentage of billable hours decreased from 62 percent in 2001 to 45 percent in 2002.² In short, because the Division did not recalculate the fees annually, the current fees are based on obsolete estimates of billable hours and costs associated with the Section.
- **Some direct costs not charged**—As a result of negotiations with the regulated community, the Division does not charge for time traveling to permit sites. However, this activity falls under the definition of a direct cost (see text box, page 24), as it may be easily identified with the APP processing function. According to the Division, the section's technical staff spent approximately 246 hours traveling in fiscal year 2003. If the Division had billed that time at the current hourly APP rate, it may have been able to recover approximately an additional \$15,000.

Division does not charge applicants travel costs.

To ensure that fees for processing APP applications recover related costs, the Division should recalculate its APP processing fees based on actual direct costs rather than estimated General Fund monies, and should regularly recalculate fees to reflect changes to direct costs and billable hours. Further, the Division should charge fees for time traveling to permit sites. Finally, after these changes have been made so that it is accurately recouping its direct costs through appropriate fee levels, the Division should also ensure its future General Fund appropriation request to the Legislature reflects true indirect costs for issuing APP permits.

Fees should be recalculated before maximum fees are analyzed

Correct calculation of the fees is also important because the revenue associated with the fees will eventually be used to analyze current statutory fee limits. The Division's ability to recover the APP processing function's direct costs is limited by maximum fees that may be charged for any one application, as provided for in A.R.S. §49-241.02. Statute also requires the Department to analyze the adequacy of the

Fee levels should be recalculated before statutory fee cap changes are considered.

¹ The Water Permits Section receives General Fund monies from two sources: a) Appropriations from the APP Program Special Line Item (SLI), and b) allocations from the Department of Environmental Quality's operating lump sum appropriation. The APP Program SLI is appropriated using incremental budgeting, and the operating lump sum allocation is based on costs not recovered by the APP Program SLI and user fees.

² Division officials indicated that the percentage of billable hours in 2002 was unusually low due to staff incorrectly coding their time.

maximum fees, taking into consideration the fee revenues, and issue a report to the Legislature by August 31, 2009. To help ensure the accuracy of its report, the Division should take steps outlined in this finding to recover appropriate costs.

Recommendations

1. The Division should regularly recalculate its APP processing fees based on:
 - a) Actual direct costs rather than on General Fund contributions; and
 - b) Up-to-date estimates of direct costs and billable hours.
2. In light of generally accepted definitions of direct costs, the Division should charge for time traveling to permit sites.
3. Once the Division has set its fee levels to accurately recoup its direct costs to process APP applications, it should ensure that its future General Fund appropriation requests to the Legislature reflect the true indirect costs.

AGENCY RESPONSE



Janet Napolitano
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Stephen A. Owens
Director

August 16, 2004

Debra K. Davenport, CPA
Auditor General
2810 North 44th Street, Suite 410
Phoenix, AZ 85018

Re: Performance Audit and Sunset Review—Water Quality Division

Dear Ms. Davenport:

The Arizona Department of Environmental Quality appreciates the opportunity to respond to the Water Quality Division (the Division) performance audit report. The report is a useful assessment of the Division's efforts to monitor drinking water quality and to process Aquifer Protection Permits. We thank the Office of the Auditor General for its effective communication throughout the audit process.

As you know, the revenue and budget reductions of the past few years have presented a challenge to state agencies. ADEQ has lost staff but faced an increased work load to assess and increase security and to address new federal regulations. Despite these challenges, the Water Quality Division, indeed the entire Department, always achieved its mission "to protect and enhance public health and the environment by ensuring safe drinking water and reducing the impact of pollutants discharged to surface and groundwater." We are proud of our accomplishments.

As the audit indicates, ADEQ has exceeded its obligation to issue Aquifer Protection Permits to non-mining facilities in Arizona. The Legislature, in 1999, created a statutory deadline of January 1, 2004 for this Department to complete the necessary permitting for existing non-mining facilities under the Aquifer Protection Permit program. ADEQ addressed permitting requirements for the then 255 existing, unpermitted, non-mining facilities, in addition to the more than 100 applications for new facilities the Department receives every year. It was an extraordinary challenge, but Water Quality Division staff and others within the Department worked together to meet this requirement in advance of the deadline. Additionally, the audit indicates that ADEQ is on track to meet its obligation to issue Aquifer Protection Permits to mining facilities before January 1, 2006. As a result, APP permit applicants no longer will wait behind a backlog of permit applications, and our groundwater is better protected.

The audit concludes that the Division should take steps to appropriately recover its costs of issuing Aquifer Protection Permits. ADEQ began this process in 2004. At the request of the

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Department, the Forty-sixth Legislature increased the maximum fee cap for processing an APP application. H.B. 2190, signed by the Governor May 19, 2004 and effective immediately upon her signature, increased the maximum fee to \$100,000, eliminating any of the prior formula-driven maximum fees and making the \$100,000 maximum fee retroactive for all permits in process. This change in the maximum fee, and a facility's ability to waive the fee should it desire to do so, will allow the Division to capture all of its billable costs associated with issuing APPs.

Other Water Quality Division efforts also deserve recognition. Much has been written about the new, more stringent, federal standard for arsenic in drinking water and the difficulties Arizona water supplies may have meeting that standard. Arsenic occurs naturally in many parts of our state, and some of the most affected communities are those least able to afford the costs of treatment. Knowing this, the Water Quality Division—and this Department—took the initiative to construct Arizona's Arsenic Master Plan—a guide for small water systems for identifying the most effective and least costly method to ensure compliance with the new drinking water standard. The Arsenic Master Plan assists the Arizona Corporation Commission in its efforts to approve appropriate rates for private water systems; it enables community leaders to understand the decision process that must occur before a treatment technology is selected; and it helps small water systems find the right sources of funding and technical expertise.

Also, in late 2002, ADEQ received federal approval to manage the federal Clean Water Act permitting program as a state program. In the eighteen months since the Department has managed this program, we have created 3 general permits designed to make it easier for business, agriculture and local governments to comply with surface water quality requirements. Additionally, the Department is implementing more customer-focused "e-government" initiatives, with the advent of the "SMART NOI" application, allowing those subject to the construction storm water permit to file their Notice of Intent to discharge online.

The Water Quality Division is focused on making Arizona's waters clean and safe, for drinking, recreating, and for fish and wildlife, and for protecting Arizona's groundwater for drinking water purposes. Much has been accomplished and more remains to be done. It is in that spirit that we receive the audit of the Auditor General and provide the following response.

FINDING 1: DIVISION COULD IMPROVE ITS OVERSIGHT OF DRINKING WATER QUALITY MONITORING.

Compliance with environmental regulations is a priority for this administration and the Division has undertaken many improvements to its enforcement process, in addition to issuing nitrate reminder letters, which are an effective enforcement tool as noted in the performance audit. To allow more rapid problem identification and response, as of November 2003 the Division uses automatically-generated letters to notify facilities of any failure to meet monitoring and reporting requirements, which require a response within 10 days. If the facility fails to respond within 10 days, the Division sends an automatically-generated Notice of Violation for Failure to Monitor and Report, which requires a response within 15 days. If the facility does not respond to the NOV, the Division issues a Compliance Order with a mandatory penalty. This compliance strategy has resulted in 82 Compliance Orders, Consent Orders, and NOVs issued as of June 30,

2004. Many other water systems returned to compliance without the need for escalated enforcement. Significantly, the FY 2004 4th quarter SNC report indicates the number of water systems in “significant noncompliance” has dropped by approximately 40 percent. ADEQ also has increased its focus on compliance assistance to ensure that those who want to comply with environmental regulations, but struggle, receive the assistance they need. On the other hand, we have made clear that we will take aggressive action against those who do not take compliance with Arizona’s environmental regulations seriously. Indeed, ADEQ has issued orders or settled a lawsuit in several significant cases since January 2003.

Although the audit suggests additional output performance measures, it is important to note that the Water Quality Division’s Compliance Section has three outcome performance measurements: (1) a 95% compliance with health based drinking water standards by 2005; (2) a 90% compliance rate for major dischargers in targeted watersheds (the watersheds rotate every year); and (3) by 2005, a 90% compliance rate for meeting drinking water MCLs, surface water quality standards, and aquifer water quality standards. ADEQ will be pleased to consider whether additional measures are needed.

RECOMMENDATIONS

1. The Division should research the costs and benefits of expanding its Monitoring Assistance Program to help small water systems carry out all of their testing requirements to come into compliance, thereby reducing the Division’s compliance and enforcement workload.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

2. After the Division decided whether to expand the Monitoring Assistance Program, and any changes have taken effect, the Division should review its Drinking Water enforcement workload and staff levels to determine whether additional staff are needed.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

FINDING 2: DIVISION SHOULD CHARGE FEES FOR DRINKING WATER ENGINEERING REVIEWS.

RECOMMENDATIONS

1. To comply with A.R.S. §49-353 and lessen reliance on the State General Fund, the Division should establish by administrative rule fees for performing drinking water engineering reviews.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

2. To establish the fees, the Division should begin tracking the hours it spends reviewing applications and, in doing so, should consider the forms and processes already used by other department engineering review functions.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

FINDING 3: DIVISION HAS MADE SIGNIFICANT PROGRESS IN PROCESSING APP APPLICATIONS.

This finding presents information only. Therefore, no recommendations are presented.

The Department would like to clarify that currently 48 general permits are available under the APP Program. **More importantly, the Department thanks the Auditor General for recognizing the Division's significant achievement of eliminating the backlog of non-mining Aquifer Protection Permit applications.**

FINDING 4: DIVISION SHOULD RECALCULATE APP PROCESSING FEES.

The audit notes that the Division based its recoverable costs for processing APP permits in part on the General Fund moneys appropriated by the Legislature for that purpose. When the Division calculated the current APP processing fees in 2001, it used a method based upon assigning to its General Fund sources appropriated by the Legislature and allocated within the Department the indirect, or non-billable, costs related to the water protection services defined in rule. This method was a reasonable approach that was responsive to concerns of stakeholders and embodies the compromise struck by the Legislature. While this method complies with the legislative directive to charge no fee for indirect, or non-billable, costs, we recognize that the current fees may not capture all the direct, billable and indirect, non-billable costs of APP processing activities.

RECOMMENDATIONS

1. The Division should regularly recalculate its APP processing fees based on:
 - a. Actual direct costs rather than on general fund contributions; and
 - b. Up-to-date estimates of direct costs and billable hours

The finding of the Auditor General is agreed to and the audit recommendations will be implemented.

2. In light of generally accepted definitions of direct costs, the Division should charge for time traveling to permit sites.

The finding of the Auditor General is agreed to and the audit recommendation will be implemented.

Ms. Davenport
August 16, 2004

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Thank you for the opportunity to respond to the performance audit and Sunset review for the Water Quality Division.

Sincerely,

Stephen A. Owens
Director

Performance Audit Division reports issued within the last 12 months

02-06	Arizona Health Care Cost Containment System—Rate Setting Processes	03-04	State Board of Funeral Directors and Embalmers
02-07	Arizona Health Care Cost Containment System—Medical Services Contracting	03-05	Department of Economic Security—Child Protective Services—Foster Care Placement Stability and Foster Parent Communication
02-08	Arizona Health Care Cost Containment System—Quality of Care	03-06	Arizona Board of Appraisal
02-09	Arizona Health Care Cost Containment System—Sunset Factors	03-07	Arizona Board for Charter Schools
02-10	Department of Economic Security—Division of Children, Youth and Families, Child Protective Services	03-08	Arizona Department of Commerce
02-11	Department of Health Services—Health Start Program	03-09	Department of Economic Security—Division of Children, Youth and Families Child Protective Services—Caseloads and Training
02-12	HB2003 Children’s Behavioral Health Services Monies	04-L1	Letter Report—Arizona Board of Medical Examiners
02-13	Department of Health Services—Office of Long Term Care	04-L2	Letter Report—Gila County Transportation Excise Tax
03-L1	Competitive Electric Metering, Meter Reading, and Billing and Collections	04-01	Arizona Tourism and Sports Authority
03-01	Government Information Technology Agency—State-wide Technology Contracting Issues	04-02	Department of Economic Security—Welfare Programs
03-02	Registrar of Contractors	04-03	Behavioral Health Services’ HB2003 Funding for Adults with Serious Mental Illness
03-03	Water Infrastructure Finance Authority	04-04	Department of Emergency and Military Affairs and State Emergency Council

Future Performance Audit Division reports

Department of Environmental Quality—Waste Programs Division

Arizona Department of Transportation—Motor Vehicle Division—State Revenue Collection Functions