

APPENDIX E

FEDERAL, STATE, AND LOCAL REGULATIONS AND POLICIES

Federal, state, and local regulations and policies play an important role when making water service and long-range water-resource planning decisions. Water-resource planning requires an understanding of water-related regulations that present opportunities and challenges to managing available water supplies. Tucson Water must also be aware of potential regulatory changes in order to plan for the future. This appendix briefly summarizes the most pertinent federal, state, and local regulations and policies which must be taken into account when planning to meet the community's increasing demand for water.

FEDERAL REGULATIONS

Federal regulations apply to a wide range of water-related activities including water-resource utilization, compliance with water-quality standards, and environmental protection.

Federal Water-Resource Regulations

There are many federal water-resource obligations that can influence Tucson Water's operations and planning activities. Two of the most important include regulation of the Colorado River including Arizona's Colorado River water rights and Native American water rights.

Law of the Colorado River

The *Colorado River Compact of 1922* is the foundation of the "Law of the River." The Compact apportioned 7.5 million acre-feet of surface water annually to each of the Upper and Lower Colorado River Basins. A small part of Arizona is in the Upper Basin, but its primary water interests are in the Lower Basin, which also includes California and Nevada.

The Compact did not become effective until passage of the *Boulder Canyon Project Act of 1928* which was ratified in 1929 by six of the seven Upper and Lower Basin States; Arizona refused to ratify the Compact. The *Boulder Canyon Project Act* authorized construction of Hoover Dam and the All-American Canal which diverts Colorado River water to California. The Act also specified annual allocations of waters apportioned among the Lower Basin States: 2.8 million acre-feet to the State of Arizona, 4.4 million acre-feet to the State of California, and 300,000 acre-feet to the State of Nevada. Each of the Lower Basin States was also allocated percentages of any annual surplus that might occur in a given year. Arizona eventually ratified the Compact in 1944.

The *Colorado River Basin Project Act of 1968* authorized construction of the Central Arizona Project as well as five Upper Basin projects. The Central Arizona Project has rights to 1.5 million acre-feet of Arizona's 2.8 million acre-feet per year apportionment. The Act provides that the 1963 Decree in *Arizona v. California*, which further buttressed Arizona's rights, will be administered so that in shortage years diversions for the Central Arizona Project will be junior to California's annual apportionment of 4.4 million acre-feet, Nevada's 300,000 acre-feet, and Arizona's mainstream allocation of 1.3 million acre-feet.

The Secretary of the Interior administers Colorado River water allocations for the Lower Basin States. The Central Arizona Water Conservation District (CAWCD), formed in 1971, contracts with the Secretary for delivering a portion of Arizona's apportioned share of Colorado River water and, in turn, subcontracts with relevant entities within Arizona to formalize Central Arizona Project allocations. CAWCD also operates the Central Arizona Project delivery system and maintains the canals. CAWCD is authorized to levy a property tax in Pima, Pinal, and Maricopa Counties to repay construction and operation and maintenance costs of the Central Arizona Project.

The City of Tucson adopted a subcontract with CAWCD in 1988 to obtain a CAP allocation. The City of Tucson's current Central Arizona Project allocation is 135,966 acre-feet. In the near future, a fixed volume of Colorado River water has been identified for reallocation to Arizona communities, and Tucson has been recommended to receive an additional 8,206 acre-feet per year through this process. The proposed reallocation of Central Arizona Project water to municipal providers is included in the Arizona Water Settlements Act currently pending before Congress and expected to be approved within the next two years. If the Act is approved, ADWR will receive an allocation of approximately 80,000 acre-feet of non-Indian agricultural priority Central Arizona Project water which it will allocate for M&I use over the next 30 years. In addition, as State-owned land is sold and developed in Tucson Water's projected service area, portions of the State's allocation could be transferred to the City.

Native American Tribes

The greater Tucson region is home to the Tohono O'odham Nation and the Pasqua Yaqui Tribe.

Tohono O'odham Nation

The Tohono O'odham Nation is located on approximately 2.8 million acres in south central Arizona. The Nation's total population in 2000 was approximately 24,000 people (Inter Tribal Council of Arizona, 2003). The largest community is Sells and the second largest is the San Xavier District, located on 72,000 acres south of Tucson.

In 1975, the United States, on behalf of the Tohono O'odham Nation, filed suit against the City of Tucson and other major water users in the area seeking to protect the water resources of the Nation's San Xavier District. The City and the other water users negotiated a settlement which Congress ratified as the *Southern Arizona Water Rights Settlement Act of 1982* (SAWRSA). The San Xavier and Eastern Schuk Toak Districts of the Nation have a contract with the United States for 37,800 acre-feet per year of Central Arizona Project water. The Secretary of the Interior also is obligated under SAWRSA to provide an annual total of 28,200 acre-feet of effluent to the Nation.

The City of Tucson entered into an agreement with the Secretary of the Interior to implement SAWRSA the following year. The City agreed to annually deliver 28,200 acre-feet of effluent for the Secretary's use in support of the settlement. The agreement will terminate if the lawsuit is not dismissed. Motions for dismissal are still pending subject to another act of Congress that would package SAWRSA amendments with other Native American water claims and Central Arizona Project-related settlements. The Secretary is obligated under SAWRSA to annually provide 23,000 acre-feet of water suitable for agricultural use to the Tohono O'odham Nation at the San Xavier District and 5,200 acre-feet of such water to the Eastern Schuk Toak District.

Pasqua Yaqui Tribe

The Pasqua Yaqui are descendants of the ancient Toltecs who once ranged from northwestern Mexico, southern Colorado, and California. Pasqua Yaqui tribal lands are located on 222 acres about 15 miles southwest of Tucson. Tribal population in 2000 was approximately 9,000 people (Inter Tribal Council of Arizona, 2003). The Pasqua Yaqui have a Central Arizona Project allocation of 500 acre-feet per year.

Federal Water-Quality Regulations

Water-quality regulations often originate from federal legislation. Two major federal laws that govern potable water supply delivery are the Safe Drinking Water Act and the Clean Water Act.

Clean Water Act

Congress established the EPA in 1970 in response to growing public demand for cleaner water, air, and land. The intent of the Clean Water Act (CWA), formerly the Federal Water Pollution Control Act of 1972, was to restore the chemical, physical, and biological integrity of the nation's water supplies. The CWA's primary regulatory mechanism is a permit that

governs the discharge of pollutants to “waters of the United States.” In practice, the waters of the United States include the Santa Cruz and Rillito River channels and the washes in the Tucson area that drain the Santa Cruz and Rillito watersheds.

Section 404 of the CWA outlines wetlands regulations and requires the United States Army Corps of Engineers, with the concurrence of the EPA, to issue permits for activities that disturb the “Waters of the United States.” For the purposes of Section 404, waters of the United States include most Arizona streams, stream channels and wetlands. Section 404 is intended to prevent the unlawful filling of wetlands and would apply to any channel modification Tucson Water would implement to support in-channel underground storage facilities.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was enacted in 1974 and authorizes the EPA to set national health-based standards for potable water. SDWA rules are based on identifying and regulating contaminants that pose potentially serious public health risks. The Act requires the EPA to determine if a contaminant has an adverse effect on public health and that regulation of this contaminant presents a meaningful opportunity for health risk reduction before a drinking water regulation is established. This process includes setting a “Maximum Contaminant Level” (MCL) and a MCL “goal.” A MCL is the highest level of a contaminant that is allowed in drinking water. A MCL goal is the level of a contaminant in drinking water below which there is no known or expected health risk. Tucson Water’s MCLs are either identical to EPA’s or are even more restrictive.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress in 1980. This law creates a tax on chemical and petroleum industries that is used to fund the cleaning up of abandoned or uncontrolled hazardous waste sites. EPA administers this program.

Tucson Water operates a federal Superfund program known as the Tucson Airport Remediation Project under a consent order (agreement) with EPA and other industrial and governmental agencies. In 1981, volatile organic compounds were found in ground water in southwest Tucson. The TARP treatment plant was completed in 1994 and consists of a pump and treat system with air stripping towers that remove the ground-water contaminants. The treatment plant produces about 6.2 million gallons per day of potable supply.

Other Federal Regulations

Tucson Water is also subject to regulations administered by agencies whose missions include protection of plant and animal species. The most important of these is the Endangered Species Act.

The Endangered Species Act (ESA) was enacted in 1973 to address concerns that many of the nation's plants and animals were in danger of becoming extinct. The ESA consists of several sections, many of which can apply to public works projects. Section 10 of the ESA provides a process for landowners to develop and implement an approved "habitat conservation plan" while Section 7 allows for individual projects to proceed based on case-by-case consultations. These processes enable development of land inhabited by endangered species. Entities with proposed development projects that are approved by U.S. Fish and Wildlife Service receive an "incidental take" permit that allows project implementation to proceed. The City of Tucson has begun work on a habitat conservation plan that will provide a pre-determined path which project planners can use to mitigate harm caused to an endangered species. However, the ability of such plans to provide mitigation against species declared as endangered in future years is currently in question. Such plans may only provide the City of Tucson and Tucson Water with limited certainty and assurance when adding expensive capital improvements to its supply infrastructure.

STATE REGULATIONS

Enforcement of federal regulations is often delegated to states. The State of Arizona plays an important role in the implementation of federal legislation.

State Water-Resource Regulations

Arizona Groundwater Management Act of 1980

The Arizona Groundwater Management Act (GMA) was passed by the Arizona Legislature in 1980. The GMA established ADWR and created Active Management Areas (AMAs) within the State where more stringent water-resource regulations apply. Boundaries of the AMAs are primarily based on locations of ground-water basins but also take into account water use patterns. The ground-water management program established for AMAs limits ground-water withdrawals, prohibits development of new irrigated farmland, requires new subdivisions to have long-term dependable supplies, and requires ground-water withdrawals to be measured and reported. The five AMAs currently account for about 75 percent of the groundwater pumping in Arizona and contain over 80 percent of the State's population.

The Tucson AMA is one of the original AMAs designated for regulation by ADWR. The Tucson AMA includes eastern Pima County and parts of Pinal and Santa Cruz counties. The Tucson AMA was established because of ground-water depletion within the Upper Santa Cruz and the Altar-Avra Valley subbasins (ADWR, 1999).

The GMA specified that ADWR establish management plans for each AMA to achieve AMA goals, established a statutory system of ground-water rights within AMAs to be administered by ADWR, and changed the rules for permitting and operating new wells within AMAs.

Tucson AMA Management Plans

The GMA established five management periods between 1980 and 2025 to achieve the management goals of the AMAs. For the Tucson AMA, management plans are developed prior to each management period by the Tucson AMA director and ADWR staff. The main components of each management plan are water supply augmentation, water quality, and water conservation plans for agricultural, municipal, and industrial users and providers in the Tucson AMA. For water providers, the conservation plans specify per capita water use targets. Only potable water is included in calculating per capita use; reclaimed water is not included in the calculation in order to provide an incentive for its use. Failure to comply with ADWR target use rates could result in fines or other punitive actions.

The management goal of the Tucson AMA is to attain “safe yield” by 2025. This is to be achieved by implementing water conservation by all water users, utilizing renewable water resources such as Colorado River water and effluent, retiring agriculture with advancing urbanization, and by purchasing and extinguishing grandfathered ground-water rights.

Rights to Withdraw Ground Water in the Tucson AMA

Tucson Water primarily withdraws ground water pursuant to non-irrigation grandfathered ground-water rights and its service area right.

Grandfathered Rights

On the date that an AMA is established, all existing non-municipal uses of ground water are capped and are accorded grandfathered ground-water rights (GFRs). This is a marked departure from the reasonable use doctrine which still applies to ground-water users outside AMAs. A provider can also withdraw ground water outside of its service area pursuant to GFRs. With few exceptions, GFRs cannot be restricted by ADWR to achieve safe yield.

The Type I non-irrigation GFRs apply to farmland retired from irrigation after January 1, 1965 in anticipation of eventually using those rights for municipal supply. A Type I right allows a right-holder to pump three acre-feet of ground water per acre of land retired from irrigation. Type I rights are tied to the land and cannot be transferred to another location. Tucson Water has Type I rights totaling 47,116 acre-feet per year as a result of the Avra Valley agricultural land retirement program.

Type II non-irrigation GFRs apply to non-irrigation withdrawals of ground water in existence as of June 12, 1980. Type II rights are not tied to specific lands and hence may be transferred from one location to another. Tucson Water has 9,203 acre-feet of Type II rights.

Service Area Right

Under its service area right, Tucson Water may withdraw and transport as much ground water from within its service area as may be required to serve customers within that area, subject to applicable ADWR water conservation and also AWS requirements. The GMA

defines the service area of a city, town, or private water company as the area of land served by a water provider and any additional areas that contain an operating distribution system owned by the provider that is used primarily for the delivery of non-irrigation water. Tucson Water has established its service area in accordance with ADWR regulations and annually submits maps to the agency that show service area extensions.

Underground Water Storage, Savings, and Replenishment Act

The *Underground Water Storage, Savings, and Replenishment Act* of 1994 expanded the recharge program established by the *Groundwater Recharge and Underground Storage Act of 1986*. Recharge, storage, and recovery of all classes of water including nonpotable water are regulated. The Act integrated the various underground water storage programs adopted since 1986 into a single, unified program. This more streamlined process was intended to facilitate development of recharge projects. Its intent also was to improve the recharge permitting system and address the assignment of long-term storage credits. Tucson Water has recognized the potential for using artificial recharge to help achieve its water management goals and has instituted water recharge programs to accomplish those goals. Tucson Water must have a recovery well permit issued by ADWR to recover storage credits. Recovery must not harm other land and water users as described in ADWR's recovery well spacing and impact rules.

Arizona Groundwater Transfers Bill

The *Arizona Groundwater Transfers Bill* (Senate Bill 1055) was passed and formally became ARS § 45-463 in 1991 and was established to regulate Type I non-irrigation GFRs associated with retired irrigated land. The bill added provisions for certain non-irrigation GFRs to be included in the calculation of Assured Water Supply for a city. Credits were granted to the City of Tucson in recognition of the water savings gained from purchase and retirement of irrigated land in the Avra Valley. A total of 9,570 acres were being irrigated when the City of Tucson purchased them thereby obtaining a 1984 Certificate of Grandfathered Rights for 28,710 acre-feet per year. The 9,570 acres that were under irrigation when purchased by the City of Tucson per the 1984 Certificate of GFR for 28,710 acre-feet per year can be exchanged for the maximum allowable 2 million acre-feet of ground water credits.

ADWR's Assured Water Supply Rules

The AWS Rules were established as a component of the 1980 Groundwater Management Act; however, the rules under which the program is currently governed did not become effective until 1995. The rules tighten the conditions under which ground water can be pumped by municipal providers in AMAs. For more information regarding the City of Tucson's AWS designation, refer to Appendix C: *Assured Water Supply Implementation*.

Arizona Water Banking Authority

The Arizona legislature established the Water Bank in 1996 to coordinate the off-stream delivery, storage, and transfer of storage credits relating to Arizona's 2.8 million acre-foot

apportionment of Colorado River water. The Water Bank is staffed by ADWR employees and is tasked with increasing the State's utilization of its annual allocation to firm Arizona water users against future Colorado River water supply shortages. The Water Bank also can enter into storage contracts with California and Nevada to store unused Colorado River water in Arizona to help meet the future water-supply needs of these states. Other potential benefits cited at the time of its establishment include drought protection, enhanced water management through replenishment, and a possible means to settle Native American water rights settlements. The majority of funding for the Water Bank comes from a \$.04 property tax levied by CAWCD in Maricopa, Pinal, and Pima counties to pay for the storage of Colorado River water to firm deliveries to Central Arizona Project M&I subcontractors during shortages. The Water Bank is authorized to obtain tax funds through 2017.

State Water-Quality Regulations

State water-quality standards have been established for ground water, surface water, and reclaimed water. These standards are enforced by ADEQ through the *Environmental Quality Act of 1986*. The Act established ADEQ to regulate water quality, air quality, hazardous waste, and solid waste. State water-quality regulations for ground water match the MCLs established by the EPA. Surface-water quality standards have been developed for various uses including full-body contact, partial-body contact, fish consumption, agricultural irrigation, and livestock watering. The EPA has also delegated to the State the responsibility of issuing Arizona Pollutant Discharge Elimination System (AZPDES) permits that regulate water discharges from primarily municipal and industrial water users under the CWA.

Ongoing State Proceedings

The Gila River Adjudication is a comprehensive ongoing court proceeding in Maricopa County Superior Court to determine the nature, extent and priority of surface water rights in the Gila River system. Initiated in 1974, the proceedings involve seven major watersheds (including the Santa Cruz River) and 16 Native American reservations. The appropriative allocations at stake are among the most coveted in Arizona. Historically, Tucson Water has relied on ground water as its sole source for municipal supply. The outcome of the Gila River Adjudication may bring some water that was formerly considered ground water within the purview of the Adjudication Court. This could hinder the Utility's ability to withdraw water from certain well fields in order to protect water users with senior appropriative rights.

LOCAL AGREEMENTS OR POLICIES

Agreements with other entities and locally generated policies play a key role in Tucson Water's day to day operations. A few of the more critical agreements and policies are described below.

Local Effluent Management Agreements

Municipal wastewater effluent is a water supply that steadily grows along with population. This supply can provide an alternative to ground water for irrigation and industrial uses through a reclaimed water system. In addition, this supply could have future use to help meet the increasing demand for potable water.

City-County Effluent Intergovernmental Agreements

On June 25, 1979, the City of Tucson entered into an Intergovernmental Agreement (IGA) Relating to Effluent with Pima County. The IGA transferred ownership of the City's sewage treatment plants and conveyance system to Pima County. The City retained the right to use 90 percent of the effluent (after the Secretary of the Interior's proportionate share under the Southern Arizona Water Rights Settlement Act) treated at the metropolitan treatment facilities. The County quitclaimed all rights to effluent from the metropolitan treatment plants but is entitled to use up to 10 percent of the effluent treated in these facilities (after the Secretary's share). Under the terms of the IGA, Pima County is required to treat metropolitan effluent to state and federal water quality standards for discharge whether or not the water is actually discharged. The City of Tucson retained unilateral control of all effluent discharged from Pima County treatment plants outside the metropolitan area.

The City of Tucson and Pima County entered into a Supplemental Intergovernmental Agreement Relating to Effluent (Supplemental IGA) in early 2000 to resolve issues related to recharging effluent in the Santa Cruz River. The Supplemental IGA contained numerous agreements including: (1) the City of Tucson and Pima County agreed to established a Conservation Effluent Pool for use on riparian projects, (2) the City and Pima County agreed to cooperatively plan and establish recharge projects to store effluent, (3) effluent from the new treatment facility at Ina Road would be divided among the parties in the region with contractual rights to effluent, (4) the City would no longer control effluent from existing non-metropolitan plants, and (5) the County could use its allocation of effluent for any public use.

Subsequent agreements between the City of Tucson and the Metropolitan Domestic Water Improvement District (MDWID), and the City and the Town of Oro Valley assigned those water providers with effluent allocations based on their wastewater return flows from potable water deliveries. The amounts of effluent owned by the entities vary, depending on how much potable water is delivered in any given year. Both agreements are subject to the provisions of the effluent IGAs between the City of Tucson and Pima County.

Hydraulically Connected Riparian Areas

In 1990, Mayor and Council directed Tucson Water to commence a special well operation policy in the Tanque Verde area in northeast Tucson in response to water-table declines and perceived impacts on the adjacent riparian area. This "hydraulically connected riparian area" policy restricts the pumpage of a group of northeast wells to an annual total of 8,711 acre-feet, the amount that they pumped in 1987. Five wells are operated on a "last-ones-on" (during the summer) and "first-ones-off" basis. Pumpage from Avra Valley and CAVSARP

is used to offset the reduced pumping capacity due to restrictions placed on the use of these wells.

Water Consumer Protection Act

Tucson Water began delivering Colorado River water to portions of its service area in 1992. The Colorado River water corroded water mains and customers' private plumbing at higher rates than ground water due to the pH level of the new source water. As a consequence of this water-quality issue, the Mayor and Council directed Tucson Water to return to ground water as the sole source of supply. The Water Consumer Protection Act of 1995 was a subsequent citizen initiative that restricted the City from directly delivering Colorado River water for the next 5 years unless it was treated to the same water quality parameters as Avra Valley ground water.

A subsequent citizen initiative placed on the City ballot that would extend the timeline of provisions of the Water Consumer Protection Act was defeated in 1999. As a consequence of this defeat, most of the terms and conditions of the Act expired in 2000. Some components of the Act that require Tucson Water to replenish ground-water pumping in the Central Well Field may remain in effect.

Mayor and Council Water Policies

Tucson Water is a municipal water provider owned and operated by the City of Tucson. The Utility is subject to the authority of the City of Tucson Mayor and Council. The Mayor and Council Water Policies cover a broad range of issues (water rates, water supply, recharge, conservation, water quality, and effluent use, reclaimed water use) and are reviewed annually by the CWAC. The CWAC is a 15-member group of local residents appointed by the City Manager and Mayor and Council.