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STATE ENGINEER'S OFFICE

Susan Joseph-Taylor
Chief Hearing Officer
Office of the State Engineer
901 S. Stewart Street, Suite 2002
Carson City, NV 89701

November 29, 2011

RE: Southern Nevada Water Authority applications for groundwater rights in Delamar, Dry Lake, Cave and Spring Valleys

Dear Ms. Joseph-Taylor,

Thank you for the opportunity to provide comments on the Southern Nevada Water Authority's (SNWA) application to appropriate groundwater in Delamar, Dry Lake, Cave and Spring Valleys. We have a number of concerns with regard to these applications and any rights to groundwater which may result.

Arguably, this is the most important and far reaching case that any Nevada State Engineer has ever had to deal with. If the water rights that SNWA is asking for are granted and acted upon, the full impacts to the springs, seeps and vegetation of the Valleys affected will not be fully known for many decades or even centuries. Hence, the decision of the State Engineer in this case will have little effect on today's adult human population but will affect our descendants for many generations. We cannot afford to over appropriate our precious groundwater.

Nevada water law is considered by many to be among the country's best, but it was primarily designed to deal with allocation of surface water resources, which are readily visible and well understood. The quasi-judicial approach to eliciting the needed information for the State Engineer to make decisions regarding surface water allocations is straight forward and works quite well. In contrast, groundwater is invisible, except through the small windows of springs and wells and in many cases is not very well understood in terms of both the magnitude and dynamics of the reservoirs. This is particularly true in east central Nevada where the predominant underlying geology is carbonate rock formations, which are porous and fractured and facilitate interbasin movement of groundwater.

It is our opinion, contrary to that of the Southern Nevada Water Authority, that not enough is known about the groundwater resources in Lincoln and White Pine Counties for the State Engineer to make an informed decision with regard to allocation of any significant volume of groundwater to the Authority for export to Las Vegas. There is need for an extensive (and unfortunately an expensive) research program of well drilling, water sample analysis and pumping in Lincoln and White Pine Counties to allow the State Engineer to make an informed decision about the impacts of groundwater pumping in Delamar, Dry Lake, Cave and Spring Valleys plus Snake Valley, where SNWA has also applied for water rights.

The Water Authority has proposed that in lieu of real knowledge about the groundwater resources a program of "monitoring and mitigation" will suffice. There are no trigger points proposed for cessation of pumping when negative impacts are observed. This program would do no more than simply monitor and record the decline of groundwater levels and the impacts to springs, vegetation and wildlife. There really is no meaningful mitigation for the effect of falling water tables on springs, vegetation and wildlife since there are no alternative sources of water in Lincoln and White Pine Counties.

The unenviable job of the State Engineer in dealing with these applications is to interpret the law relying on the relatively sparse scientific information available concerning the recharge and discharge quantities of water in the relevant basins and directions and magnitude of subsurface flows. A look at past actions of the State Engineer with regard to groundwater allocations may be instructive. Essentially, every hydrographic basin in Nevada where there has been significant development based on allocation of rights to groundwater rights is over-allocated and over-pumped. Examples are the Las Vegas, Pahrump, Diamond and Walker River Basins. Let's not do the same thing in all the valleys where the Water Authority wants to extract groundwater.

"Public Interest" is a relatively new concept in law, but one which needs very careful consideration in this case. The "public interest" in this instance extends not just to the customers of the Southern Nevada Water Authority but to all the citizens of Nevada and western Utah and to the life sustaining ecosystems of the affected hydrographic basins.

While there is much that we don't know about groundwater in Lincoln and White Pine Counties there are some points of general knowledge that we do know. One of them is that the distribution of groundwater is a zero sum game. It is popular to use the term "perennial yield" when referring to how much groundwater can be safely pumped from a particular hydrographic basin. The assumption is made that as long as the "perennial yield" (equal to the theoretical recharge value) is not exceeded that there will be no harm to the groundwater resource. If one assumes that in a basin in equilibrium the discharge rate is equal to the recharge rate, then if a new discharge equal to the recharge (the "perennial yield") is created by exporting water from the basin via wells and pipelines then eventually all the original discharge points will have to go to zero discharge. Since groundwater reservoirs are typically very large, the process whereby original discharge points decline to zero often takes a very long time and is not evident for decades or longer. Based upon the concept of a zero sum situation it is not reasonable to expect that

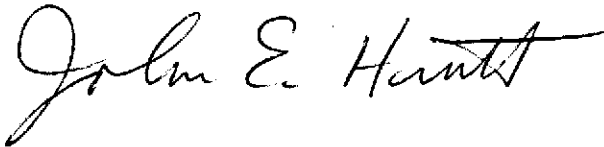
the Water Authority can export significant quantities of groundwater from Lincoln and White Pine Counties without real and noticeable negative ecosystem impacts.

Both Spring and Cave Valley are home to the Greater Sage-Grouse, a sagebrush obligate species which the U.S. Fish and Wildlife Service has determined to be warranted for listing as either endangered or threatened but for which there is insufficient funding to carry out the requisite studies at present. The Fish and Wildlife Service has stated that it will make a determination by 2015. If the Greater Sage-Grouse is listed as either threatened or endangered that will have very significant impacts upon land and water uses in both Spring and Cave Valleys. This possibility needs to be taken in account in making a decision on allocation of rights to groundwater.

The Southern Nevada Water Authority has stated on many occasions that their proposed pumping in Lincoln and White Pine Counties could never lead to another situation like the Owens Valley in California, where water export to Los Angeles has caused Owens Lake to dry up and caused extensive damage to wet meadows in the uplands, because today's environmental laws would prevent that from happening. It needs to be pointed out that groundwater pumping in the Owens Valley didn't start until 1972 and all the damage to wet meadows and uplands from groundwater pumping has occurred since 1972, under the jurisdiction of current environmental laws.

If water rights of sufficient quantity are granted to make building a pipeline from Spring Valley to Las Vegas feasible and water export begins then those rights will be, for practical purposes, non-revokable, no matter how great the negative impacts. The irreversible nature of an over-allocation of groundwater is what makes this decision so important. A mistake made now will be with us forever. With that harsh reality in mind the only prudent decision is to require that a definitive study of the groundwater situation in the Valleys where applications have been filed be undertaken and completed prior to any final issuance of water rights. This will be time consuming and expensive but it is the proper course of action and something that we owe to those who will come after us.

Sincerely,



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