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MEETING COMPACT DELIVERY OBLIGATIONS DURING TIMES OF DROUGHT

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Editor's Note: The author was unable to edit the following transcription of his remarks. Our apologies for any errors.

My topic today concerns meeting compact obligations in times of drought. I would like to begin by commenting on Charlie Liles' concept that we may need to change the definition of drought. We can get by without an active administration of our water resources priority administration when times are really wet, as they generally have been for the last 20 or so years. However, that period broke in 1996, 2000 was bad, and 2002 was terrible. Under normal water supply conditions, not dry conditions, we are going to have significant challenges in administering New Mexico's waters.

My topic overlaps with the material presented earlier by the state engineer. There will be some duplication and I hope to complement some of the things the state engineer said. I, too, want to point to Costilla Creek as an example of how things can work in New Mexico. A couple of concepts are basic and applicable to most systems in New Mexico where reservoirs exist: one of the duties of administration is to separate the direct flow, that is, the flow that would have come through the system before the reservoir was constructed for which there is no storage value, from the water that is coming out of the reservoir. Costilla Creek is a good example of that. There are direct flow users with seniority rights that go way back two centuries. There also are storage water users who are generally different and have different rights. The water that is actually in the stream and that has to be administered at the point of diversion is two different

kinds of water. You must be able to separate the direct flow water from the storage water. That, I think, has been accomplished very successfully on Costilla Creek, but the effort and costs were significant.

Steve Vandiver, the state engineer advisor from the state of Colorado, is here today. I am the engineer advisor for New Mexico. The states of Colorado and New Mexico contribute hard cash of $98,000 a year to administer the water for 8,500 acres of land, about $12 an acre for administration. Watermasters need to be on duty seven days a week. It is not a 24-7 job, but it is much more than an eight hour a day job. In fact, our watermaster works very, very long days during irrigation season and we give him significant amounts of compensatory time at night duty. He also has to work at night during the off-season and one of the reasons is to keep people from stealing water. It is amazing how head-gates can creep open at night and it is the job of the watermaster to keep that from happening.

Costilla Creek is particularly sensitive because we have interstate delivery obligations. The Costilla Creek system has four separate points from which interstate deliveries must be made. In order to make those deliveries, uses and depletions in New Mexico (actually, uses in the case of Costilla Creek) must be administered. That means limiting and cutting back when water users want more water than they are entitled to, particularly in a system that has not been as tightly administered as it should have been historically. As I said, head-gates tend to open in the middle of the night or sledge hammers can get applied to stems. Security requires a very significant effort. But what this illustrates, and the main introductory point I want to make here, is that there are a number of necessary ingredients for meeting interstate obligations in times of drought. These are ingredients to distributing water: distribution of water to those who have rights to it and curtailment of uses by those who are out of priority or who are too junior for the amount of supply at that particular time.

Distribution is one of the state engineer's and the Interstate Stream Commission's objectives in our strategic plan. In order to distribute water there are a number of things that must be done. You must have a quantification of the water rights. We very much prefer that the quantification be done by a judge through an adjudicatory process that is complete. In a few places in New Mexico that is the case, but in many, many places where water will have to be administered in order to meet New Mexico's obligations, adjudications are not complete. In those cases, it means that administration will have to be based on the state engineer's assessment of the permits rather than the judge's final determination of the water right. Of course, when you consider Native American water rights areas where permits are not allowed, that creates another element of complexity. But the number one ingredient is to quantify the water right.

The second ingredient is water measurement. When we talk about water measurement, there are actually two big jobs to do. We have to measure supply as well as uses. The Interstate Stream Commission and the state engineer cooperate in providing a lot of money to the U.S. Geological Survey (USGS) to operate the stream-gaging system in New Mexico. We depend on stream-gaging measurements and investigations of interconnected aquifers to obtain a measurement of the supply. In terms of administration, which must take place daily, we have serious questions concerning stream-flow measurements and about improving stream gaging so that we have adequate results for administration of flows. We have conducted some studies and the results will be published soon in what we call the "framework state water plan." The USGS has participated in those studies. Frankly, I think much more needs to be done and I am concerned about whether or not the gaging that is in place can actually get the job done. Gaging in New Mexico has declined rather than increased as we have added demands to the system from a whole variety of sources including increased population and the environmental demands now being forced on us through litigation.

With those two basic ingredients–quantification of rights and measurement of the supply and the uses–we have the ability to administer water. However, we need manpower to be able to provide people in the field and they need political support to get the job done. Political will is a huge ingredient and I believe you will hear a very interesting panel discussion later in today's program on that topic. Political will, I believe, needs to be thought of in several different categories. First, you must have funding for the necessary manpower to do the water rights quantification, the water supply and water use measurements, and for the manpower in the field to actually administer the supply. That means, in some cases, cutting people off. A side element of political will concerns security; security for the people in the field who are dealing with the very emotional and

contentious issue of telling people they are out of priority and they can not use water. We need improvement in these areas and we are going to have to bring the political will to bear on these issues.

Now I will discuss a number of other compacts to which New Mexico is a party. I want to talk about compact issues and meeting New Mexico's obligations as well as the management actions being taken or needing to be taken so that New Mexico is in compliance.

On the La Plata River Compact, New Mexico is the down-stream state. The issue there is that Colorado is not delivering water to New Mexico in accordance with the requirements of the compact. It has been a contentious and controversial issue for a number of years. We are not in agreement with the state of Colorado. The management actions needing to be taken by the state of New Mexico include doing what is necessary to see that Colorado complies with its delivery obligations to New Mexico on the La Plata. That becomes particularly difficult for Colorado in times of drought. The La Plata River, in the vernacular that we use, develops a hole before the river gets to the state line and it gets hard to push water through. We do not believe Colorado is meeting the intent of the compact or undertaking the actions required.

Herman Settemeyer is the engineer advisor for Texas on the Canadian River Compact where there has been interstate litigation. The issue there in drought times is actually no different than the issue in wet times. That compact does not provide for a delivery obligation to Texas; rather it limits New Mexico's storage. Thus in times of drought, it is actually quite simple, we can not store water that is not available and thus it is not a drought issue for New Mexico.

Now I want to address the Colorado River Compact and the Upper Colorado River Basin Compact. As you may know, seven states are a party to the Colorado River Compact and four states–Utah, Wyoming, Colorado, and New Mexico–are parties to the Upper Colorado River Basin Compact. The obligation of the four upper basin states to deliver water to the lower basin at Lee's Ferry, just below Lake Powell, is that the upper basin states must deliver 75 million acre-feet of water in a ten-year period. And every year from Lake Powell, the Bureau of Reclamation has released, not 10 percent of that ten-year average, which would be 7.5 million acre-feet, but 8.3 million acre-feet, which includes one-half of the United State's obligation to Mexico. Because of the drought, storage in Lake Powell is diminishing. Let me add another side of this issue. The upper basin states have not fully developed their entitlements to use water under those compacts. New Mexico is, I believe, significantly farther ahead in developing its approximately 11 percent share than the other states. Any water that is apportioned to upper basin states that is not used obviously ends up in Lake Powell. During dry times, if Lake Powell's storage drops to the point where it can not supply the 7.5 million acre-feet per year plus the United States' actions to take 50 percent of the United States' obligations to Mexico, then compact obligations for the upper basin states come into play. Let me tell you what the current situation is: the current useable storage in Lake Powell is low, significantly lower as a result of the drought and stands at 11 million acre-feet. In-flow this year minus Lake Powell evaporation was less than one million acre-feet, but 8.3 million acre-feet per year was released by the United States. What that means is that there is one year of firm supply left in Lake Powell. If we were to have, God forbid, two more years like the last year, the upper basin states would not make their delivery obligations completely in the second year, and that would require the four upper basin states to reduce proportionately their depletions of water. Again, New Mexico has an 11percent share of the upper basin states. If that scenario were to occur, there would be a disagreement that would probably move to litigation regarding whether or not the upper basin states are obligated to provide half of the United States' obligation to Mexico. New Mexico receives 1.5 million acre-feet per year and the situation can get, as I am sure you know, very contentious.

Another issue on the San Juan River part of the Colorado River system that the state engineer mentioned is the demand by Reclamation of the state of New Mexico for administration of the San Juan. I have their letter before me and I'm just going to read the next to the last sentence of that letter. The letter talks about the need for administration to protect releases for endangered species from diversions by water users that do not have a right to the storage water. They have direct flow rights and the state engineer said that the current in-flows are about 50 cubic feet per second but we have water users that have consistently taken many times that amount. This letter says "in order for all on the system to make the best use of their water now and in future years we formally request that the state of New Mexico through the state

engineer's office do begin administration of adjudicated water rights on the San Juan River." And, of course, the Indian rights are not adjudicated and that leaves a big question.

The state engineer mentioned the situation in the Navajo Reservoir and let me provide a little bit of additional detail in that area. The current storage in Navajo Reservoir is about one million acre feet out of about a 1.7 million acre-foot reservoir. There's approximately 300,000 acre-feet of water available before the level of the reservoir drops below the point that the Navajo Indian Irrigation Project can receive its supply. At the point that the Navajo Indian Irrigation Project does not receive their supply. The legislation, and it was one bill passed in 1962 that authorized the San Juan Project and the Navajo Irrigation Project, requires that shortages be shared. Well, things were pretty bad for the San Juan/Chama Project this year. The in-flows to Heron were 6,300 acre-feet, out flows were 96,000 acre-feet. As a result of litigation brought by environmental advocacy groups, Judge Parker has said the United States has an obligation to use this imported water coming from the Colorado River Basin, where we have endangered fish problems, to maintain river flows in the Rio Grande. What that will do is hasten the time, I believe, of a really significant crash on the system should this dry weather continue.

And it almost certainly will trigger arguments about whether or not imported water taken from one side of the continental divide where there's an endangered species, is appropriately used on the other. It also imperils New Mexico's ability to see that senior water right users on the Rio Grande are not shorted in priority administration. Let me explain that. The state engineer declared the Rio Grande groundwater basins in 1956. That means from that point forward, any groundwater development has to replace its depletions of Rio Grande flows in order to pump. Many of the large pumpers, including the city of Albuquerque, rely on San Juan/Chama water to replace the depletions of water associated with the pumping. In the event that the San Juan/Chama project ends up without a supply, those demands associated with the historic groundwater pumping will continue to be exerted on the river, but there will be no supply to release from upstream reservoirs to run down the river to replace those depletions. If that happens, that will short the senior water rights holders in the Rio Grande basin, and will make it difficult for New Mexico to comply with its compact obligations.

As the state engineer mentioned, actions will be taken. We will create a small advisory committee of water users to help put plans in place and to get some concurrence about the necessity for administration on the San Juan this year. We will be moving forward aggressively to implement metering. The Bureau of Reclamation has offered their assistance in implementing measurements of all of the uses on the San Juan, and the agency will be undertaking a significant effort to come to the bottom line of what the diversion rights are. There is an old adjudication and a lot of transactions that have occurred since that time, of what the water right is for purposes of administration. Again, direct flow diverters that don't have a right to waters in the reservoirs will have to be limited in priority to the amount of natural flow on the river, which basically would be the inflow of pre-native inflow above the Navajo reservoir.

I am now going to move to the Rio Grande. There are three sets of entitlements and obligations that New Mexico has on the Rio Grande under the Rio Grande Compact. The first is above Otowi. New Mexico is entitled to deplete as much water above Otowi, drought or no drought, as it did at the time of the compact. Irrigated agriculture, mostly by acequias in northern New Mexico has diminished since the time of the compact and I don't believe that that is an issue. There is an obligation to limit depletions and to make deliveries in the Middle Rio Grande. The limitations and depletions must occur between the Otowi gauge and Elephant Butte Dam; that is a quantified obligation specified by a compact schedule. Many of you know that New Mexico, at low flows at Otowi (on an annual flow basis), is entitled to deplete a maximum of 43 percent of the water that flows past the Otowi gauge. Once the annual flows at Otowi get up to about 1.1 million acre-feet, New Mexico's marginal entitlement to deplete water is zero. The maximum depletions of Rio Grande flows is about 405,000 acre-feet. Part of the issue here is control of natural depletions of water. Extensive water budget investigations completed by the State of New Mexico, both historically and recently, indicate that only about one-third of the depletions in the Middle Rio Grande are caused by human uses of water. The other two-thirds are associated with evaporation from the river and from Elephant Butte Reservoir, which, of course, is there to serve the users below Elephant Butte Dam in New Mexico and Texas, and from the bosque. The water supply investigation published by the Interstate

Stream Commission and produced by Papadopulos and Associates is available on our webpage, The study indicates that depletions by the river itself in the Middle Rio Grande and the bosque are equivalent to the depletions of irrigated agriculture.

New Mexico's historic strategies for compliance with the Rio Grande Compact centered around control of natural depletions, but that strategy has been turned on its ear by the Endangered Species Act. The Bureau of Reclamation, which channelized the Rio Grande and has worked diligently on drainage and salvage efforts in cooperation with the Interstate Stream Commission, is not nearly as effective as it once was. And it appears that New Mexico will have to deal with the administration of the one-third of uses upon which all New Mexicans who reside in the Middle Valley depend.

Let me get a little more specific now about the forecast for our state. As of the end of last year's accounting, New Mexico has an accumulated credit in Elephant Butte Reservoir of a little over 155,000 acre-feet. The maximum debit that can be charged against New Mexico in any year is 150,000 acre-feet, partially because water that is put into storage above Otowi is accounted for in the year that it is put into storage, as occurred in 2001. That storage was empty from El Vado this year; there has been extra water in the system for which the accounting hits occurred the year before. New Mexico anticipates increasing its credit, possibly very significantly, and that creates some other issues downstream.

Let me elaborate about some of those issues. Elephant Butte storage is quite low. I believe that the vast majority of water that is left in Elephant Butte Reservoir today is credit water belonging to New Mexico and Colorado. The compact provides that New Mexico can relinquish credits and store an equivalent amount of water upstream. This is certainly an issue that will be discussed heavily in the winter months as we prepare for the upcoming season.

On the lower Rio Grande portion of the compact, we believe the compact apportions the water that is available in Elephant Butte and Caballo, the usable supply, to users in New Mexico and Texas on the basis of the Project supply that includes return flows and ultimately on the proportion of irrigated acreage. I am sure you are aware that Texas has threatened litigation. They actually have an appropriation of $6.2 million to sue New Mexico. New Mexico also has a large appropriation. Texas' public position is that they are due 43 percent of the water straight from the reservoir rather than the water that arrives at the state line being part of the supply and sufficient reservoir water added together to make up their 43% share. We are in settlement negotiations with the Elephant Butte Irrigation District about how to manage operations next year and we are in discussions with the State of Texas regarding these issues.

I want to briefly address the situation concerning prior and paramount water storage above Otowi for Native American rights. The United States has historically, despite the objections of the Rio Grande Compact Commission, stored water for the tribes. This year the engineer advisors of Colorado, New Mexico and Texas have met with the Bureau of Reclamation and we anticipate additional meetings regarding this storage. One of the issues for New Mexico, and one of the actions that we will have to take is to see that water stored for the tribes is not used by the acequias and other users on the Rio Chama who only have direct flow rights and some available amount of water in storage in Elephant Butte that is San Juan/Chama water that they can use to supplement their direct flow.

Finally, I want to address the Pecos River Compact and I think I will jump right to the bottom line. New Mexico currently is teetering on the edge of under-delivery to Texas. Our cumulative compact delivery credit is 9,900 acre-feet. Our calculations indicate that we will have to deliver somewhere between an additional 3,000 and 19, 000 acre-feet of water across the state line this year in order to avoid a debit. We are taking steps to deliver, although we will not be able to reach that upper limit additional water as we did last year by the end of the year.

The Interstate Stream Commission will be meeting in Carlsbad on October 23, and I have requested that the commission take action on two sets of regulations that have been developed. One set of regulations is for priority administration and those, I believe, the Interstate Stream Commission would recommend to the State Engineer for adoption. The same situation exists with water banking regulations. You are all aware that there is a consensus solution, that I believe is a permanent solution, to the Pecos River Compact problems that New Mexico has. It involves retirement of a significant amount of farmland, if Pecos Valley Artesian Conservancy District and Carlsbad Irrigation District can settle their long-standing differences over their respective rights.

We are in settlement negotiations with them and I am optimistic that those negotiations will be successful. If those negotiations are successful and if the money is received to purchase or retire all this land, then the priority administration regulations will have an effective date that will be very recent, perhaps 1988. In other words, the regulations will be in place, and we are prepared with quantification of water rights through the review of files to administer. In the event the consensus solution is not put in place, then the priority date would be much earlier–much, much earlier–and likely before the effective date of the compact.

Last year we requested special appropriations from the legislature to provide manpower to administer water right on the Pecos River and the legislature provided that appropriation. We are now hiring staff and are prepared to proceed, if that is required.

Thank you.