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Economics and Legal Limitations of Using Surface Water for Municipal Supply

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Introduction

Good morning everybody. Today I am speaking on the economics and legal limitations of using surface water for municipal supply. This topic really focuses on municipalities and their use of surface water and its many limitations. Today's presentation will discuss several examples.

When I first received this topic, I thought about the little Dutch boy trying to use his fingers and toes to plug holes in the US economy (Fig. 1). Quite frankly, our economy is really hurting and we need to fund extensive infrastructure projects using renewable surface water, to accommodate municipal growth. A typical surface water project contains many structural ele-



Figure 1.

ments: a diversion dam; an intake structure; fish passageways; raw water transmission pipelines; raw water pump stations; water treatment facilities; water storage facilities; booster stations; and a final water pipeline to get water to individuals who are consumptively using the treated water. I will describe a few examples of projects in the state, discuss their costs and who's paying, and point out rights and limitations of those particular projects.

Albuquerque Bernalillo County Water Utility Authority's (ABCWUA) San Juan-Chama Drinking Water Project (DWP)

John Stomp has done a great job leading the design and construction phases of the DWP. This is a \$385 million project and completely rate-payer funded, which is unique these days. The project allows for a consumptive water use of 48,200 acre-ft per year, and the project will be ready to divert water later this year. I toured the plant recently and it looks great.

There are legal limitations to using the DWP water and I will discuss those now. The history of the DWP goes back decades. First, Colorado River water was apportioned to New Mexico for beneficial consumptive use by the Colorado Compact of 1928 and the Upper Colorado Compact of 1949. But it didn't stop there, we also needed a contract from the Department of Interior (DOI) and the Bureau of Reclamation (Reclamation) to be able to use that water, and those contracts were signed from 1963 through 1965. To use surface water, a permit from the Office of the State Engineer (OSE), was also required. Permit 4830 allows the ABCWUA to divert surface water from the Rio Grande under a specific set of conditions.

The ABCWUA has done a great job in complying with those conditions. A few of those conditions include: 130,000 acre-ft of water must be stored in Abiquiu Reservoir for offsetting residual and ongoing effects to the Rio Grande from past and current groundwater pumping; they must limit their daily diversion rate to 130 cfs; and prior to diversion, the ABCWUA must reduce its average per capita water use to 175 gallons, and in 20 years, they must reduce that to 155 gpcpd. ABCWUA's overall goal is to get to 150 gpcpd, and it looks like they are on track to get there quicker than required. Maybe we will give them extra credit for accomplishing that goal sooner, perhaps allowing them to store underground in aquifer storage and recovery projects.

Another permit condition requires maintaining stream flows of not less than 122 cfs in the Rio Grande between the point of diversion and the Albuquerque-Central Avenue Gage. This condition helps meet the biological opinion requirements to maintain critical habitat for the endangered silvery minnow, and will protect the river's ecology even as water is diverted and used.

Santa Fe Buckman Direct Diversion Project (BDD)

The BDD also uses San Juan-Chama water. Santa Fe has similar economic and legal constraints and limitations as the ABCWUA. The construction cost estimate is \$215-\$230 million, with the City and County of Santa Fe paying the majority of construction and start-up costs. Funding and loans to date include: \$15 million loan from the New Mexico Finance Authority; \$6 million from the Water Trust Board; and \$400,000 from other grants. The San Juan-Chama Diversion accounts for 5,605 acre-ft per year, which is about 64 percent of the total water use, with a permanent capacity of about 8,730 acre-ft of water per year. Many of the same legal limitations apply here: The Colorado Water compacts were negotiated, which allowed the use of water initially. Contracts with the Department of the Interior and Reclamation were signed. A permit from the OSE was obtained to allow the diversion of 5,605 acre-ft of San Juan-Chama water. In order to attain full capacity (8,730 acre-ft/yr), other transfers of water rights must be approved which requires filing additional applications with the OSE. Typically, projects must have an Environmental Impact Statement, and one was issued in May 2007. Compliance with environmental laws are required prior to constructing these projects. And finally, a Record of Decision was required, and for this project it was published in January 2008.

Eastern New Mexico Rural Water Association's Ute Pipeline Project (ENMRWUA)

ENMRWUA's Ute Pipeline Project, on the Canadian River, has an estimated construction cost of \$436 million. This project does not have as large a residential base like Albuquerque or Santa Fe. The State's cost share for the project will be about \$65 million (15 percent of the total cost), the local share will be about \$43 million (10 percent), and the federal government will provide 75 percent of the cost, \$327 million. These are the dollar amounts currently being discussed.

To date, the State has appropriated about \$12.4 million towards the project. It is important to point out that back in 1962, the State contributed a present day cost of \$140 million to build Ute Dam. When added together, the State has contributed over \$150 million in today's dollars toward the \$436 million total project estimate. Therefore, the State has a significant stake in the project. Hopefully, the federal government will provide the 75 percent cost share contemplated. The completed project will provide 16,000 acre-ft of renewable water per year to eastern communities in New Mexico.

Legal limitations of the project include the need to prepare nine technical memoranda to select the best technical alternative. Requirements include the following: an Environmental Impact Statement; compliance with the NEPA process, which is a legal process that has taken two years to date. Existing appropriations (the \$12.4 million I mentioned earlier) satisfy a 30 percent design level study, and ongoing ecological studies. A contract with the Interstate Stream Commission to use the water will also be required. Federal legislation is pending as part of the Omnibus Land Management package that is currently in front of the Senate, and hopefully will be approved during the lame duck session beginning November 17th.

Gila Project

Regarding the Gila Project on the Gila River, the construction cost estimate is still unknown. Tomorrow, during this conference, Craig Roepke will talk in more detail about the status of that project. The 2004 Arizona Water Rights Settlement Act provided potential benefits to New Mexico including an average of 14,000 acre-ft of water per year, and between \$66 and \$128 million in federal funding. To date, the State has appropriated \$800,000 and the federal appropriations are about \$600,000 to perform the required ecological studies.

Now we need to determine how to develop additional water in the Gila Basin without impairing the Gila River's unique ecology – it is one of the last free-flowing rivers in the state and in the United States. Ongoing studies are being conducted on the ecological, demographic, and hydrologic aspects as required by the Arizona Water Rights Settlement Act. In 1964, a lawsuit was filed, *Arizona v California*, and that corner of the state didn't fare well because there was no additional water for future development as a result of the lawsuit. In 1968, an amendment was added to the Central

Arizona Project authorization giving New Mexico an exchange priority on the Gila River. Use of that water required a contract with the Secretary of the Interior, which will allow New Mexico to put water to beneficial use if a project is feasible.

The 2004 Arizona Water Rights Settlement Act, was made possible with the assistance of Senators Domenici and Bingaman, to whom we are extremely grateful. In the last couple of years, a multi-stakeholder planning process has begun and will prioritize conservation and socio-economic studies. Estevan Lopez, Director of the Interstate Stream Commission, has been instrumental in holding together the process amidst some funding challenges. By 2010, we hope to have a few project options to consider. By 2012, a Record of Decision is due. Assuming a viable project is identified, OSE permits may be required to divert or store water, depending on the specific project details. If a viable project is identified, as much as \$128 million dollars would be available to the State. All funding is indexed to 2004 dollars, and again, a contract with the Interstate Stream Commission will be required before using the water.

Animas-La Plata Project (ALP)

We have learned a lot from the ALP Project on the Animas River in Southwest Colorado. The original construction cost estimate, at authorization, was \$338 million dollars. In 2003, the estimate went up to \$500 million, and in 2006, it went up again to \$552 million. Non-Indian sponsors are not responsible for repaying any of the estimated increase in payment contracts. There are cost sharing/repayment provisions for non-tribal entities including the San Juan Water Commission repayment of about \$7 million, and the La Plata Conservancy District repayment of about \$3.6 million. The project provides for allowable New Mexico depletions as follows: 2,340 acre-ft per year for the Navajo Nation; 10,400 ac-ft per year for the San Juan Water Commission; and 780 acre-ft per year for the La Plata Conservancy District.

The ALP also fulfills the water rights settlement requirements of the two Indian tribes in Colorado; the Ute Mountain Utes and the Southern Utes. The project will also provide benefits to the Navajo Nation within the state of New Mexico. There are significant legal limitations with this particular project and it has long and interesting history.

Authorized in 1968, it took until 1980 for Reclamation to release the Final Environmental Impact Statement. In 1988, Congress passed the Colorado Ute Indian Water Right Settlement Act, which authorized the implementation of a 1986 water rights settlement agreement. In 1990, the U.S. Fish and Wildlife Service issued a draft biological opinion, concluding that the project would jeopardize the continued existence of the Colorado Pike Minnow. When that opinion came out, Reclamation had to take another look at the scope of the project. In 1991, the U.S. Fish and Wildlife Service issued a final biological opinion that contained a reasonable and prudent alternative limiting project depletions to 57,100 acre-ft per year, which was considerably downsized from the original project. This opinion allowed construction of the project to begin, except in 1992 a lawsuit was filed by environmental organizations and construction was halted. In 1996, Reclamation released a Final Supplement to the Final Environmental Statement. In 1998, the Department of the Interior recommended construction of a scaled down project that was designed to satisfy the intent of the Colorado Ute Tribes' 1986 Water Right Agreement. In 2000, Reclamation released a Final Supplemental Environmental Impact Statement (EIS) and Record of Decision that identified the selected alternative for the downsized project. Going into 2000, Congress authorized construction, with amendments to the Colorado Ute Settlement Act. Reclamation granted permission to initiate construction, and finally, in 2002, construction began.

Now fast forward to last week. Mike Gabaldon is here today speaking for Reclamation's Commissioner and last week, along with many dignitaries, attended the ALP ribbon cutting ceremony in Durango, Colorado. Components of the project that are all substantially complete are the Ridges Basin Dam, the Durango Pumping Plant, and the Ridges Basin Inlet Conduit. We are now looking at 2009 for the Navajo Nation Municipal Pipeline construction to begin in New Mexico. It has taken 40 years to get surface water into this project. Hopefully the Navajo-Gallup pipeline and the other future projects will proceed at a faster rate.

Navajo-Gallup Pipeline (NGP)

The Navajo-Gallup Pipeline, principally to serve the Navajo Reservation and City of Gallup, is nearly a billion dollar project, with the State share being \$50 million. So far, New Mexico has funded \$32.1 million, with about half of that going to the Cutter Lateral

Project, and the other half to the Gallup Regional Water Supply System. The federal cost is estimated to be \$867-\$886 million. The project will provide about 21,000 acre-ft per year of consumptive use water. Federal legislation is pending to authorize construction. The legal limitations to the Navajo-Gallup Pipeline include: State and Navajo approval of the settlement agreement; Reclamation issuance of a Biological Assessment for the project; the Upper Colorado River Commission approval of the Hydrologic Determination, which says that water is reasonably likely to be available for that NGP project. That approval was particularly challenging as we had to deal with the states of Colorado, Utah, and Wyoming – taking into consideration their future water projects.

Additional limitations are: Reclamation's issuance of a final Hydrologic Determination; the final EIS and the Record of Decision for Navajo Dam operations; the introduction of federal legislation in Congress; the DOI release of the draft EIS to cooperators; the Secretary must approve the final EIS and issue the Record of Decision; Congress will need to enact the Settlement Act and the Secretary will need to sign the Act; the New Mexico legislature will need to begin appropriating funds, the Secretary will need to sign the contract; the partial final decree must be entered into; the joint hydrographic survey must be completed; the supplemental partial final decree must be entered into and the project will then be constructed.

Hopefully construction will begin in 10 years. That lengthy schedule should allow funding to be set aside. The State has already appropriated \$10 million to the Indian Water Right Settlement Fund and hopefully additional funding will be appropriated. But first, we need an authorization bill to get through Congress. We anticipate a lame duck session beginning November 17, 2008, and if we don't get it through this time, it remains to be seen what will happen. But we have a very good chance this year.

Summary and Conclusions

There is a huge demand for water infrastructure projects in New Mexico. Not only is there a tremendous cost of repairing old infrastructure, but as you can see, there is a tremendous cost of funding the new projects as well. An additional economic impact will be paying for the tools necessary to manage water for certainty of supply. And what about warming temperatures, which could lead to changes in snowpack, thus reducing snowmelt and timing of run-off? Obviously, this could

exacerbate the hydrologic variability, and would complicate future water management. Other complications include requirements of interstate water compacts, federal and state contracts, and additional water requirements for compliance with the Endangered Species Act. There are also State Engineer permitting requirements with conditions for protecting existing senior water rights from impairment.

We are also concerned with the status of adjudications in New Mexico. Currently, we have 12 active adjudications – six in federal court, six in state court, and about 65,000 defendants. We have another 15 years before these 12 active adjudications will be completed. Adjudications are important when we have water shortages because according to state law we should be administering water based on seniority status. The Prior Appropriation Doctrine should be followed when any of our basins are short of water.

During a water short year I would like to incorporate my Active Water Resource Management initiative. However, my ability to manage actively has been somewhat limited due to a District Court decision that said if the State Engineer wants to administer based on priority, he must have an adjudication decree or licensed water rights. In other words, the State Engineer is not allowed to manage water by priority during shortages based on the best information available. If that District Court decision stands, we would be required to start licensing water rights or finish adjudications in order to manage by priority.

Our office has been investigating some options to implement adjudication reform in New Mexico to reduce the cost and expedite the process. The Middle Rio Grande adjudication is the 800 pound gorilla in the room. How do we get the adjudication done in a reasonable amount of time and are there enough resources? We are trying to take the best adjudication procedures in New Mexico while considering what other states like Colorado, Idaho, and Montana are doing, and try to incorporate some of what they are doing into our process.

To give you an idea of the cost of current adjudications involving 65,000 defendants (our 12 current adjudications), our annual Litigation and Adjudication Program budget is about \$6.5 million. In the Middle Rio Grande, we have identified at least that many defendants and you must add in the complexity of dealing with six tribal entities, the largest municipalities (Albuquerque and Rio Rancho), Bernalillo, Sandoval and Valencia Counties, and the Middle Rio Grande

Conservancy District. We cannot jump into that adjudication until we are absolutely ready. Our adjudication reform strategy is not to change any of our existing adjudications, but instead to look prospectively to the state's remaining un-adjudicated areas and to consider setting up a market structure and possibly a more structured licensing process. We may be considering legislation in the next legislative session concerning the licensing statute. We hope to start the final Middle Rio Grande adjudication when the timing is proper. Thank you. I would be happy to answer any questions that you might have.

