



Investors and Environmentalists  
for Sustainable Prosperity

**Rebuttal Comments on SNWA's Evidence Concerning Financing for the Groundwater Development Project Associated with SNWA's Water Rights Applications in Spring, Cave, Dry Lake and Delamar Valleys**

Prepared for the Office of the Nevada State Engineer on behalf of the Great Basin Water Network

Submitted by Sharlene Leurig, Senior Manager, Water Infrastructure, Ceres

A handwritten signature in black ink, appearing to read "S. Leurig", written over a horizontal line.

August 25, 2011

On the basis of my review of the materials submitted on July 1, 2011, by the Southern Nevada Water Authority relating to financing for its Groundwater Development Project in connection with the above-mentioned applications, and on the basis of my work with Ceres on water infrastructure financing, as reflected in the report titled *The Ripple Effect: Water Risk in the Municipal Bond Market*, I have prepared the following review and response to financing material submitted by the Southern Nevada Water Authority (SNWA). We are submitting this information to be considered in the Nevada State Engineer's review of the Southern Nevada Water Authority's applications for water rights in Spring, Cave, Dry Lake and Delamar Valleys.

Ceres leads a national coalition of investors, environmental organizations and other public interest groups working with companies to address sustainability challenges such as global climate change and water scarcity. For more on Ceres, see <http://www.ceres.org>.

The Investor Network on Climate Risk (INCR), a project of Ceres, supports 100 institutional investors with assets totaling \$10 trillion by identifying the financial opportunities and risks in climate change and by tackling the policy and governance issues that impede investor progress toward more sustainable capital markets. For more on INCR, see <http://www.ceres.org/incr>.

In October 2010, Ceres issued a study on water risks that may affect the valuation and performance of long-term bonds issued by public water authorities to build and maintain their capital assets. The report, *The Ripple Effect: Water Risk in the Municipal Bond Market*, can be found at [www.ceres.org/resources/reports/water-bonds/view](http://www.ceres.org/resources/reports/water-bonds/view).



Investors and Environmentalists  
for Sustainable Prosperity

The report revealed trends of relevance to the long-term water security of the State of Nevada and the continued creditworthiness of the Southern Nevada Water Authority along with its members and joint issuers. Those trends are discussed below.

### **Key Trends**

**Rising regional demand for water is colliding with less reliable supplies, with the potential to make utility balance sheets more volatile.** In many parts of the United States, utilities are facing water supply constrictions that create revenue challenges. Emerging risks fall into two basic categories:

- **Physical factors**, including *quantity* reductions due to drought or drawdown by other users and *quality* impairments from pollution or intrusion of salt water driven by excessive groundwater pumping, land subsidence, and sea level rise, and
- **Regulatory factors**, including changing allocations of water rights among users, preservation of environmental flows to protect endangered or threatened species, or quality standards that impose additional costs or limit use of a water resource.

Climate change is expected to exacerbate both physical extremes and regulatory responses intended to protect water supplies for human uses and threatened species.

SNWA is developing its long-term plan to diversify supplies driven by awareness of these risks within its own portfolio and within the portfolios of water utilities drawing from the same water resources. Yet it is worth considering whether the Importation Project proposed by SNWA is resilient or vulnerable to these very risks.

**While these emerging water risks can damage the value of investors' public utility assets, many of these risks remain invisible in the present marketplace.** Increased resource competition, more intense droughts, and regulations to ensure reliable water supplies are all likely to translate into additional capital expenditures and increased operating costs for already highly-leveraged utilities. In the most extreme cases, emerging water risks may force capital assets into early retirement or saddle utilities with stranded assets. Any of these scenarios may impair a utility's liquidity, undermining its ability to honor debt obligations to investors. Yet today's utility disclosure and credit analysis fails to consistently incorporate these trends, placing investors at risk.

**Investors will increasingly have access to information on water risks, including over-abstraction and legal challenges.** As investors make movements to identify hidden risks in traditionally stable markets like municipal bonds,



Investors and Environmentalists  
for Sustainable Prosperity

financial intermediaries and specialized consultancies will bring more data tools to the market to enable credit risk assessment. An example is the Aqueduct Alliance, a project of the World Resources Institute with support from Goldman Sachs, Dow Chemical, Coca-Cola, General Electric, Bloomberg, and United Technologies. The Alliance will make freely available a database for users to assess water availability in stressed river basins, including the Colorado River. Its metrics incorporate hydrological data along with social, economic and governance conditions in specific regions. These sorts of tools are likely to shift investor risk perceptions in the public finance markets. In turn, more water utilities may seek to make available enhanced performance and financial data to remain competitive in a market that will increasingly price in these risks.

**SNWA's ability to implement its plan in part depends upon its ability to continue its practice of refinancing debt, which hinges on market perception of its creditworthiness.** Like many systems, SNWA has managed cash flows by refinancing existing debt to take advantage of lower interest rates. This approach also allows SNWA to smooth out rate increases, yet even so water rates have increased significantly in recent years. The feasibility of the Importation Project hinges on future refinancing of SNWA's debt, as described in Appendix D of SNWA's *Ability to Finance Report*. The assumptions behind SNWA's refinancing plan include 1) preservation of current market rates, which are at all-time lows unlikely to be sustained throughout the lifetime of the required debt, and 2) sustained market perception of SNWA as a good credit. Over the lifetime of the debt that SNWA will be obligated to service for the Importation Project, it is likely that markets will more aggressively price in factors like energy intensity of water provided, legal threats from human users or endangered species, and potential conflict between wholesale providers and retail customers, trends described in more detail below. To the extent that the Importation Project disadvantages SNWA in these regards compared to other credits on the market, SNWA's cost of capital is likely to increase and the cash flow benefits of refinancing may diminish.

**Transporting water from water-rich to water-poor regions is an energy-intensive practice that makes regional economies vulnerable to energy price volatility.** Beyond the high construction costs that accompany conveyance projects like the Importation Project, these systems frequently have significant operating costs through their exposure to volatile energy prices. The compounded effects of high construction and operating costs may reduce issuer liquidity, straining utility capacity to honor existing and future debt obligations. The assumed increase in energy costs over the life of the debt obligations is not clear in SNWA's *Ability to Finance Report*.

**Supply projects with high marginal costs can limit a utility's financial flexibility, leaving it unable to adjust to future changes in supply, demand, or**



Investors and Environmentalists  
for Sustainable Prosperity

**governance structure. If this forces water rates past a certain point, regional economic competitiveness may be compromised.** Capital projects are financed on the expectation that revenues in the service area will grow or stay fixed over the lifetime of debt service. While utilities can set rate structures that allow them to simultaneously grow revenue and suppress consumption, decoupling revenue streams from increasing gallons delivered, debt repayment for high-capital supply projects can pin utility financial health to high-population and consumption growth.

Differences between projected and actual consumption growth can result in lower debt service coverage unless utilities increase rates. In Southern Nevada, as in other areas of the country, rates and water-related charges have had to adjust upward significantly to make up for unrealized growth stymied by the economic downturn. If the debt obligations incurred by the Importation Project are high enough, the pressure on water rates and charges can compromise the affordability of water, along with regional economic competitiveness.

The projected monthly water bill of \$59.30 for plans not including the Importation Project (page 33 of the *Ability to Finance Report*) already far exceeds present household costs in Las Vegas or other cities. Yet as SNWA projects, the rate increase that may be required to repay even SNWA's conservative estimated total -- \$7.283 billion in expected debt that would be assumed to undertake the Importation Project—to \$90.62 per month for the average household—is nearly three times the average bill of a residential customer in its service area today.

SNWA has pledged to set rates to maintain debt service coverage of 1.00 times revenues. This target, along with the projected debt service coverage including obligations from implementing the plan, is considerably lower than the 10-year historic minimum of 2.69 times annual debt service (page 29 of *Ability to Finance Report*). Such a slim ratio provides very little financial flexibility for SNWA to pursue other necessary investments if actual water delivered falls below expectations or if other pressures arise elsewhere in the system.

**Relying on growth to pay for system reliability is fundamentally unsustainable.** For the past decade, SNWA has depended on regional connection charges to service debt obligations. As noted in the SNWA finance report, the burst of the housing bubble caused revenue from connection charges to decline by more than 97% from its 2006 level, as measured by 2010 figures. While economic recovery may revive housing starts in Southern Nevada, such recovery is not on the near-term horizon, and there is nothing to preclude future volatility of similar magnitude. Like all water providers, it is essential that SNWA restrict capital expenditures to what can be recovered through sustainable and consistent revenue sources.



Investors and Environmentalists  
for Sustainable Prosperity

**Per capita urban water demand has consistently declined for decades, a trend that is expected to persist.** Per capita urban water use has consistently declined across the United States, including in Southern Nevada. In part this is due to efforts by water providers like SNWA to encourage water conservation and efficiency. Conservation and efficiency programs can actually hold total demand constant even as population increases, as shown by historical water demand in Southern California. The declining demand trend is exacerbated by increasing water rates. Declining per capita use presents a challenge to utilities such as SNWA, as it can diminish the revenue secured through water rates. Because demand for water is elastic, capital projects that significantly increase water rates can actually reduce revenues from water rates. While a number of utilities are testing rate structures that can cover fixed costs even in the face of declining water sales, cost recovery and revenue stabilization under declining demand projections remains a significant challenge across the country. Yet in developing its financing assumptions, SNWA assumes that the per capita consumption level of 69,097 gallons per year will remain constant going forward (page 37 of *Ability to Finance Report*). This deterministic approach does not provide much insight into the range of possible rate increases that may be necessitated if water demand fails to meet SNWA's projections, nor the size of the potential burden that could be transferred to other consumers or residents who do not directly benefit from the proposed project.

**Retail providers are not necessarily bound to purchase water from their wholesale provider, creating credit risk for the wholesale entity.** While wholesale water providers can provide significant economies of scale for their member agencies, the confluence of increasing costs of wholesale water systems and evolving water treatment technologies can lead member agencies to develop alternative sources. When member agencies are not required to assume the debt obligations of their wholesale providers or to purchase water over the lifetime of the wholesale entity's debt obligations, this poses a credit risk to the wholesale entity. Metropolitan Water District of Southern California is a case in point. Since 2008, MWD's water sales have declined 32%, while its rates have increased by 55%. One of MWD's largest members, Los Angeles Department of Water and Power, plans to reduce its reliance on MWD's water by nearly 50%.<sup>1</sup> Many other member agencies are pursuing development of their own water sources.

Although SNWA is younger than its southern California counterpart, the dynamics of increasing water costs, declining demand and changing opportunities for local water production and treatment provide a view of a possible future against which the

---

<sup>1</sup> San Diego County Water Authority, "What We Need in a Bay-Delta Fix: A Perspective by MWD's Largest Customer," Presentation, May 11, 2011, <http://org2.democracyinaction.org/dia/track.jsp?v=2&c=BmTOoeS5YbMbjJ78rnEfvilmzCkpt1W%2F>



Investors and Environmentalists  
for Sustainable Prosperity

authority should plan. Already without necessary investments in the third Lake Mead intake pipe or other proposals advanced in the MCCP, SNWA has had to increase commodity charges six-fold from 2000-2011 (page 20 of the *Ability to Finance Report*) and water rates more than 40% since 2002 (page 19 of *Ability to Finance Report*). The anticipated rate increases are significant enough to consider whether SNWA's member agencies may seek alternative and more cost-effective sources.

### **Key Questions**

As the State Engineer considers the feasibility of the Importation Project, several questions should be considered:

- **Is the project adaptive?**
  - If climate variability and climate change intensify pressure on other users or endangered species, is the project adaptive to legal barriers?
- **Will the project make SNWA and its joint issuers more resilient or less?**
  - If the project falls short of its projected service delivery—whether from physical or legal pressures—what flexibility would SNWA have in pursuing other resources, given the expected debt obligations the project entails?
- **How likely is it that the project's costs will be borne by its beneficiaries?**
  - If demand declines or fails to meet the anticipated growth rate, whether from slower population growth or behavioral change, can the cost of the SNWA pipeline feasibly be internalized by the rate base? What is the possible burden that could be placed on the state as a whole to make the revenue shortfall?
  - If the cost of the project increases SNWA's costs relative to other sources, do its members have the ability to opt out? How would SNWA recover costs under such a scenario?

As the preceding discussion indicates, the assumptions behind SNWA's financial analysis should not be taken as representing the most likely economic or market conditions. The sensitivity of the Importation Project's cash flows to water demand, refinancing conditions and the other dynamics discussed herein should be assessed in order to ensure the continued financial strength of the parties involved and the enhanced flexibility and security of Nevada's water infrastructure.