

**REVIEW OF INSTITUTIONAL GOVERNANCE STRUCTURES
FOR SURFACE WATER TREATMENT PLANTS
FOR THE LOWER RIO GRANDE OF NEW MEXICO**

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ABSTRACT

The purpose of this research was to identify different methods of governance systems for surface water treatment plants serving multiple agencies or entities. The primary objective was to develop models for the Lower Rio Grande Water Users Organization to draw on in developing regional surface water treatment facilities in the lower Rio Grande valley. A survey of New Mexico law was conducted to identify regional governance structures already allowable under state law. Agencies with acceptable models were located by means of conducting a survey of surface water treatment plants throughout the western United States and identifying those with geographic and demographic similarities to the lower Rio Grande Valley. Agencies with pertinent similarities were identified and key features were documented. The information was then placed into a format developed for ease of comparison.

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INTRODUCTION

The dilemma of establishing long-term sustainable water supplies is one that receives much attention around the world. The semiarid desert of southern New Mexico exacerbates the severity of water issues and intensifies the need for resolution. Recent surges in local populations have added stress to existing groundwater supplies leaving governments with the task of finding new sources for drinking water.

Groundwater in the lower Rio Grande valley comes primarily from the Mesilla and Jornada aquifers. Those aquifers are not expected to continue to supply the demands of the growing population in the region (Terracon et al. 2002).

The Lower Rio Grande Water Users Organization (LRGWUO) was formed by a Joint Powers Agreement (Joint Powers Agreement Act § 72-14-43 NMSA 1978) in 1996 by eight entities (City of Las Cruces, Doña Ana County, Town of Mesilla, Anthony Water and Sanitation District, Village of Hatch, New Mexico State University, Elephant Butte Irrigation District, and Doña Ana County Alliance of Water and Wastewater Users). This project was undertaken at the request of the LRGWUO to address questions resulting from its involvement with the New Mexico-Texas Water Commission, El Paso-Las Cruces Sustainable Water Project. The purpose of the LRGWUO is to: 1) address areas of common concern with respect to water resources, 2) complete and implement a regional water plan, 3) make the best use of the available water supply, 4) secure additional supplies of water for the region, and 5) facilitate New Mexico entities participation in the New Mexico-Texas Water Commission.

The New Mexico-Texas Water Commission (Commission), created in 1991 in response to concerns regarding water supply in the region, proposed the El Paso-Las Cruces Regional Sustainable Water Project (Project) with objectives to: 1) improve and protect surface and groundwater quality; 2) preserve the Hueco and Mesilla groundwater basins; 3) implement year-

round delivery of surface water that will enhance agricultural and municipal water supplies and the riverine ecosystem; 4) increase supplies through more efficient delivery, water conservation, and water treatment means; and 5) continue to meet treaty, compact, and contract requirements for water deliveries of Rio Grande Project waters.

The Elephant Butte Irrigation District (EBID) manages the distribution of Project surface water in the valley. Water has historically been distributed to other eligible agricultural lands. As urban development increases and agricultural lands are converted to other uses, it is recognized that there is a need to provide for a means of transferring water from agriculture to municipal and industrial (M&I) and other uses. Members of the LRGWUO have already initiated some water transfers through the Municipal Water Users Association process and have a portion of the necessary surface water rights already in place.

Some work has been done to move the region closer toward achieving the ability to treat surface water. In 2002, the Border Environment Cooperation Commission conducted a feasibility study to determine the possibility of establishing water treatment facilities. The study examined the question of whether the plant would be able to supply treated water at reasonable rates. Also addressed was the issue of water-rate structures based on estimated construction and operations costs (Parsons Engineering Science Inc. 2002). The LRGWUO has initiated studies to determine the feasibility of aquifer storage and recovery for surface water supplies (Perry and Finch 2002).

A number of studies have already been conducted as part of the El Paso–Las Cruces Regional Sustainable Water Project to determine the feasibility of treating surface water. Some of the work completed to date includes possible surface water treatment plant locations based on population growth projections. Evaluation of land area requirements, construction costs, and

operations and management costs has been conducted (Boyle Engineering Corp, Parsons Engineering Science Inc. 2002a). The region has been divided into four areas and possible plant locations identified. Types of treatment systems have been suggested and studies on different filtration systems have been completed. Further evaluation was done to determine the cost for construction of raw water conveyance and treated water conveyance pipelines. Figure 1 depicts three locations suggested for the placement of surface water treatment plants in the LRGWUO area (Boyle Engineering Corp, Parsons Engineering Science Inc. 2000b). Doña Ana Mutual Domestic has requested a fourth site in Southern New Mexico that would divert water at the Leasburg Diversion Dam. This plant would serve the area between Hatch and Las Cruces.

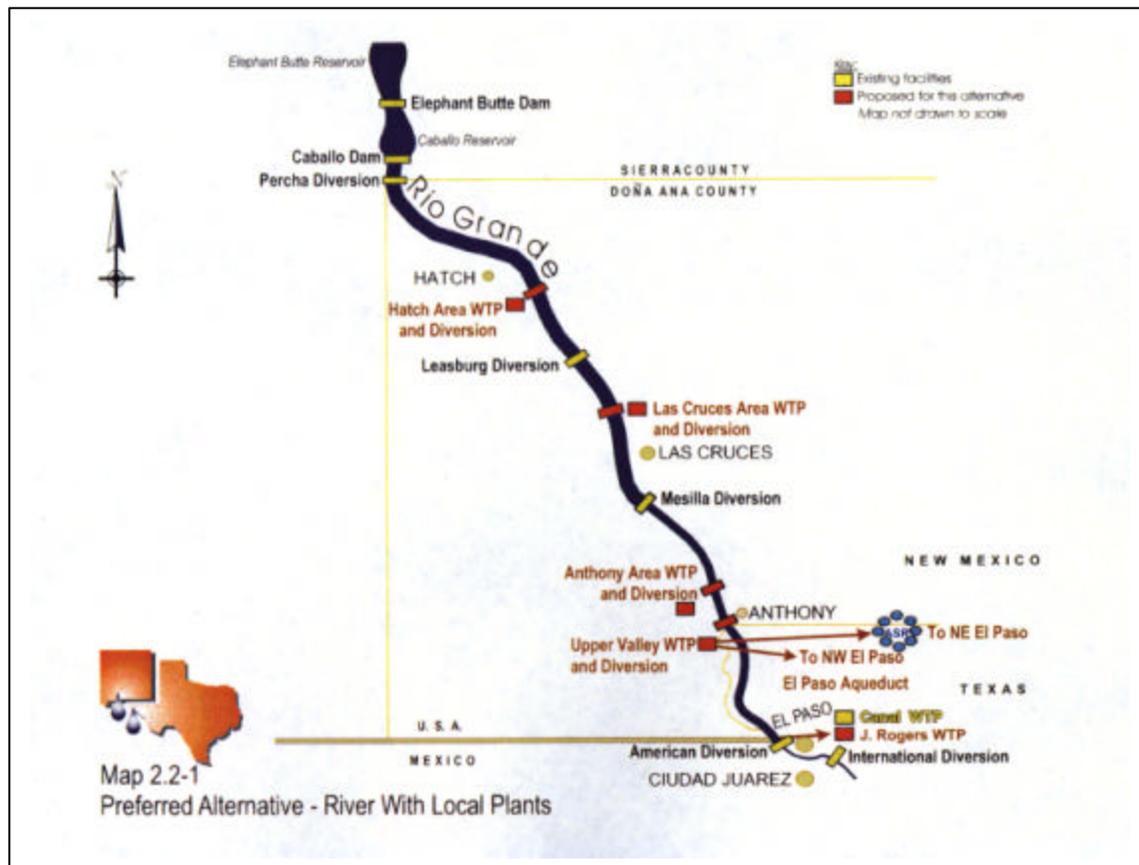


Figure 1. Existing and proposed sites for placement of surface water treatment plants. Source: USIBWC & EPWU, 2000. *Draft Environmental Impact Statement, El Paso-Las Cruces Regional Sustainable Water Project*, U.S. Section, International Boundary and Water Commission, United States and Mexico and El Paso Water Utilities/Public Service Board, April 2000, pages 2-13.

Plans for the El Paso Upper Valley Water Treatment Plant have progressed to the point of conceptual site layout (Boyle Engineering Corp, Parsons Engineering Science Inc. 2000c). Some of the areas examined were a raw water pumping station, systems for raw water storage and presedimentation basins, the water treatment processes, disinfection facilities, pumping systems, and major piping. Studies have been conducted to evaluate administration, operations and maintenance buildings, and many of the other features associated with establishing a water treatment plant. A prospective facility layout was created and the associated costs assessed for construction and water processing.

A pilot operation was conducted in the Anthony/Canutillo area between August 1998 and April 1999 (Boyle Engineering Corp, Parsons Engineering Science Inc. 2000d). The pilot plant tested membrane filters, the recommended method of surface water treatment, from several different manufacturers to determine quality of treatment and basis for comparison. Although El Paso was the primary beneficiary of the study, results were published for the general public.

A study was conducted to determine if existing canals and laterals could be used to deliver surface water to treatment facilities. The authors attempted to ascertain if the canals and laterals would be sufficient to meet demands for M&I use and if not, to determine the impacts of constructing delivery systems. Hydrologic connection exists between ground and surface water and it is necessary to determine the impact of changes to the current delivery system.

The LRGWUO is currently in the process of developing a long-range water plan in which surface water is expected to play a large role for future municipal water supplies. LRGWUO has recognized that the opportunities for establishing surface water treatment plants may be greater if cooperation among the relevant entities exists. For example, Doña Ana Mutual Domestic is seeking to form a united coalition of mutual domestics in the North Valley. One of the major obstacles the LRGWUO has to overcome is finding a method for managing a treatment plant that

will allow each entity to retain control over their own waters while still working together to govern the facility. This study was initiated in an attempt to find solutions to this dilemma.

METHODS

The focus of this study was to investigate different organizational structures for surface water treatment plants and to provide an array of choices and ideas to draw on to aid in the process of deciding the structure best suited to the region's needs. The semiarid climate, distinctive water rights issues, and disparity in the populations of the communities and municipalities involved combine to create a very unique situation that necessitates a unique approach to organizing any joint venture.

The problem was approached by conducting a comprehensive review of surface water treatment plants throughout the western United States. Regions with obvious surface water supplies were located and contact with the proper municipality or authority in that region was initiated. Interviews with agency representatives were conducted to ascertain if that agency would fit the criteria for a model agency. Bylaws, procedures, contracts, and other pertinent information about the agencies were collected for review. The systems were divided into categories and the highlights of their individual governance systems and decision-making processes were detailed. The major features of the systems were identified and presented in matrix format for evaluation.

The search for acceptable models was concentrated in the western United States. The geographic features, population distributions and densities, and water issues in the West differ greatly from the situation in the eastern portion of the country. Figure 2 illustrates all of the surface water treatment plants the investigation located. White markers indicate unusable models and the black markers indicate places where usable models were located.

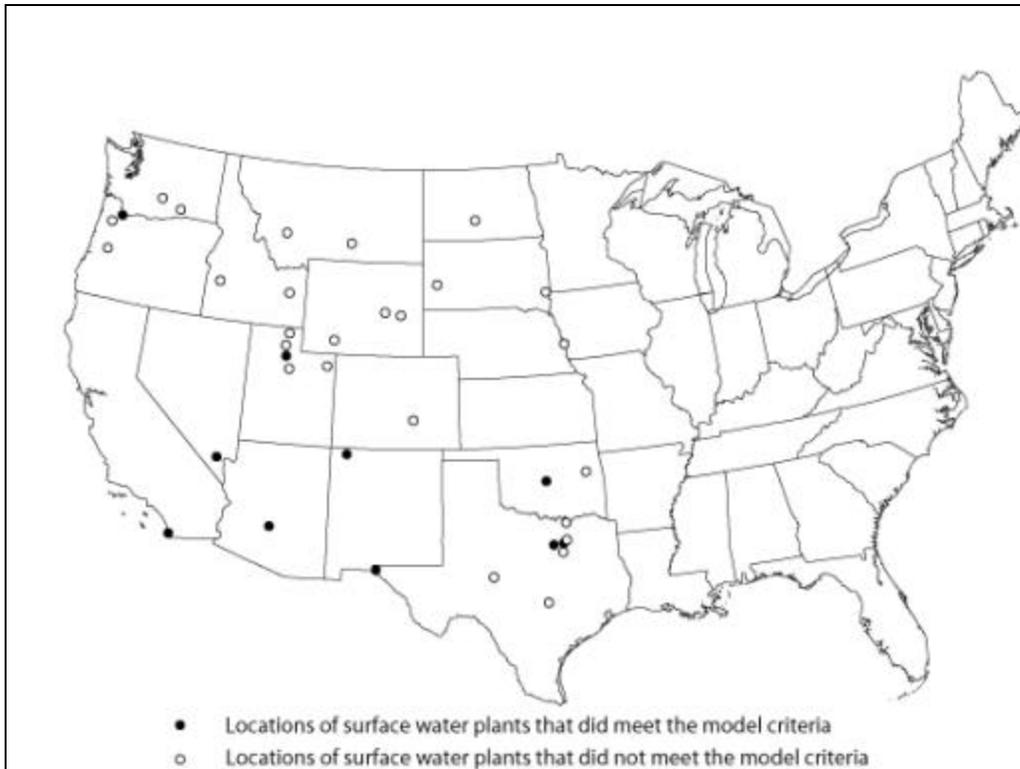


Figure 2. Locations of identified entities operating surface water treatment plants.

NEW MEXICO GOVERNANCE SYSTEMS

A review of existing governance systems available in New Mexico is presented before proceeding to the results of the survey of agency governance structures. Provisions for several different classes of water systems exist under New Mexico state law. Recent moves toward regionalized systems necessitated laws to allow for these types of structures to exist. A thorough report on this topic can be found in a paper presented by John Utton entitled *Regional and Local Water Suppliers (2001)*. The following are descriptions of established structures as outlined under New Mexico state statute.

Municipal Utilities

Municipalities have the right to own and operate water systems, and historically have served as the providers of water (§ 62-3-3 NMSA 1978, 1999). Municipalities may own or

purchase wells, cisterns, and reservoirs. They may also own or acquire rights of way, ditches, pumps, distribution pipes, and water treatment plants. Water owned and distributed by the city may also be used for sewer purposes. Cities may acquire water through contract agreements or by condemnation. New Mexico law also confers powers of eminent domain on a city for the construction of waterworks systems within or outside of municipal boundaries. They may also provide water service in or outside of their respective municipalities (§ 3-27-1 NMSA 1978).

The state's Public Regulation Commission (PRC) has limited oversight of municipally owned utilities. The municipality may choose to self-regulate or they can opt for general PRC regulation. The PRC, should the municipality choose self-regulation, will not have any jurisdiction over municipal water rates or service, but will have some oversight in the issuance of revenue bonds (§ 62-6-4 NMSA 1978).

Municipal systems have the ability to levy assessments to finance the operation of the facility and has jurisdiction over all activities associated with the operation of the water facilities (§ 3-18-25 NMSA 1978). They may also, by ordinance, implement service charges to pay for construction, maintenance, interest on revenue bonds, or other activities associated with capital improvements or enlargement of the system (§ 3-27-4 NMSA 1978). Revenues from the water utility may be used in any way the municipality sees fit and are not strictly tied to the operation or maintenance of the water facility (*Apodaca v. Wilson*, 86 N.M. 516, 523, 525 P.2d 876, 1974).

Municipalities have a wide variety of financing options including revenue bonding, but the majority of resident voters must approve any acquisition that is to be financed with revenue bonds (§ 3-23-2 NMSA 1978). Acquisitions financed in this manner must also meet with the approval of the PRC.

Municipal Improvement Districts

Municipal Improvement Districts (MID) are created by a municipality to construct, acquire, repair, or maintain a water utility (§ 3-33-3[D] NMSA 1978). Property owners may petition the local government to establish an MID or the governing body of the municipality may establish one upon a provisional order (§ 3-33-1[A] NMSA 1978). The boundaries of the MID may extend beyond the borders of the municipality if the area that is included in the district will benefit from its establishment but may not extend beyond the county in which the municipality is located (§ 3-33-8 NMSA 1978).

An MID has the power to levy assessments, and to determine how costs will be apportioned against benefited land (§ 3-33-21 NMSA 1978). Assessments will be based on a cost for benefit arrangement where cost should not outweigh the benefit received for the tract of land being evaluated.

Bonds in the name of the governing body or assignable certificates may be issued to finance some or all of the costs of the improvements (§ 3-33-24 NMSA 1978).

County Utilities

Counties in New Mexico have the same rights as municipalities to own and operate water and sewer utilities unless they fall under certain limitations of state law (§ 4-37-1 NMSA 1978). County jurisdiction over water projects is limited to areas outside of incorporated municipalities but within the county (§ 4-59-4 NMSA 1978).

County Improvement Districts

New Mexico law also has provisions for County Improvement Districts (CID) (§ 4-55A-3[A] NMSA 1978). A CID may be formed either by petition from residents or by provisional order of the board of county commissioners. A CID may be created to construct, acquire, repair, or maintain one project or a combination of projects that are seen to benefit the

areas they are to serve (§ 4-55A-4[B] NMSA 1978). CIDs may also be created as an economic stimulus (§ 4-55A-4.1 NMSA 1978). Areas of benefit may include the county, and any municipality or other county. Approval from areas outside of the usual jurisdiction of the county will be subject to approval from the respective governing bodies where the CID will be imposed (§ 4-55A-5[A]). Assessments for benefits will be performed in the same manner for both areas within the county and those in municipalities (§ 4-55A-3 NMSA 1978). The county may enter into joint powers agreements with the municipalities to which the district extends for the purpose of joint administration of any facilities that serve both areas (§ 4-55A-5[C] NMSA 1978).

Payment for CIDs may be funded through several different methods. The county may chose to pay the cost of the improvements, or they may assess the cost against the land receiving the benefits. Another method they have at their disposal would be to impose property taxes or general obligation bonds to fund the improvements. Assessments against tracts of land must not outweigh the benefits of the improvements (§ 4-55A-10 NMSA 1978).

Cooperatives or Investor Owned Public Utilities

Cooperatives, also referred to as investor-owned public utilities, are another structure provided for under New Mexico law. These types of structures are regulated by the PRC under the Public Utilities Act. They may serve existing cities or may be formed outside of incorporated areas to promote development, but in all cases they must serve a public use (§ 62-2-1 NMSA 1978).

The creation of a cooperative is similar to incorporation in that articles of incorporation must be filed; in this case the articles are to be filed with the PRC. Boards of directors must be comprised of no less than three people and all directors must be shareholders in the cooperative. A majority of the directors must be United States citizens and at least one third of them must be New Mexico residents. Elections for directors will be held annually. Bylaws will be adopted

outlining the governance methods, election or appointment of officers, and the conduction of business.

Cooperatives are bestowed with corporate powers such as the right to purchase and sell real property as well as other rights associated with corporations (§ 62-2-4 NMSA 1978).

Cooperatives serving municipalities with a population of three thousand or more are granted the same rights and privileges of railroad companies (§ 62-2-20 NMSA 1978). They also have the power of eminent domain and any condemnation will comply with the Eminent Domain Code (§ 42A-1-1 to 42A-1-33 NMSA 1978).

Funding may be obtained through several different methods. These include the power to borrow funds, issue bonds, and mortgage their property in order to secure the payment of debt (§ 62-2-15 NMSA 1978).

Private Cooperatives

Private cooperatives may also be established under existing law and are formed similarly to public cooperatives. Private cooperatives do not usually provide water to the general public and are not considered public utilities (§ 53-4-3 NMSA 1978).

Sanitary Districts

The Sanitary Projects Act (§ 3-29-1, *et seq.*, NMSA 1978) provides the procedure for the formation of the most common water suppliers for rural areas – the mutual domestic association. Sanitary projects may be initiated by an unincorporated community or a group of unincorporated communities and provide water and sewage facilities to rural areas. The areas wishing to create a sanitary district must first form an association. A proposal must be submitted to the New Mexico Environment Department containing the pertinent information and prerequisites pertaining to the formation of the project. Sanitary project funding is available from the Environment Department upon meeting the requirements of § 3-29-5.

Water and Sanitation Districts

Water and sanitation districts are another option for creating a water utility system (§ 73-21-3 NMSA 1978). One of the benefits of water and sanitation districts is that they have the additional power of being able to identify their service boundaries. Counties with populations exceeding ninety thousand persons are eligible to create one of these districts (§ 73-21-4[F] NMSA 1978). A petition signed by at least 25 percent of the taxpaying voters must be filed with district court to initiate the creation of a district (§ 73-21-6 NMSA 1978). The county may also file a petition, preceded by an ordinance detailing their intent, to initiate the creation of a district. The District Court, after conferring with the Office of the State Engineer and the Environment Department, will hold a hearing on the matter. District Court will direct the county to put the matter to the voters if the Court finds that the petition has been properly presented. The Court, upon receiving confirmation via majority vote from the electorate, enters a final order establishing the district. Procedures for creating districts are set forth in the Special Districts Procedures Act (§ 4-53-1 to 4-53-11 NMSA 1978).

A board of directors governs the water and sanitation district (§§ 73-21-11 to 73-21-16 NMSA 1978). The original board will be appointed should the district be established by petition from the county or elected should the petition originate from the voters. All directors will be elected after the term of the original board expires.

Water and sanitation districts created by petition from the county will be governmental subdivisions of the county. All other districts will be subdivisions of the state (§ 73-21-9[I] NMSA 1978). These governmental subdivisions have all of the powers of public or quasi-municipal corporations. The area that the district encompasses may lie in one or more counties or portions of counties as long as the counties are contiguous with one another (§ 73-21-4[B] NMSA 1978).

Districts, once created, have the powers associated with the acquisition and operation of waterworks and also have the power of eminent domain. They are not subject to PRC oversight or to the Public Utilities Act although the PRC does provide avenues of recourse for taxpayers wishing to contest rates set by the district. Financing may come from a number of sources including the right to impose ad valorem taxes. The district has the power to create a sinking fund with tax revenues, they may issue bonds contingent upon voter approval, and they may assume debt within certain limitations (§ 73-21-3 NMSA 1978).

Metropolitan Water Boards

Metropolitan water boards may be created jointly by municipalities and counties through their respective governing bodies (§ 3-61-1 NMSA 1978). Identical ordinances must be passed by the city and county to create the board. The ordinances must comply with § 3-61-1.1 NMSA 1978. These boards specifically deal with water received under contract from the Bureau of Reclamation (§ 3-61-1[A] NMSA 1978). Metropolitan water boards have powers to conduct studies, make recommendations on efficient water use, and to operate water utilities. Water utilities operated by a metropolitan water board are treated as a municipal utility and are subject to the same regulations as municipalities.

Joint Powers Agreements

Joint powers agreements are another avenue for the creation of a regional governance system (§ 11-1-1 to -7 NMSA 1978). The Joint Powers Agreements Act allows two or more public agencies to enter into agreements with one another. Agencies that may take part in a joint powers agreement include but are not limited to the State, and adjoining states or their departments, the federal government or their departments, counties, municipalities, public corporations or public districts, or New Mexico educational institutions. These agencies may enter into written contractual agreements subject to any constitutional or legislative restrictions

imposed by any of the agencies entering into the contract. There are limitations imposed with respect to entering into an interstate water supply agreement or any contract that limits the authority of the Interstate Stream Commission and the Office of the State Engineer (§ 11-1-2[B] NMSA 1978).

The agreements must specifically state the powers to be exercised and the method in which the objectives will be accomplished (§ 11-1-4 NMSA 1978). Agreements on contributions of funds may also be established in the agreement as well as payment of funds, and the advancement and repayment of advanced funds. Conditions or duration of the agreement and methods by which it may be terminated may also be included in the agreement. Provisions for strict accountability of all receipts and disbursements will be included in the agreement. There must also be provisions for property distributions should the agreement be terminated. There must also be provisions governing revenues generated by any facility built as a result of the agreement.

The Joint Powers Act allows two or more agencies to jointly exercise any powers that the agencies have in common. Agreements are subject to the approval of the Secretary of the Department of Finance and Administration (§ 11-1-3 NMSA 1978).

Municipal Water Users' Associations: Contractual Authority with Irrigation Districts

Municipalities, counties, state universities, member-owned community water systems and public utilities supplying water to municipalities or counties, which supply water to lands within the boundaries of irrigation districts organized pursuant to Chapter 73, Articles 10 and 11 NMSA 1978; and the Interstate Stream Commission, with approval of the irrigation district, may establish municipal water users' associations within the boundaries of irrigation districts organized pursuant to Chapter 73, Articles 10 and 11 NMSA 1978.

Under the statute, municipal water users' associations may lease the use of annual allotments of project water from owners of tracts of land within the irrigation district boundaries pursuant to the provisions of this section. An irrigation district organized pursuant to Chapter 73, Articles 10 and 11 NMSA 1978 (this includes EBID and Carlsbad Irrigation District) may contract with a municipal water users' association to: 1) consolidate assessments to district members participating in an association; 2) assess an association for the total assessed acreage of district members participating in the association; 3) coordinate the delivery of project water for all assessed acreage participating in the association; and 4) place the association as the record owner on the irrigation district's tax statement for the duration of the participation by district members in an association.

The irrigation district may: 1) make assessments and levies on land within a municipal water users' association; 2) impose reasonable administrative fees on a municipal water users' association; and 3) adopt rules to carry out the provisions of this section. This statute is the first attempt at giving a district like EBID the authority to deal with surface water rights that are acquired by municipal and quasi-municipal water providing entities. The statute addresses problems encountered by the City of El Paso when it started to acquire Rio Grande Project Water for municipal use.

REVIEW OF WATER SUPPLY GOVERNANCE SYSTEMS

City-Owned Wholesale Water Distributors

A common approach to regional water distribution worth noting involved systems in which major cities obtained and treated surface water and then sold treated water (wholesale) to smaller municipalities or water systems within the region. All agencies benefiting from this type of system profit from economies of scale in water treatment, but those not included in the ownership of the system also have little or no control over decision-making processes or the ability to ensure a sustainable water supply for their customers. These control issues were more

profound in the Dallas, Oklahoma City, and El Paso systems where water is sold on an “as needed” basis. The Portland scenario did offer long-term contracts to customers, which alleviates some of the uncertainty in supply issues.

The City of Dallas and Oklahoma City

The City of Dallas obtains water supplies from five reservoirs in the region; Lewisville, Grapevine, Ray Hubbard, Tawakoni, and Ray Roberts (Johnson, R. telephone conversation 2002). Water is treated in one of three plants within the city and distributed to the municipal and wholesale customers. The service area of the Dallas Water Utilities Department encompasses 699 square miles. They have approximately 19 wholesale customers purchasing treated water and four purchasing untreated water. Water use for the wholesale customers is metered and then billed accordingly. The City of Dallas also offers wastewater treatment on a wholesale basis.

Oklahoma City, Oklahoma has a system very similar to that of the City of Dallas (Weingart, B. telephone conversation 2002). Surface water supplies are obtained from the North Canadian River and Canton Reservoir, and Atoka and McGee reservoirs. Oklahoma City Water - Waste Water Utilities services the city proper and some of the adjacent municipalities. Wholesale water is sold as needed and the wholesale customers are billed according to their use.

In 1960 Oklahoma City established the Oklahoma City Water Utilities Trust whose focus was to oversee the construction of the Atoka Reservoir and Pipeline Project. The Trust has transitioned into a policy making body for the Water and Wastewater Utilities. The Trust has five members, or trustees including the Mayor, a City Council member, the City Manager, and two citizens nominated by the Mayor and approved by the City Council. The Trust has regular meetings and attempts to ensure the quality of water and service provided by the Water - Waste Water Utilities Department.

Dallas and Oklahoma City, being city owned, utilize standard municipal procedures for operating and maintaining their water systems. Their major funding comes from revenues generated from the sale of water, but they are eligible for all types of state, federal, or other special funding that municipalities are eligible to receive. They may supplement funding through bond issuance if necessary.

El Paso Water Utilities

The El Paso Water Utilities Public Service Board provides water and wastewater services to the City of El Paso. The utility also provides wholesale bulk water to the Lower Valley Water District and the US Army's Fort Bliss. A few retail customers outside the city limits are served in the upper valley.

The Public Service Board was established in 1952 to manage and operate the water and wastewater system for the City of El Paso. The Public Service Board's five-member board of trustees consists of the Mayor of El Paso and four residents of El Paso County who are appointed by the City Council for four-year staggered terms.

The water supply sources for El Paso are groundwater from the Hueco and Mesilla bolsons and surface water from the Rio Grande. The total water production for 2001 was 39.7 billion gallons. The Utility operates 152 wells, 57 reservoirs, 45 booster pump stations, two surface water treatment plants, and over 2,100 miles of pipelines. The Utility also operates five reservoirs, five pump stations, and 13 miles of pipelines comprising the reclaimed water system.

The surface water supply for El Paso is diverted from the El Paso County Water Improvement District #1 irrigation canals at the Robertson/Umbenhauer and Jonathan W. Rogers water treatment plants. A total of 47,683 acre-feet were diverted in 2001.

The 40 million gallon per day (MGD) Robertson/Umbenhauer surface water treatment plant, originally built in 1943, is centrally located in the city. The filtration systems in this plant were upgraded starting in 1999 to meet anticipated future drinking water regulations.

The Jonathan W. Rogers surface water treatment plant, with a capacity of 40 MGD, started production in early 1993. It is located further downstream to serve the city's eastside and expanding lower valley area. Together, they produce 80 MGD, which represents just less than 45 percent of total annual demand. The Jonathan W. Rogers surface water treatment plant is currently undergoing an expansion to increase capacity to 60 MGD. Following expansion, the Utility's total surface water supply capability will be 100 MGD, which will represent more than 50 percent of the total annual demand.

Currently the surface water treatment plants operate at full capacity seven to eight months of the year. During the rest of the year, surface water from the Rio Grande is unavailable, or the water quality is too poor to be used for the municipal water supply.

The City of Portland

The City of Portland, Oregon also has a system in place in which the city operates the water treatment facilities and sells water wholesale to customers throughout the region. They are in the process of transitioning to a regional governance system (Bull Run Regional Drinking Water Agency; see Appendix for more detail) but are currently operating under this centralized system.

The primary water supply comes from the Bull Run Watershed located east of Portland in the Mt. Hood National Forest. The Water Bureau (Bureau) is owned by the city and financed by water service revenues. The Bureau also has municipal bonding capacity to finance capital projects.

The Bureau serves approximately 800,000 customers, approximately one-fourth of the state's population, in Multnomah, Washington, and Clackamas counties. The Bureau has 19 wholesale customers comprising cities, water districts, and private water companies. Annual wholesale water sales account for 23 percent of the annual water sales and 44 percent of annual

water demand. Water is sold wholesale to four water districts and cities under uniform 25-year agreements. Some private companies have five-year contracts for water supply with the Bureau.

The Bureau, like in Dallas and Oklahoma City, is owned by the city and utilizes the same type of standard municipal procedures for the operation and maintenance of the water system. The major funding source is revenues generated from the sale of water. They are also eligible for all types of state, federal, or other special funding sources that municipalities are eligible to receive. The Bureau may also take advantage of their bonding abilities for the financing of capital projects.

New Mexico municipalities do have authority to build and manage water systems and there are no obvious legal precedents that would block them from operating systems similar to these wholesale distribution systems. It is important to note that both Dallas and Oklahoma City are governed by a different system of water rights laws.

Direct Participating Agency Involvement

Investigation turned up a number of different forms of regional governance systems that, upon analysis, fell into several distinct categories. The first of the two major categories were those in which the agencies served by the regional system participated in some way in the management of the entity. This category broke down further into systems in which elected representatives from the governments comprising the regional system were directly engaged in the governance of the system. This type of system allowed for direct agency involvement in decision-making and management of the entity.

Arizona Municipal Water Users Association

The Arizona Municipal Water Users' Association (AMWUA) was formed in 1969 to serve the urbanized areas of Maricopa County, Arizona (Arizona Municipal Water Users' Association 1991; see Appendix for Bylaws of Arizona Municipal Water Users' Association). The original membership of the AMWUA consisted of the cities of Chandler, Gilbert, Glendale,

Goodyear, Mesa, Peoria, Phoenix, Scottsdale, and Tempe. The primary goal of the organization was to provide a forum for finding ways to fund the completion of the Central Arizona Project, and to explore possibilities for artificial groundwater recharge and other water supply augmentation alternatives, water legislation, water conservation, and coordinated water resource management planning.

The AMWUA is a voluntary association that provides a venue for members to discuss common concerns about water resource policy, planning, development, and management. The underlying belief of the association is that municipal government is the unit of government closest to the people and should take the initiative to lead in the arena of water policy.

The association's original intention was to provide all its members with a voice in the issues that are of concern for that region. The group wanted to ensure that no one agency was able to gain majority control over group-initiated projects and instituted policies to protect the rights of all its members. The association decreed that there would be funding minimums and maximums with the maximum contribution to be not more than 49 percent. This provided an assurance that no agency would be able to control a majority share of any capital project the group created.

Membership in the AMWUA is divided into two categories: voting members and non-voting members. Eligibility for voting membership is dependent on the following criteria: The city or town must be located within Maricopa County; have a municipal and industrial water service subcontract with the Central Arizona Water Conservation District and the United States of America; have a municipally owned water distribution system; have municipally owned wastewater collection and treatment facilities; and have a population of 50,000 or more inhabitants. Initial membership fees for voting members will be not less than \$35,000 and annual dues will also be levied.

Non-voting members are delineated as follows: Be a city or town located within Maricopa County; have a municipally owned water distribution system; have municipally owned wastewater collection and treatment facilities; have a population of less than 50,000 inhabitants; and have a municipal and industrial water service subcontract with the Central Arizona Water Conservation District and the United States of America. Initial membership fees of non-voting members will be not less than \$15,000 and members will be responsible for paying annual dues of not less than \$15,000. Non-voting members will have all of the same rights and privileges of regular members with the exception of a vote during membership meetings and eligibility for positions on the Board of Directors.

The AMWUA is governed by a Board of Directors, which comprises mayors of the voting member cities. There is a President, Vice-President and Secretary-Treasurer whom are to be elected by the voting members at the annual meeting of the association. Secondary to the Board of Directors will be a Management Board comprising eligible city or town managers or city or town clerks of the incorporated municipalities that do not have a council-manager form of government. An agency may also appoint its public works director or equivalent to serve in place of its manager or clerk.

Annual meetings of the members are to be held each June and voting and non-voting members will be present at that meeting. The officers of the Board of Directors will also meet in conjunction with this meeting. Regular meetings of the membership will be held within Maricopa County at the discretion of the Board of Directors. Meetings may also be held outside Maricopa County but will require a two-thirds majority vote from the voting members.

Meetings are chaired by the Association President, or Vice President, or in their absence, the voting members will select one of their members to preside. Voting members are each allotted one vote per issue, and may vote in person or by a designated representative. A quorum

is defined as a simple majority of voting members or their representatives. The Chairperson may adjourn the meeting without notice if a quorum is not established.

Business and affairs of the association needing attention between annual meetings will be attended to by the Board of Directors at meetings held in accordance with the Arizona Open Meetings Law. The board will also have authority to elect new officers, with a simple majority vote, if an office is vacated during the course of the year. A majority of the members will constitute a quorum, and a simple majority of members present at a particular meeting will be necessary to pass any action on matters coming before the board during the course of a meeting.

The powers and functions of the Board of Directors will include the determination and formulation of policy, budget matters, and service charge scheduling. They also appoint committees, hire the executive director, and establish assessments for special projects, and other non-budget items.

Binding contracts may only be made or executed with the approval of the Board of Directors, acting at a properly called meeting. The exception to this being that the executive director may contract for the association in the normal operations of the association's affairs in contracts that do not exceed \$3,000. These normal affairs will include employment matters, supply purchases, and materials and services needed in the operation of the association's offices.

The Management Board of the association consists of city or town managers, or in the absence of a city manager, the city or town clerk. Their duties include the selection of officers for the board, making recommendations for committees, acting as the coordinating agency for committees and subsidiary groups, and any other functions assigned them by the Board of Directors.

Las Vegas Valley Water District

The Las Vegas Valley Water District (District) was created by the Nevada Legislature in 1947 in an attempt to minimize the decline in groundwater. The major water supply sources to

the District are three artesian springs located in the Las Vegas Valley and allotment waters from the Colorado River via Lake Mead. The District purchased the Las Vegas Land and Water Company from The Union Pacific Railroad in 1952 with proceeds from revenue bonds. Proceeds of those first bonds were also used to finance the construction of the initial delivery systems.

The District now serves the City of Las Vegas and a number of unincorporated areas in Clark County. The District is overseen by a seven-member Board of Directors made up of the elected board of Clark County commissioners. A general manager carries out the day-to-day operations of the District. The information available for this District was limited, but the most notable attribute of this system was the composition of the Board of Directors.

Bull Run Regional Drinking Water Agency (Draft #2)

Bull Run Regional Drinking Water Agency (Agency) is an agency that is proposed to take the place of the current Portland Bureau of Water Works (Policy Steering Committee 2002). This new agency will take over the operation of current water treatment and delivery systems. The new governance structure will incorporate a regional aspect to replace the city owned and operated system currently in place.

A Board with members from each of the involved Parties will be established. The governing body of each respective Party will make appointments to the Board and members will be sitting elected officials. Members will serve at the pleasure of their appointing body. Parties may also appoint an alternate to the Board who will be subject to the same qualifications as the official Board member. Alternates will have voting rights in the absence of the official member, but in the case of officers, the alternate shall not assume their duties for the duration of the meeting. The Board will elect from among its members a chair and vice-chair who will be the officers of the Board with elections held annually. The Board will also have the power to

establish advisory committees consisting of members or non-members as need dictates. The Board may also appoint an Executive Committee. Specific duties and powers of the officers and committees have not been expressly defined at this time.

The general powers of the Board will be to govern the business and affairs of the Agency. Its responsibility will extend to the adoption of bylaws, policies, regulations, and rules as necessary. The Board will also have within its capacity to hire employees as a situation dictates, and to contract for the purchase of property and services.

Board meetings will be held in accordance with Oregon's public meetings laws and meetings are expected to be held quarterly. Forty-eight hour notice will be necessary for any special meeting and may be called by the chair or a majority-less-one of the members. The issuance of debt, taking in new owners, setting Wholesale Water rates, capital improvements, major asset additions to the system, signing water sales agreements with non-Parties, or dissolution will require a "supermajority" (a purposely ambiguous term that will be further defined upon completion of the agreement but expected to be two-thirds or more of the members) vote for action to be taken. A simple majority will be adequate for all other actions of the Board. A quorum for the transaction of business will be defined as a supermajority of the Parties and a supermajority of the ownership in the system for all major actions. A simple majority will constitute a quorum for all other actions. The number of votes each Party will be entitled to will be determined by the number of units the Party owns in the system.

Provisions will be put in place for the redistribution of assets in the system and for revising the composition of the Board in the event that two or more Parties merge or consolidate their political boundaries.

A transition period is expected while establishing the Agency and some measures have been put in place to deal with this transition. Some provisions include an agreement of the

Parties to provide interim financing until regular revenues can be generated and the Agency's ability to retain temporary staff that may become permanent after the transition period. Also, the Agency is to have complete control over the system, and with the possible exception of water rights, the Agency will have the powers necessary to implement the transfer.

Policies concerning labor and personnel, including the transfer of personnel from the Parties to the Agency will be included in the agreement. All other regulations governing staff are also in place.

Valuation of the system will be done at the time of the signing of the agreement and the value of contributions of assets by the Parties or new Parties will be determined by negotiation. The value of each unit will be assigned upon finalization of the agreement. The value of future capital improvements will be based on cost. The parties will own an undivided interest in the system. Percentage of ownership will be determined by the number of units in the Agency owned by each Party.

Capitalization of the Agency will occur from three sources: physical assets transferred to the Agency, cash contributions including proceeds from bond revenues, and the Agency issuing revenue bonds for which the individual Parties will assume the obligation to service the debt. The Agency has also developed a plan that will attempt to balance ownership in the system. The City of Portland would contribute their assets to the Agency and receive a credit for their assets' value to their equity account. No direct payment would be made to Portland from the other Parties. The credit to the equity account would serve to resolve payment obligations in the value of the account.

Policies have been established governing the operation of the system, provisions for expansion and improvement, rates and charges, and water sales to outside parties. There are also

procedures for withdrawal or termination of membership and the sale of assets. Policies have also been established in reference to liability and insurance coverage and dispute resolution.

Indirect Participating Agency Involvement

This group of systems also uses a board type of governance system, but they differ from systems with direct participation in that these boards were not necessarily made up of elected officials, but of persons appointed at the discretion of a participating agency's elected officials. This type of system allows the involved parties to have some control over the board's members without having to serve in a direct capacity.

San Diego Water Authority

The San Diego Water Authority (Authority) was organized under the County Water Authority Act (California Annotated Water Code, Appendix, chapter 45; San Diego Water Authority – Chapter Highlights in Appendix; Bond J. telephone conversation 2002). This act allows for a group of agencies, for example, municipalities or utility districts, to form a water authority. These authorities become the equivalent of a public corporation similar to a municipality. The agencies wishing to form this type of authority must submit a petition to the county supervisors by resolution. The county supervisors may then hold an election to allow the voters to decide the issue.

San Diego has two major water sources – the Colorado River and the Northern California Aqueduct, from which they receive approximately 90 percent of their water supply. Recently the Authority has begun to develop new water sources to supplement their existing supply.

The Authority has powers to contract, eminent domain, sue and be sued, borrow money, issue bonds, impose and collect taxes, construct, and maintain facilities. They may hire and dismiss employees and contractors, acquire, hold and dispose of water rights, buy and sell water, and enter into joint agreements with other public entities to provide services. The authority may also sell surplus water to non-member agencies and they have rights that enable them to acquire,

treat, and purify reclaimed water for sale to members and non-members. The authority may also set rates and collect revenue from the sale of water. It is also within their jurisdiction to generate and sell hydropower, to purchase and sell electricity and natural gas, and to collect the associated standby, collection, or any other related charges.

A Board of Directors is vested with the powers allotted to the Authority. The member agencies must each have at least one representative on the board. Appointments to the board are to be made by the highest elected official from each member agency. Member agencies will appoint subsequent representatives to the board contingent on each additional five percent of assessed value that the agency holds. The votes are distributed according to capital contribution made by the members. One vote is granted for each \$5 million contribution to the authority. Contributions are defined as monies paid to the authority in the form of charges for water, standby charges, other fees, tax revenue, and so on. Votes are assigned at the beginning of each year and are based on the previous year's contributions. A quorum is defined as one half of all representatives, and 50 percent of the total votes are required to affect any action. Proxy voting is permitted.

The issuance of bonds is permitted but must be put to public vote and needs a two-thirds board majority to approve the measure. The specifics of bonds issued, the percentage return and maturity, and so on, must be a matter of public record. The Authority shall set water rates to cover all of the associated costs of providing water including the repayment of debt. The Board of Directors has within its discretion to impose taxes to manage the repayment of debt in the event that water-rate revenues, subsequent to appropriate adjustments, fail to cover all costs. Non-bond indebtedness is also allowable but is not to exceed one tenth of one percent of the assessed value of all of the property within the member territories and will be subject to public vote as well. Conditions for the issuance of emergency bonds for up to one half of one percent

of the same assessed property value exist for situations where damage to facilities has occurred that is not covered by insurance. The authority may also impose taxes on its members that, like property taxes, will be valued in accordance with the assessed value of property within the member's region. These taxes may be paid directly by the member agency or may be passed on to the property owners and collected by the member agencies as property taxes.

Territory annexed by members will become part of the Authority. Water districts may elect to annex to the Authority as a new member or districts may chose to consolidate with another district that is already a member of the Authority. Special conditions exist for the annexation of federal property.

San Juan Water Commission

The San Juan Water Commission (Commission) was established in 1986 by the cities of Farmington, Aztec, Bloomfield, the county of San Juan, and the San Juan Rural Water Users Association (see Appendix for more details). The original purpose of the Commission was to protect and utilize future and existing water rights and water resources of the parties and to provide for equitable distribution of water rights and untreated water resources allocated to the Commission. It was intended that a mechanism be provided for the parties to acquire, finance, protect, and conserve additional water rights and water resources. Also, a mechanism was provided for implementation of plans or projects with reference to water rights to protect water and the use and development of untreated water and untreated water storage and conveyance projects.

The Animas La Plata Project (Project) delineated 38,400 acre-feet of deliverable water to San Juan County with 7,600 acre-feet of that water allotted to Shiprock. Members were in agreement that the water should benefit the citizens and industries of San Juan County. Congress mandated that no construction for the project could begin until the affected parties were in agreement as to cost sharing and funding. The Bureau of Reclamation was authorized to enter

into agreements with non-federal water users to construct facilities on the condition that these non-federal water users would share construction costs associated with the Project.

The Commission was established to answer these Congressional mandates under New Mexico state law (Sec. 11-1-5 NMSU 1978) and is structured as a Joint Powers Agreement. Each party to the agreement will appoint one representative to the Commission. The member agencies are also directed to appoint at least one alternate member to the Commission who will act in the absence or incapacity of a regular member. This alternate shall have all of the powers, duties and responsibilities of the regular member should they have to serve as a member of the Commission. Alternate members may attend meetings and involve themselves in discussions but may only vote in the absence of the regular member. Each member, or alternate if that is the case, is entitled to one vote.

The members may not hinder the business of the Commission by frustrating the process of meetings or by failing or refusing to attend meetings. Such actions, if identified, will cause the member or alternate member or both to be removed from the Commission and an adequate replacement installed.

A chairman, who serves for one year, shall be selected at the first official meeting of the Commission each year. The meetings of the Commission will comply with the New Mexico Open Meetings Act, and attendance of a majority of the members will be necessary for the Commission to conduct business.

The Commission is able to receive public funds to offset the administrative and operational costs of the agreement. The costs include, but are not limited to, wages, salaries, administrative overhead, and transportation costs. Commission members may advance funds with the understanding that such advances shall be repaid by the Commission at the time such

funds become available to the Commission. Some exceptions for the repayment of funds are garnered from county tax levies, and the right of some of the members to waive repayment exist.

A favorable vote of four of the five members will be necessary before the Commission may sell or transfer ownership of, lease, or rent any water or water rights or assets of the Commission. Voting on other matters or actions will only require a majority of the members to approve.

The authority of the Commission is limited to the acquisition and holding of water rights, storage of untreated water, rights to water, and distribution of untreated water for the benefit of the Commission members and the residents they serve. The agreement shall be effective until the Animas La Plata Project (ALP) is completed and the first water has been delivered to the Ridges Basin Reservoir. The Commission also intends to continue beyond the completion of Project construction.

The purpose the Commission intends to serve upon Project completion, or in the event that the Project is abandoned or never completed, is to insure that the water allotted to citizens is delivered and used to their benefit. A monthly operating statement will be provided to the members by the Commission and payment will be remitted no later than twenty days following the end of the reporting month.

San Juan County, the party with general countywide fund raising power, agreed to implement a mill levy (approximately three mills) upon all real and personal property in the county including municipalities. The proceeds of the mill levy were used to establish a sinking fund to pay for Project construction. The county would continue to maintain a mill levy, after construction costs were guaranteed, to pay for the operating and maintenance expenses for the project and to pay for the operation and maintenance costs for the Commission. The county may also provide a sinking fund to be used for the acquisition of additional water rights, facilities for

the storage and distribution of untreated water, and to fulfill other purposes of the Commission. The county maintains control over the monies including prudent investment of such monies should they be held in trust by the County for the parties to the agreement. Sufficient monies to meet budget requirements will be transferred by the county to the Commission in quarterly installments.

Title to all assets and water rights acquired by the Commission shall only be taken in a manner that has been agreed upon by members of the Commission. Water rights or property taken in the name of the Commission will be held in trust for the members. Arrangements were set in place to manage the transfer of assets back to the members in the event that the Commission should be dissolved.

The Commission's dealings were limited to the management of untreated water as defined by New Mexico state law (Sec. 72-4-8 NMSA 1978). Proceeds from ad valorem taxes are not to be used, under this Agreement, to acquire water supply systems. The agreement also stipulates that the Commission would make a concerted effort to acquire additional water and water rights. The goal would be to obtain water in an amount at least equal to the original ALP allocation as soon as funds from the mill levy were adequate to purchase these rights.

The agreement did not limit the power of the individual entities to acquire water or water rights by whatever means available to them nor did it limit their power over water or water rights that were already in their possession. The Commission did retain the right to review any third party's offer to sell rights and make a recommendation to the entity to which the offer was made. Provisions were made for the event that any of the parties should sell water outside of their city limits or service area. The contracts for water from the Bureau of Reclamation for ALP water would transfer from the Commission to the cities and county should the Commission dissolve. The county would be the trustee for the San Juan Rural Water Users Association in the event that

the Commission were to dissolve and in this capacity would take possession of any assets, contractual agreements, and so on, and serve as the administrative agent for the Association.

Without Participating Agency Involvement

This category of systems is defined by its lack of participating agency involvement. These agencies all prescribed to a board system of governance as did most of the regional water systems identified, but chose to have their board selected from among the region's citizens. Board members for these systems were either elected or appointed by an impartial third party. This system of board selection allows the entity to operate autonomously, releasing the participating agencies from decision-making and management responsibility.

Jordan Valley Water Conservancy District

The Jordan Valley Water Conservancy District (District) was organized in 1951 pursuant to the provisions of the Utah Water Conservancy Act (see Appendix for additional details). The District is a political subdivision of the State of Utah and a body corporate with all of the powers of a public or municipal corporation (Jordan Valley Water Conservancy District 2001). The purpose of the District is to provide for conservation and development of water to achieve the greatest beneficial use within its legal boundaries. The District would continue to contract, with any entities available, to make available water for municipal and industrial use, irrigation, power and manufacturing at reasonable cost and through a reasonable system of delivery.

The District is managed by a Board of Trustees (Board) and all powers of the District are exercised through the Board. The qualifications for trustees include: the trustee shall be a resident of the division they are to serve and shall swear an oath to the office they are to serve. The number of trustees is not to exceed eleven persons but the authorized number will be subject to change at the discretion of the state's legislative body. The current number of members serving by order of the court is set at eight. Trustees are appointed from the division of the District as set by the court. They are appointed by the Governor of Utah with the advice of the

state's senate. Nominees are submitted from two classes of divisions. In a division of solely incorporated cities, each city will submit two nominees for trustee. The second type of division, which includes non-incorporated areas, shall submit three nominations for trustee. In the event that the division is situated in more than one county, the legislative bodies of the counties will collectively compile a list of nominees. The term of office is four years and commences on the first Monday of January of the year the term begins. Half of the trustee positions will be appointed every two years with the other half appointed on the alternate two years. The number of terms a trustee serves is not limited. Provisions for vacancies on the Board that are not consistent with regular appointment intervals are included in the bylaws.

The Board shall hold annual meetings as well as quarterly meetings with the possibility of meetings being held more frequently as need dictates. The annual meeting will be held on the regularly scheduled meeting date in August. The principal officers of the Board will be elected at the annual meeting. These principal officers are described as a chair of the Board, a vice-chair, and a member who will serve as secretary of the Board and of the District. The secretary's position may be filled from within or outside of the Board. The secretary will also serve as treasurer of the District unless the Board is provided with a treasurer. The term of the office is the interval between annual meetings. Officers may resign at any time by providing written or verbal notice to the Board. Acceptance of the resignation will not be necessary for it to be effective. A majority vote of the Board will be necessary for an officer to be removed from their position.

The Board has the authority to adopt policies or procedures for the governing and operation of the District. These policies can be administrative, rules, or regulations governing personnel and rules and regulations for retail and wholesale water service. These policies will be

drawn up in an “Administrative Policy and Procedures Manual,” which will be adopted and approved by the Board.

The District maintains different and specific rules and regulations for retail and for wholesale water service. Retail water service is to be provided to any applicant with property within the district and who resides within the legal boundaries of an incorporated entity but cannot, for whatever reason, make arrangements for water provisions from that incorporated entity. Application may be submitted to the District requesting retail water service. Applicants are responsible for all costs associated with the connection of that service. Conditions for retail service outside of the District’s service area may also be made and provisions for accomplishing this type of service connection are set forth by the District.

The District has set forth conditions for connection and payment for such services as well as conditions for the payment for water service and for termination of service. Policies have also been established for determining water rates, charges and fees, and for applications for service to multiple units. The cost of emergency water lines in the form of fire hydrants, and so on, shall be borne by the area they benefit, but will be inspected and maintained by the District. Application can be made to the District for the extension of water mains with the cost assumed by the beneficiaries when practical.

The District has established policies for limiting liability for damage caused by disruptions, failures, or irregularities in water service, water main breaks or other circumstances beyond the reasonable control of the District. Policies have also been established governing procedures for providing water service for newly annexed municipal areas.

The District’s primary focus is on supplying wholesale water to municipalities and other customers. Contracts are divided into several categories according to the need or type of the particular customer. These categories are broadly divided into municipalities, districts,

departments of state government, and private companies. The broad categories are further divided into well-defined sub-categories and each has very specific rules and policies governing the conditions under which they will contract for water. Contract conditions stipulate that customers will pay for any water contracted for whether or not the water is actually delivered (take-or-pay contracts). Application can be made to the District to reduce contract amounts but the Board will not consider such a request unless another agency wishes to rewrite their contract and increase their portion of water by an amount that offsets the reduction of the agency making the application.

Water contracts define contract amounts or minimum annual volumes. These contracts may also include contract capacities, or peak day flow rates for the delivery of contract volumes. Periods where water shortages occur are to be dealt with by assigning each customer a priority. The various contract categories are assigned a numeric priority and delivery will be adjusted according to this predetermined priority with higher priority contract holders receiving first rights to available water. Sub-categories are assigned the same priority as the broad category from which they are drawn. Most contracts contain perpetual terms but some fixed-term contracts are drafted. Only certain categories of customers are eligible for perpetual wholesale contracts, and new applications for contracts under these conditions must take minimum annual delivery of not less than 500 acre-feet.

The District has established policies for setting water rates, charges, and fees in which they detail their pricing structure and wholesale flat meter charges as well as methods for invoicing and accepting payment. Extensive provisions for expansion of facilities and the customer base are outlined in detail. The District has delineated policies for leasing of their real property, and license agreements for the Jordan Aqueduct.

Tarrant Regional Water District

The Tarrant Regional Water District (TRWD) was originally organized in 1924 under Chapter 51 of the Texas Water Code (see Appendix for additional details; Oliver, J. telephone conversation 2002). Chapter 51 describes the rules and powers for the creation and operation of Water Control and Improvement Districts in that state. The TRWD serves 28 entities through contract agreements and has four “equity partners.” The TRWD was created as a political subdivision of the state with its political boundaries being defined as Ft. Worth, but the service area includes the ten surrounding counties. The four “equity partners” are also served on a contractual basis, but have established equity through capital contributions over the years. Recently a court has essentially awarded them this status and also awarded them priority over all other customers. Their rates are also expected to reflect their equity contributions.

Texas state law dictates that a Water Control and Improvement District be created by a petition to the county in which it intends to establish. Should more than one county be involved, the group must petition the Texas Natural Resources Commission. Elections to approve the petition are held in the area proposed for the district. The measure will be approved on an entity-by-entity basis in the instance where more than one entity is involved; some entities may approve the measure and others may not. Districts, once created, can join together to create “Master Districts” that are formed to manage an entire watershed, to create large facilities, or for other large-scale projects.

A five-member board of directors is elected by the Ft. Worth electorate. This board serves to govern the district. Directors must be citizens of Texas and must own land within the district. The TRWD may enter into inter-governmental agreements with a city to build joint facilities. The city involved shall appoint a special director to the board for the duration of the project. The special director does not have voting privileges.

The TRWD may be involved in the control, storage and distribution of water. They may also be involved in flood control, construction of facilities, and reclamation and may create rules and regulations concerning these matters. Some of the other powers granted the TRWD include eminent domain, the right to transfer water rights, the right to sue to protect water rights, the development of hydroelectric projects, and the sale of hydroelectric rights.

The TRWD may enter into cooperative agreements with other governmental agencies. Contributions by other governmental agencies for capital projects can be proceeds from taxes or from bond issues.

The “equity partners” and other partners of the TRWD submit their estimated water needs to the TRWD each year by a designated deadline. The TRWD then calculates the cost to provide the water to the agency and assesses each recipient. The municipalities then agree on the assessment and a contract is drawn delineating the terms. The assessments are paid out in several installments. Excesses are carried over to the next year and credited, and deficiencies are made up by assessing additional costs on a pro-rata basis. The TRWD maintains the right to cut off water deliveries for non-payment.

A district has the right to take on storm water and wastewater functions as the need arises but additional funding in the form of bonds must have voter approval. Revenues from bond issues are to be placed in construction funds. Maintenance funds will be derived from the assessments but, with voter approval, can be raised via property tax levies.

Extensive regulations govern the issuance of bonds, and on the types of feasibility and necessity studies and reports that must be submitted before funding for capital projects can be conducted as well as on tax levies for the repayment of bonds. Extensive provisions also exist for the dissolution and oversight of dissolution of the district. The TRWD also retains the right to annex new territory when the need arises.

SUMMARY

Investigation into various governance systems revealed an assortment of different views about how regional governance should work. Some of the agencies involved in these systems felt that direct participation was essential to maintaining equity in decision making whereas others felt that having no participation fostered more equitable structures. One of the pertinent issues was the ability to raise funds for financing capital projects. Most models had multiple methods for obtaining funds. The only major difference in fund-raising capabilities dealt with bonding capacity. County-run entities, or those in which a county was involved, had the added advantage of mill levy assessments.

The investigation netted a wide array of governance systems that allowed for varying degrees of control. Part of the decision criteria for model choice was geographic or political similarity to the Lower Rio Grande region, so even though the systems detailed were developed to meet the specific needs of the region they served, each should also have some feature or features that could be translated for use by the LRGWUO. A method for quickly evaluating the fit of each of the models was developed (Table 1). The features desired by the LRGWUO were delineated and each model compared in a matrix format. This format provides a quick reference for determining the viability of each type of governance system modeled. This, along with the detailed information provided, should serve as a basis for developing a governance structure that meets the unique needs of the region and provides a basis for the completion of a plan to provide a sustainable water supply.

Table 1. Summary of comparison of governance systems for selected entities.

	Direct Agency Involvement	Indirect Agency Involvement	No Agency Involvement	Federal Funding	State Funding	Mill Levy	Revenue Bonding Capacity	Other Taxing Capability	Other Financing Capacity	County Involvement	Unincorporated Area Involvement	Municipal Involvement	Public Utilities Regulation	Concession in place in NM State Law
Arizona Municipal Water Users Association Phoenix, AZ	X			X	X		X	X	X		X			
Bull Run Drinking Water Agency Portland, OR	X			X	X	X	X	X	X	X	X	X		
Dallas Water Utility Dallas, TX				X	X		X	X	X	X	X	X	X	X
El Paso Water Utilities El Paso, TX				X	X		X	X	X		X	X	X	
Jordan Valley Water Conservancy District Salt Lake City, UT			X	X	X	X	X	X	X	X	X	X		
Las Vegas Valley Water District Las Vegas, NV	X			X	X	X	X	X	X	X	X	X		
Oklahoma City Water Utilities Trust Oklahoma City, OK				X	X		X	X	X	X	X	X	X	X
City of Portland Portland, OR	X			X	X		X	X	X	X	X	X	X	X
San Diego Water Authority San Diego, CA		X		X	X	X	X	X	X	X	X	X		
San Juan Water Commission Farmington, NM		X		X	X	X			X	X	X	X	X	X
Tarrant Regional Water District Ft. Worth, TX			X	X	X		X	X	X	X	X	X	X	X

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APPENDIX

(on CD-ROM)