Case No. _____

In the Supreme Court of Nevada

SOUTHERN NEVADA WATER AUTHORITY, Petitioner, *vs.* THE SEVENTH JUDICIAL DISTRICT COURT of the State of Nevada, in and for the County of White Pine; and THE HONORABLE ROBERT E. ESTES, Respondents, and, MILLARD COUNTY, UTAH; JUAB COUNTY, UTAH, *et al.*, Real Parties in Interest. (*Full caption on the following three pages*)	Electronically Filed May 30 2014 04:11 p.m. Tracie K. Lindeman Clerk of Supreme Court

PETITION FOR WRIT OF MANDAMUS OR, IN THE ALTERNATIVE, PROHIBITION

With Supporting Points and Authorities

District Court Case Nos. CV-1204050, CV-1204051, CV-1204052, CV-1204053, CV-1204054, CV-1204055, CV-0418012, CV-0419012

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In the Supreme Court of Nevada

SOUTHERN NEVADA WATER AUTHORITY,

Petitioner,

vs.

THE SEVENTH JUDICIAL DISTRICT COURT of the State of Nevada, in and for the County of White Pine; and THE HONORABLE ROBERT E. ESTES,

Respondents,

and,

MILLARD COUNTY, UTAH; JUAB COUNTY, UTAH; JASON KING, P.E., in his official capacity as the NEVADA STATE ENGINEER; NEVADA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES; CORPORATION OF THE PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS ON BEHALF OF CLEVELAND RANCH; ELY SHOSHONE TRIBE; CONFEDERATED TRIBES OF THE GOSHUTE RESERVATION; DUCKWATER SHOSHONE TRIBE; WHITE PINE COUNTY, NEVADA; ELKO COUNTY, NEVADA; EUREKA COUNTY, NEVADA; NYE COUNTY, NEVADA; NYE COUNTY WATER DISTRICT; CITY OF ELY, NEVADA; CENTRAL NEVADA REGIONAL WATER AUTHORITY; GREAT BASIN WATER NETWORK; SIERRA CLUB; CENTER FOR BIOLOGICAL DIVERSITY; 2ND BIG SPRINGS IRRIGATION COMPANY; LUND IRRIGATION COMPANY; PRESTON IRRIGATION COMPANY; ALAMO SEWER & WATER GID; BAKER GID; MCGILL-RUTH SEWER & WATER GID; GREAT BASIN BUSINESS & TOURISM COUNCIL; WHITE PINE CHAMBER OF COMMERCE; NEVADA FARM BUREAU; N-4 STATE GRAZING BOARD; BAKER RANCHES INC.; BATH LUMBER; PANACA FARMSTEAD ASSOCIATION; BORDER INN; PEARSON FARMS; RAFTER LAZY C RANCH; SPORTSWORLD; PROGRESSIVE LEADERSHIP ALLIANCE OF NEVADA; LEAGUE OF WOMEN VOTERS OF SALT LAKE CITY; UTAH AUDUBON COUNCIL; UTAH PHYSICIANS FOR A HEALTHY ENVIRONMENT; POST CARBON SALT LAKE; UTAH RIVERS COUNCIL; BRISTLECONE ALLIANCE; CITIZENS EDUCATION PROJECT; INDIAN SPRINGS CIVIC ASSOCIATION; SCHOOL OF THE NATURAL ORDER;VAUGHN M. HIGBEE & SONS; ARMANDO AGUILEW; CHRIS ADLER; BART ANDERSON; AMY ASPERHEIM; MICHELE AUSTRIA; CRAIG & GRETCHEN BAKER, individually and on behalf of their minor children, MATTHEW & EMMA; DAVID A. & TANA R. BAKER, individually and on behalf of their minor children, CLAYTON F. DEAN & BARBARA BAKER; TOM & JANILLE BAKER, individually and on behalf of their minor children ALYSHIA, CALEB, MEGAN & KAYLI; JERALD BATES;

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Real Parties in Interest.

NRAP 26.1 DISCLOSURE

The undersigned counsel of record certifies that the Southern Nevada Water Authority is governmental agency and a political subdivision of the State of Nevada.

DATED this 29th day of May 2014.

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PETITION FOR WRIT OF MANDAMUS
OR, IN THE ALTERNATIVE, PROHIBITION

Southern Nevada Water Authority ("SNWA") petitions this Court for a writ of mandamus or, in the alternative, a writ of prohibition to challenge the district court's December 13, 2013 decision, which effectively reversed and remanded the State Engineer's grant of SNWA's applications to appropriate unused ground water from Spring, Delamar, Dry Lake , and Cave Valleys in Eastern Nevada.

Specifically, the district court erred in directing the State Engineer to authorize a lesser quantity of pumping in Spring Valley. (1 App. 13.) Substituting its opinions for the State Engineer's factual findings, the district court fashioned from whole cloth a requirement that "standards, thresholds or triggers" to mitigate impacts be set concurrently with permit approval. (1 App. 23.) The order also compels the State Engineer to calculate again the unappropriated water in the Delamar, Dry Lake, and Cave Valleys based on the court's opinion that those groundwater basins are akin to a river flowing on the surface. (1 App. 23.)

This Court should vacate the district court's December 13, 2013 decision and affirm State Engineer Rulings 6164, 6165, 6166, and 6167.

Dated this 29th day of May, 2014.

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VERIFICATION

STATE OF NEVADA)

) ss.

COUNTY OF CLARK)

Under penalties of perjury, the undersigned declares that he is counsel for the petitioners named in the foregoing petition and knows the contents thereof; that the pleading is true of his own knowledge, except as to those matters stated on information and belief, and that as to such matters he believes them to be true.

This verification is made under NRS 15.010.

DATED this 29th day of May 2013.

DANIEL F. POLSENBERG

Subscribed and sworn to before me
this 29th day of May 2013

NOTARY PUBLIC

JESSICA M. HELM
Notary Public State of Nevada
No: 08-8522-1
My appt. exp. November 5, 2016

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MEMORANDUM OF POINTS AND AUTHORITIES

In 1989, the predecessor-in-interest to Southern Nevada Water Authority ("SNWA") applied for permits to transfer unappropriated water from Spring Valley, Delamar Valley, Dry Lake Valley, and Cave Valley. Several parties objected to the approval of the permits, including federal agencies such as the National Park Service, the Bureau of Fish and Wildlife, the Bureau of Land Management ("BLM"), and the Bureau of Indian Affairs. The federal agencies withdrew their objections to SNWA's applications. (1 App. 25-36; 3 App. 738-822.)

Between 1989 and 2011, numerous studies and reports were produced on the probable impact of SNWA's appropriation request which resulted in the State Engineer's approval of a plan to monitor, manage and mitigate impacts from the Project ("3M Plan"). (3 App. 823–6 App 1496.) The 3M Plan prohibits the development of SNWA's permits from conflicting with existing water rights or causing unreasonable adverse effects on the environment. Pursuant to the 3M Plan, the State Engineer will monitor water levels and changes in water movement, monitor any effects that pumping has on the environment, collect data to develop better models to predict the effects of pumping and require mitigation of unreasonable impacts from the Project. (1 App. 126; 4 App. 857-861, 911-15.)

For multiple reasons, including a previous trip to this Court, the hearing that led to the ruling that is the subject of this appeal was not held until 2011. The State Engineer held six weeks of hearings on the applications from September 26, 2011 until November 18, 2011. The State Engineer concluded that Southern Nevada needs the water requested by SNWA. Specifically, the State Engineer found that "Southern Nevada is almost entirely dependent on the Colorado River, as it supplies 90% of Southern Nevada's water." (1 App. 55.) Due to drought conditions, between 2000 and 2010, the average flow in the Colorado River was dramatically lower than normal, and Lake Mead's water level dropped between 130 and 140 feet – a reduction of about 55-60%. (1 App. 56.) The State Engineer found that Southern Nevada's ability to rely on Colorado River water in future years was likely to decline dramatically as a result of both the reduced flow of the river and the increased water use by upstream states that do not yet use all of their allocated Colorado River water. (1 App. 57-60.) In other words, Southern Nevada needs the water requested in SNWA's applications not to support increased growth, but to protect Southern Nevada from shortages to its dwindling water supply.

At the six-week hearing on SNWA's applications, SNWA and numerous protestants submitted thousands of pages of scientific evidence. At the conclusion of the hearing, the State Engineer approved most, but not all, of SNWA's

applications. The State Engineer calculated the water available for appropriation by SNWA by applying the same methods of calculating the "perennial yield" that his office has used for over fifty years. The State Engineer awarded SNWA a total of 61,127 acre-feet annually in Spring Valley, 5,235 acre-feet annually in Cave Valley, 11,584 acre-feet annually in Dry Lake Valley, and 6,042 acre-feet annually in Delamar Valley. (1 App. 239; 2 App. 410, 574, 736.)

The State Engineer required SNWA to comply with the 3M Plan, and as another layer of protection, the State Engineer did not allow SNWA to immediately pump all the water it was awarded in Spring Valley. (1 App. 239-240.) Pumping is only authorized in stages. SNWA can only pump approximately 62% of the total amount for eight years, after which it must seek authorization from the State Engineer to pump more. And even then SNWA is not allowed to pump the full amount – it may only pump about 82% of the total award for eight years and then seek authorization to pump the full amount. During those sixteen years, the State Engineer will monitor pumping, evaluate the effects of pumping on existing water rights and the environment, improve groundwater models that predict the effects of future pumping and require mitigation of unreasonable impacts. (1 App. 126; 4 App. 857-861, 911-915.)

The district court agreed with the State Engineer that water is available, the water is needed in Southern Nevada, and the project can be built. The district court

agreed large amounts of water are available for appropriation in Spring Valley. The district court also stated there is "no real question" that substantial evidence supports the State Engineer's finding that Southern Nevada needs additional water "independent of the Colorado River," and that "current available supplies [are] insufficient to meet projected future water demands." (1 App. 7.) The district court also upheld the State Engineer's conclusion that SNWA has the financial ability, technical capacity and intent to develop the water. (1 App. 23.)

But the court disagreed with the State Engineer's calculation for water appropriations. Specifically, the district court directed the State Engineer to authorize a lesser quantity of pumping in Spring Valley so that the basin "reaches equilibrium" more quickly. (1 App. 23.) The district court also believed there is "insubstantial evidence" to support the 3M Plan because the 3M Plan does not include *triggers*, and the State Engineer should recalculate the unappropriated water in the Delamar, Dry Lake and Cave Valleys. (1 App. 23.) The district court acknowledged that the State Engineer's conclusions are subject to significant deference by the courts and that the State Engineer's decision must be affirmed if it is supported by "substantial evidence." (1 App. 5.) But the district court nevertheless substituted its judgment for the State Engineer's and decided that its view of the science was better than the State Engineer's. The district court acted arbitrarily and capriciously by substituting its judgment and adding new

requirements to Nevada water law that are not supported by either legal authority or the sound science that the State Engineer relied on.

This case presents legal questions of statewide importance that are critical for this Court to review, not only because of Southern Nevada's pressing need for water, but because the issues presented are confronted often by the State Engineer. Everyone in Nevada will benefit from this Court's guidance.

ISSUES PRESENTED

This case requires the Court to determine whether the district court substituted its judgment for the conclusions reached by the State Engineer after the State Engineer held six weeks of hearings, considered thousands of pages of documentary evidence, and issued four lengthy rulings, including a 218-page decision with 186 pages of factual findings.

The issues presented are:

1. Whether a new, unprecedented, method for calculating water available for appropriation should be applied across Nevada instead of the State Engineer's proven and historic method.

2. Whether the efficacy of the monitoring, management and mitigation plan ordered by the State Engineer is supported by substantial evidence.

3. Whether the State Engineer's conclusions that unappropriated water exists in Delamar, Dry Lake, and Cave Valleys and that the diversion of that water

will not significantly impact flow into the White River system are supported by substantial evidence.

A WRIT OF MANDAMUS OR PROHIBITION IS APPROPRIATE IN THIS CASE

SNWA has filed a separate appeal of the district court's order because it believes that the order is a final judgment. *See* Case No. 64815. One of the parties that protested SNWA's applications filed a motion to dismiss the appeal for lack of jurisdiction, which has been fully briefed. If SNWA is incorrect about this Court's jurisdiction, the Court should issue a writ of mandamus or prohibition.

Writ petitions should be considered "'when an important issue of law needs clarification and sound judicial economy and administration favor the granting of the petition.'" *Westpark Owners' Ass'n v. District Court*, 123 Nev. 349, 357, 167 P.3d 421, 426 (2007) (quoting *State of Nevada v. District Court (Ducharm)*, 118 Nev. 609, 614, 55 P.3d 420, 423 (2002)). Judicial economy and public policy is served by consideration of writ petitions when the questions presented are legal in nature and are of statewide significance. *See Lorton v. Jones*, 130 Nev. Adv. Op. 8, 322 P.3d 1051, 1053-54 (2014); *Falcke v. Douglas County*, 116 Nev. 583, 586, 3 P.3d 661, 662-63 (2000) ("[W]here an important issue of law needs clarification and public policy is served by this court's invocation of its original jurisdiction, our consideration of a petition for extraordinary relief may be justified.").

This Court has previously concluded that "land use and development are important public policy issues" that justify addressing the issues raised in a writ petition. *Falcke*, 116 Nev. at 586, 3 P.3d at 663. Water use and development is even more important because in Nevada, water is "a precious and increasingly scarce resource." *Bacher v. Office of State Eng'r*, 122 Nev. 1110, 1116, 146 P.3d 793, 797 (2006); *see also United States v. State Eng'r*, 117 Nev. 585, 591, 27 P.3d 51, 55 (2001) (Becker, J., concurring in part and dissenting in part) (water is the "most precious of natural resources").

This case presents issues of statewide importance because the district court fundamentally altered the way that the State Engineer is required to analyze applications for appropriation of water. The district court required the State Engineer to determine when the Spring Valley basin will reach equilibrium, which has never been a part of Nevada water law. (1 App. 23.) The district court also required the State Engineer to set "triggers" now for determining when mitigation of potential unreasonable effects would occur. (1 App. 23.) This requirement, again, has never been a part of Nevada water law. The district court required the State Engineer to regulate groundwater as if it were flowing through a river, which is flatly contradicted by the scientific evidence. (1 App. 23.) Given the paramount importance of water to Nevada, this case cries out for review by this Court.

This is especially true because the issues presented are legal issues. The district court did not simply remand the matter to the State Engineer to conduct a more thorough inquiry or to consider overlooked evidence. Instead, the district court divined new standards for the State Engineer to apply, and rejected the State Engineer's historic standards. The remand is purely procedural for application of the district court's new standards.

Much time and expense will be saved if this Court reviews the matter now. Requiring the State Engineer to apply erroneous rules will result in a wasted proceeding. Review by the Court now will prevent this matter from bouncing back and forth between the State Engineer and the district court numerous times before reaching this Court. Nothing will be gained by requiring the State Engineer to perform the extra-statutory duties the district court required of him. Sound public policy and judicial economy support review of this case now.

Additionally, a writ of mandamus is available "to control a manifest abuse or an arbitrary or capricious exercise of discretion." *Cote H. v. District Court*, 124 Nev. 36, 39, 175 P.3d 906, 908 (2008); *Washoe County District Attorney v. District Court*, 116 Nev. 629, 635, 5 P.3d 562, 566 (2000). The district court's decision in this case was arbitrary and capricious because it does not give the State Engineer the deference due under this Court's decisions. "The decision of the State Engineer is prima facie correct, and the burden of proof is on the party

attacking the decision." *Pyramid Lake Paiute Tribe of Indians v. Ricci*, 126 Nev. Adv. Op. 48, 245 P.3d 1145 (2010) (citing NRS 533.450(9)) (internal quotation marks omitted). The district court's review was "limited to 'a determination of whether substantial evidence in the record supports the State Engineer's decision.'" (*Id.*) (quoting *Office of State Eng'r v. Morris*, 107 Nev. 699, 701, 819 P.2d 203, 205 (1991)). "Substantial evidence is that which a reasonable mind might accept as adequate to support a conclusion." (*Id.*) (internal quotation marks omitted) (quoting *Bacher v. State Eng'r*, 122 Nev. 1110, 1121, 146 P.3d 793, 800 (2006)). The court "will not pass upon the credibility of the witnesses nor weigh the evidence . . . ." *Morris*, 107 Nev. at 701, 819 P.2d at 205.

As explained in detail below, the district court substituted its judgment for the State Engineer's and required the State Engineer to do things that have never been required by Nevada water law. The Court should therefore review the district court's decision for the additional reason that it is flat wrong.

BACKGROUND

The State Engineer must refuse to approve an application for water if "there is no unappropriated water in the proposed source of supply, or where its proposed use or change conflicts with existing rights . . . ." NRS 533.370(2). The State Engineer has traditionally used the calculation of the "perennial yield" as a metric for determining whether unappropriated water exists. The State Engineer's

definition of perennial yield is the "maximum amount of groundwater that can be salvaged each year over the long term without depleting the groundwater reservoir." (1 App. 79.) This Court has used a similar definition: "The perennial yield of a hydrological basin is the equilibrium amount or maximum amount of water that can safely be used without depleting the source." *See Pyramid Lake Paiute Tribe of Indians v. Ricci*, 126 Nev. Adv. Op. 48, 245 P.3d 1145, 1147 (2010).

By determining the upper limit on the amount of water that can be sustainably used (*i.e.* the perennial yield), and then subtracting the amount of water that is subject to existing rights, the State Engineer ensures that there is, in fact, unappropriated water in the supply source. The difference between the perennial yield and the amount of water that is subject to existing rights is generally equal to the amount of water that is available to an applicant. (*See id.* at 1147 (upholding permit for appropriation of an amount of water equal to the difference between perennial yield and amount of existing permanent use).)

A. The Science-Based Method of Calculating Perennial Yield

For decades, the State Engineer has calculated the perennial yield using the "groundwater budget method." Water enters a hydrological basin through precipitation and groundwater flow from surrounding basins. (1 App. 79.) This is called "recharge." (*Id.*) Water leaves a basin through evaporation from the soil, "transpiration" (which is the consumption of groundwater by plants), or by flowing

to a surrounding basin. (1 App. 79-80.) This is called "discharge." (1 App. 79.) When determining a basin's discharge, evaporation and transpiration are often referred to collectively as "evapotranspiration" (ET). A groundwater system is presumed to be in a steady state before it is developed by humans, which means that the amount of water entering a basin is equal to the amount of water leaving the basin. (1 App. 80.) The groundwater budget is therefore "balanced" before it is developed. (*Id.*)

When humans develop a water source through pumping, a large portion of the water is initially captured from the "transitional storage" of the basin and very little is captured from ET. (7 App. 1513.) Transitional storage is "the quantity of water in storage in a particular ground water reservoir that is extracted during the transition period between natural equilibrium conditions and new equilibrium conditions under the perennial-yield concept of ground water development." (7 App. 1513.) Over time, this gradually reverses, and most of the capture comes from ET. In a large basin like Spring Valley, equilibrium will take a long time and the water level will go down while equilibrium is being re-established. (1 App. 113; 25 App. 5688.) The Nevada Legislature has recognized that this phenomenon is unavoidable and provided that "[i]t is a condition of each appropriation of groundwater acquired under this Chapter that the right of the appropriator relates to

a specific quantity of water and that the right must allow for a reasonable lowering of the static water level at the appropriator's point of diversion." NRS 534.110(4).

B. Calculation of Perennial Yield for Spring Valley

The Spring Valley basin is recharged through precipitation that percolates through the soil and into the underground aquifer. (1 App. 80.) The water in the Spring Valley basin is discharged almost exclusively through ET because there is relatively little transfer of water between basins. (1 App. 10; 1 App. 80.) The perennial yield cannot exceed the recharge amount, and the perennial yield in Spring Valley is at least equal to the estimated ET discharge. (*Id.*)

The State Engineer considered the testimony of multiple expert witnesses regarding the perennial yield in Spring Valley, including expert witnesses offered by the protestants. The evidence resulted in a 34-page discussion in the State Engineer's ruling. (1 App. 79-113.) The State Engineer first noted that, as a general principle of hydrology, ET "can be more accurately measured than groundwater recharge or subsurface flow." (1 App. 81.) Turning to the Spring Valley evidence, the State Engineer considered data derived from SNWA's "state-of the-art" data collection towers that measure the density and health of vegetation using ground-level sensors and satellite data. (1 App. 81; 7 App. 1589–8 App. 1975.) This data was "independently evaluated and approved by Dr. Travis Huxman of the University of Arizona," who has "extensive experience in locating ET measurement sites in complex ecosystems." (1 App. 84; 15 App. 3101.) The

protestants' expert "did not question [SNWA's] measurement of ET rates." (1 App. 85.) Indeed, he "testified that [SNWA's] estimates are probably as accurate as they can be." (1 App. 87; 24 App. 5328.) And the State Engineer concluded that SNWA's expert's error-correction techniques provided for a more accurate assessment that was "scientifically sound and represent[ed] an improvement over past studies, and validate[d] the accuracy of [SNWA's] ET estimates." (1 App. 86.)

The State Engineer also consulted several reports published by the United States Geological Survey, although he concluded that those reports were less accurate than SNWA's studies because SNWA's data was collected over a longer period of time and used more measurement sites. (1 App. 80, 98.) The State Engineer did not accept either side's evidence completely, and accepted the protestants' expert testimony when it was based on the best available science. (*See* 1 App. 94 ("The State Engineer finds that Applicant's method is a mass balance approach to determine groundwater ET, and by ignoring a portion of the water budget their groundwater ET estimation method is flawed. The State Engineer also finds that the annual average groundwater-ET over-estimation error attributable to this cause is approximately 3,000 acre-feet."); 1 App. 96 ("The State Engineer finds that Applicant over-estimated groundwater ET for the five-year period 2006

to 2010 by approximately 7,700 afa . . . . Therefore, the State Engineer subtracts 10,700 afa from the Applicant's estimated 94,800 afa of groundwater ET.").)

The State Engineer concluded that the most accurate measure of perennial yield was ET and that estimates of recharge or interbasin flow would be excluded. (1 App. 113.) The State Engineer found that the perennial yield for Spring Valley is 84,000 acre-feet annually. (*Id.*)

The State Engineer calculated existing water rights at 18,873 acre-feet per year (a finding the district court did not disturb) and subtracted that number from the total perennial yield. (1 App. 237-38.) The State Engineer also set aside 4,000 acre-feet annually to provide for future uses in Spring Valley. *See* NRS 533.370(3)(d). Thus, the State Engineer determined that the full amount of water available to SNWA is 61,127 acre-feet annually.

C. Conflicts Analysis and Groundwater Modeling

The State Engineer also conducted a comprehensive analysis of whether any actual conflicts with existing water rights are likely to develop. The State Engineer first assessed potential conflicts based on water right ownership, geographical location, and the priority of the water rights. He then looked to groundwater models. And finally, he looked at some site-specific analyses. (1 App. 143-86.) The protestants focused only on modeling projections.

SNWA's model was developed in conjunction with the Bureau of Land Management. (1 App. 145-46; 8 App. 1983.) SNWA's model was based on 75

years of historical data. (1 App. 169.) Under the theory of "history matching," a model can only make predictions with confidence for a period of time equal to the period of time that provided the data used to calibrate the model. (1 App. 169; 25 App. 5738-40.) The protestants' model projected 200 years into the future – more than the time period for which there is available data. (*Id.*) The State Engineer found that both models were useful, but that SNWA's model was better because it was more comprehensive, better documented, and peer reviewed. (1 App. 169-170, 174.) The State Engineer noted that both models contained uncertainties, but he considered both models and merely gave more weight to SNWA's model. (1 App. 154.) The State Engineer concluded that the predicted drawdown in the water table of 50 feet over 75 years was reasonable, but that adverse impacts were likely without monitoring, management and mitigation and that more information would be useful to ensure that there are no adverse impacts on existing water rights or the environment. (1 App. 155, 174, 209, 240.)

Accordingly, the State Engineer did not authorize SNWA to immediately begin pumping the full 61,127 acre-feet annually, but instead required development in stages and compliance with the 3M Plan. (1 App. 239-240.) The 3M Plan began life as a stipulation to settle objections to SNWA's applications that were lodged by the National Park Service, the Bureau of Fish and Wildlife, the

Bureau of Land Management, and the Bureau of Indian Affairs (the "Federal Stipulation"). (1 App. 126-27; App. 738–4 App. 822.)

D. Staged Development and the 3M Plan

In the first stage of the 3M Plan, SNWA may not pump more than 38,000 acre-feet annually (62% of the total award to SNWA) for eight years. (1 App. 239.) SNWA is not permitted to pump more than 38,000 acre-feet annually until the State Engineer approves additional pumping. (*Id.*) During stage one, SNWA is required to collect data to update and improve its modeling results and submit reports to the State Engineer. (*Id.*) During stage two, SNWA may not pump more than 50,000 acre-feet annually for another eight years and must continue to collect data to improve its groundwater model. (*Id.*) The State Engineer must approve SNWA's transition to stage three, which is when it will be able to pump the full 61,127 acre-feet annually. SNWA must provide annual reports to the State Engineer in perpetuity.

Under the 3M Plan, SNWA will collect large amounts of data from many test wells drilled at many points within the basin, most of which are clustered near the proposed points of water diversion for the SNWA project. (4 App. 844, 889; 14 App. 2939, 2955.) Pumping while monitoring and managing will increase the data that can be used in the groundwater models so that the models will improve over time. (1 App. 140; 4 App. 859, 913.) Pumping will yield unique data that will allow more precise and accurate predictions of potential impacts on existing

rights and the environment. (1 App. 130, 142-43; 4 App. 894.) If environmental problems or conflicts with existing rights arise, the mitigation plan provides for (1) cessation of pumping, (2) modifying the pumping regime, (3) changing the location of pumping, (4) drilling new wells, (5) lowering pumps, or (6) providing alternative sources of water. (1 App. 141; 4 App. 861, 946.) Protestants' own witness testified that he has had success with similar 3M Plans. (1 App. 205; 25 App. 5635-38.)

Managed succession of plant communities is part of the 3M Plan. Succession is the process by which plant communities can gradually transition and adapt to altered conditions. (1 App. 210-11; 9 App. 2007-73.) Testimony indicated that managed succession can be used as a tool in Spring Valley for existing plant communities to adapt to changing water levels and remain healthy ecosystems. (17 App. 3549, 3631.) The key to effective plant succession is that the pace of water level changes must be slow enough for plants to adapt. (17 App. 3553.) The State Engineer's staged development requirements and 3M Plan are designed to control the time periods over which water level changes occur.

The State Engineer's 3M Plan is incorporated into the terms of the SNWA pumping permits. (1 App. 196, 216, 240.) The State Engineer relied on voluminous reports and expert testimony that was introduced during six weeks of hearings before he approved the 3M Plan. (1 App. 112; 2 App. 259.) The

evidence was submitted to support the efficacy of the 3M Plan, and the conclusion that objective standards can be developed in the future to ensure protection of existing water rights and environment. That evidence included existing baseline data, a system of collaborative governmental oversight, adaptive management and ongoing monitoring.

1. Baseline Data

Spring Valley, Dry Lake Valley, Delamar Valley, and Cave Valley have been under study for decades. (1 App. 112; 2 App. 259.) SNWA has been collecting data since the applications were filed in 1989 and has been systematically collecting groundwater hydrology data since 2007. (1 App. 126; 9 App. 2074–11 App. 2703.) SNWA has also established environmental baseline data for biotic communities within Spring Valley and nearby, including aquatic ecosystems, amphibians, birds, mammals, bats, reptiles, fish, invertebrates, and vegetation such as cactus, yucca, and weeds. (1 App. 198-99; 2 App. 377-78; 10 App. 2310–11 App. 2703.) SNWA has studied endangered, threatened, and sensitive plant and animal species, focusing on groundwater-influenced habitats. Protestants' expert witnesses testified that they had no criticism of the environmental baselines. (2 App. 317; 22 App. 4912-13; 23 App. 5059-62.)

SNWA presented a large amount of baseline data to federal and state resource managers to ensure environmental protection through permitting and other processes. (1 App. 200.) SNWA has also worked with many governmental

agencies to obtain numerous environmental permits and ensure that SNWA's project complies with various regulatory requirements, including the National Environmental Policy Act ("NEPA"). (1 App. 200-01; 2 App. 376, 378-80; 11 App. 2718; 12 App. 2815, 2847.) NEPA requires full consideration of environmental impacts resulting from SNWA's project. (1 App. 200; 2 App. 376.)

2. Collaborative Governmental Oversight

The State Engineer is not the only person protecting existing rights holders and the environment. The 3M Plan had its origin in a stipulation among SNWA, the U.S. Bureau of Indian Affairs, the U.S. National Park Service, the U.S. Bureau of Land Management, and the U.S. Fish and Wildlife Service. The Federal Stipulation was adopted to ensure federal laws are complied with, as well as Nevada state law as it relates to federal resources. (3 App. 738–4 App. 822.) The 3M Plan that was approved by the State Engineer incorporates the Federal Stipulation, including the hydrologic and biologic components. (4 App. 82–6 App. 1496.) Like the Federal Stipulation, the 3M Plan's goals are to manage the development of groundwater by SNWA without causing injury to all existing water rights or unreasonable adverse effects to Federal resources by scientifically characterizing the hydrology in Spring Valley. (1 App. 127; 4 App. 881-85.)

The 3M Plan includes a Technical Review Panel ("TRP") to implement the 3M Plan's hydrologic component and a Biological Work Group ("BWG") to implement the biologic component. (1 App. 881; 4 App. 932.) Scientists with

expertise over hydrology, biology and the environment are members of TRP and BWG. (*Id.*) An executive committee oversees implementation and execution of the 3M Plan. (*Id.*) TRP and BWG evaluate groundwater model results and make recommendations to the executive committee. (*Id.*)

The 3M Plan, while based on the Federal Stipulation, was expanded to include non-federal water rights. (1 App. 129; 4 App. 838-39, 882; 18 App. 3765-66.) A key attribute of the 3M Plan is the collection of data and the provision of annual reports to the State Engineer. The reports will be available on the State Engineer's website so that the public can view them. There are already reports from 2008-2011 available to the public. (1 App. 132.)

3. Adaptive Management

The 3M Plan incorporates the accepted scientific method of adaptive management. Adaptive management is almost universally embraced by the people who develop natural resources because it deals with uncertainty in a way that permits natural resources to be developed responsibly. (12 App. 2826; 18 App. 3755-56.) If adaptive management is not available, society would be paralyzed and unable to develop natural resources. "The adaptive management philosophy in natural resource conservation is based upon the unremarkable notion that resource managers should evaluate the results of their efforts and adjust their actions according to what they have learned from experiences with the natural resource system being managed." *W. Watersheds Project v. Salazar*, 766 F. Supp. 2d 1095,

1110 (D. Mont. 2011). "This natural resource management philosophy emphasizes learning from experience to better manage complexity and uncertainty." (*Id.*) The "learning while doing" concept is central to adaptive management, and that is exactly what SNWA and the State Engineer intend to do with this project.

The State Engineer's practice has been to utilize 3M Plans and adaptive management in the approval of other water right applications. (14 App. 2965-68.) For instance, to facilitate large-scale water development for important mining projects, the State Engineer often requires applicants to comply with adaptive management requirements. (1 App. 126.) The State Engineer applied his historic experience and knowledge with 3M Plans to his review of the 3M Plan for this project.

The State Engineer's review of the 3M Plan was evenhanded. Despite competing evidence, the State Engineer found that adaptive management and the 3M Plan could not protect certain existing rights. For example, the State Engineer denied four SNWA applications because he found they would have impacted existing rights near Cleve Creek based on the evidence provided by protestant Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-Day Saints, Utah ("CPB"). (1 App. 163-65.)

4. Ongoing Monitoring.

Effective adaptive management requires thorough monitoring. The State Engineer relied on extensive evidence that the monitoring plan for the project will

be effective when he approved the 3M Plan. SNWA has spent over $10,000,000 to develop a monitoring network throughout Spring Valley, Delamar Valley, Dry Lake Valley, and Cave Valley. (1 App. 130; 2 App. 328-30, 495-96; 18 App. 3772.) The network consists of, among other things, numerous monitoring and testing wells that are spread out across the pumping area. (1 App. 130; 2 App. 328, 496; 14 App. 2939, 2942, 2955.) Most of the monitoring wells in Spring Valley are clustered near sites where water will be pumped in order to detect changes in water level quickly. (1 App. 130; 14 App. 2939.) The placement of the DDC wells is intended to assess the relationship between the DDC valleys and adjacent basins. (2 App. 328; 14 App. 2955.)

SNWA will be collecting data such as water-level measurements, surface water measurements, precipitation measurements, and water chemistry. (1 App. 129; 14 App. 2937-47, 2953-2961.) Tracking water levels allows scientists to understand actual pumping impacts and develop better pumping regimes. (1 App. 130; 14 App. 2948, 2959.) SNWA's expert testified that the location of the monitoring wells was appropriate and that the results of monitoring can help determine how much water to pump, where to pump, and when to pump. (1 App. 129-31; 2 App. 328, 495-97; 19 App. 4004-5.)

Here are a few illustrative examples of the types of monitoring that will occur under the 3M Plan in Spring Valley:

- The 3M Plan will monitor drawdowns at Unnamed Spring #7 and #8, South Bastian Spring, South Bastian Spring 2, and Layton Spring. (1 App. 162.) Monitoring at these sites will help determine the aquifer characteristics and determine whether they are even connected to a larger groundwater basin. (*Id.*)
- The 3M Plan will monitor four valley floor areas where SNWA's initial analysis predicted possible impacts – Swamp Cedar North, Unnamed #5 Spring, Four Wheel Drive Spring, and South Millick Spring. (1 App. 209; 18 App. 3794; 20 App. 4500–21 App. 4502.) The status of species such as the northern leopard frog, birds, and bats will be monitored and unreasonable adverse effects will be mitigated if they occur. (*Id.*) The 3M Plan provides for mitigation through irrigation with surface water and fencing out animals that might graze on swamp cedars. (*Id.*)
- The 3M Plan will monitor the Shoshone Ponds site to determine whether there are any unreasonable effects on the Pahrump pool fish, the relict dace (a kind of fish), and the leopard frog. (1 App. 209; 21 App. 4504.)
- The 3M Plan will monitor the aquatic and wetland communities that are most sensitive to change, even though the wet meadows and

grasslands are sustained by irrigation and surface water runoff and are unlikely to be affected by a lowering in the groundwater levels. (1 App. 211; 17 App. 3582, 3584.) The 3M Plan will monitor swamp cedars and, if adverse impacts occur, they will be mitigated by regulation of grazing or using irrigation. (1 App. 212; 21 App. 4503.)

- The 3M Plan will monitor local springs in southern Cave Valley and regional springs in White River Valley. (2 App. 329; 14 App. 2955.)
- The 3M Plan will monitor water elevation in several wells near Dry Lake Valley and Pahranagat Valley and water samples will be verify the State Engineer's conclusion regarding their sources. (2 App. 496-97; 19 App. 4042.)

The State Engineer ordered SNWA to monitor all the sites that were included in the Federal Stipulation, and also ordered the installation of wells and monitoring equipment at Cleveland Ranch, Turnley Spring, Shoshone Ponds, and the "Interbasin Monitoring Zone" ("Zone"), which surrounds the area where Spring Valley, Hamlin Valley, and Snake Valley come together. (1 App. 134-39.) SNWA will also conduct a study to determine whether pumping has an effect on surface water. (1 App. 129.) Surface springs will be monitored throughout Spring Valley and the DDC Valleys. (1 App. 130-31; 2 App. 329-30.)

SNWA will even be monitoring sites where the State Engineer found no adverse impact will occur. For example, the State Engineer concluded that certain of the wells at Cleveland Ranch are either deep enough that they can accommodate a significant lowering of the water level, or that the wells were completed at shallow depths and can be deepened if the water level drops. *See* NRS 534.100(4) (existing water rights "must allow for a reasonable lowering of the static water level at the appropriator's point of diversion"). The State Engineer concluded that there will consequently be no impact on those rights. (1 App. 157.) These wells still will be monitored.

SNWA presented voluminous evidence regarding monitoring in 3M Plans across the United States, and the effectiveness of the monitoring network in the 3M Plan for this project. (14 App. 2965-68.) The protestants' expert attempted to discredit the efficacy of SNWA's monitoring system. He acknowledged, however, that his analysis did not replicate the conditions in Spring Valley. (1 App. 133; 26 App. 5767-69.) He also relied on a hypothetical concept where the monitoring well was located far from the pump site (up to 48 miles). (*Id.*) He contended that his hypothetical monitoring site (which was nothing like the actual monitoring program) would not identify problems in time to mitigate them. (*Id.*) The State Engineer rejected this testimony after weighing it against contrary expert testimony from SNWA's that indicated the closer proximity of actual monitoring wells to

pumping sites will allow for quicker detection and reaction to any indication of potential adverse impacts. (*Id.*)

5. Effective Management and Mitigation

SNWA has already collected data in Spring Valley and the DDC Valleys for four years, and has provided that data to the State Engineer. (9 App. 2074–11 App. 2703.) The State Engineer found that this data "will provide scientifically sound baseline information from which changes to the system and potential impacts can be diagnosed, assessed, and, if necessary, mitigated." (1 App. 134; 2 App. 332.)

The State Engineer relied in part on the testimony of the protestants' own witnesses when determining that implementation of the 3M Plan would avoid interference with existing rights and unreasonable environmental impacts:

> The [3M Plan] provides flexibility for future modifications to the monitoring plan based on new information and technologies and future management considerations. In addition, the monitoring methodology instituted by the [3M Plan] provides an adaptive management framework, in other words, instituting the steps of setting goals and priorities, developing monitoring and conservation strategies, taking needed action, measuring results, and refining the plan. Protestants' expert Dr. Patten emphasized that monitoring is a critical element of adaptive management, which can result in the successful management of systems if resource managers adhere to the steps of researching, learning, testing ideas, adapting, reconsidering conceptual ideas, and trying again. A central component of the [3M Plan], adaptive management calls for continual evaluation of the [3M Plan] and its success, and it provides for alteration of the [3M Plan] as necessary to achieve environmental soundness-related goals.
>
> Protestants assert adaptive management plans are not learn-as-you-go plans, and criticize [SNWA's] [3M Plan] on this ground. However, Dr. Patten testified that learning, and adapting to what

> scientists learn through monitoring, is an important part of understanding the ecological function of systems and managing those systems. Dr. Patten further testified that monitoring programs can achieve ecological sustainability of spring areas through appropriate water management. Protestants' witness, Dr. Robert Harrington, Director of the Inyo County Water Department, acknowledged that the adaptive management process is one he employs in the Owens Valley, and that adaptive management has had success there.
>
> The State Engineer finds the adaptive management approach incorporated in the [3M Plan] is an accepted scientific approach that is appropriate and advisable for managing a long-term Project such as this one. The State Engineer finds that adaptive management is a critical component in ensuring water development occurs in a manner that is environmentally sound.

(1 App. 204-05.)

The State Engineer identified multiple ways to mitigate any problems that arise from pumping, including grazing management, irrigation, water substitution, deepening wells, drilling new wells, monetary compensation, changing the location and amount of pumping, replacement of water by SNWA, and termination of pumping. (1 App. 141, 213-16; 4 App. 861, 915.) After considering testimony from GBWN's expert and SNWA's expert, the State Engineer concluded as follows:

> [SNWA] has presented a comprehensive monitoring, management and mitigation plan. The State Engineer finds that the monitoring network is scientifically sound and designed in such a manner to provide monitoring coverage, from a basin-wide scale to a site-specific scale, from groundwater to surface water, and from the valley floor to the mountain block. The State Engineer finds that the data collection efforts of [SNWA] demonstrate a commitment to sustainable development of the resource. The State Engineer finds

> that mitigation options, together with the required Mitigation Plan and stage development, will ensure the development of the Applications in a sustainable manner that will avoid conflicts with existing rights. While the State Engineer is not a party to the Applicant's Stipulation with the Federal Agencies, the State Engineer finds that it provides a forum through which critical information can be collected from hydrological experts, and used to assure development of the Applications will not conflict with existing water rights or with protectable interests in existing domestic wells. The State Engineer finds that mitigation measures listed in the Management Plan will be effective, and that [SNWA] is required to perform any mitigation activities that may be necessary to avoid conflicts with existing rights.

(1 App. 142-43.)

6. Triggers

The State Engineer relied on the protestants' own witnesses when he found it is premature to set "triggers" for mitigation until pumping occurs:

> The [3M Plan] lays out a process for developing triggers for action in the event an unreasonable adverse impact to a resource is anticipated. The process includes the identification of conservation targets and their key ecological attributes and indicators and the development of adequate baseline data. The BWG agreed to collect at a minimum seven years of baseline data prior to groundwater development in Spring Valley. The BWG has already collected two years of data. The BWG is fully engaged in the process of data development.
>
> Protestants argue that [3M Plan] provides inadequate assurances of the Project's environmental soundness because it has not yet identified the specific quantifiable standards that will be used to provide early warning to impacts in the ecosystem. However, under the [3M Plan], the BWG is working to develop suitable conservation targets and parameters that in concert with hydrologic monitoring will provide early warning of impacts to the ecosystem. Factors such as natural variation in the environmental resources must be understood before any standards or triggers are set.

> Selecting specific standards before a full baseline is developed would be premature. It would not lead to sound scientific decisions. Indeed, Protestants' expert Cliff Landers stated, "[Y]ou really have to have baseline data in order to be able to make intelligent decisions." Dr. Robert Harrington agreed the collection of baseline data prior to groundwater withdrawal makes the Project far better positioned to ensure water development occurs in a sustainable manner than was the case in the Owens Valley.
>
> The State Engineer finds that the [3M Plan] establishes a sound process for developing triggers and decisional thresholds to be employed in the adaptive management plan for the Project. Furthermore, it is premature to set management triggers and decisions thresholds until additional years of data have been collected and natural variation and other factors are thoroughly understood. The State Engineer finds that failure to set triggers or thresholds at this time does not invalidate the [3M Plan] or undercut the development of an effective adaptive management plan; to the contrary, it demonstrates [SNWA's] determination to proceed in a scientifically informed, environmentally sound manner.

(1 App. 205-06.)

E. Perennial Yield Calculation for the DDC Valleys

The State Engineer calculated the perennial yield for the DDC Valleys (Dry Lake, Delamar, and Cave Valleys) the same way he did for Spring Valley – by preparing a groundwater budget. (2 App. 286-87.) Spring Valley is almost completely separate from other groundwater basins. (2 App. 288.) But the DDC Valleys are not completely separate, so the State Engineer evaluated the groundwater budget differently. (*Id.*)

The DDC Valleys are part of the "White River Flow System" ("WRFS"), which includes ten other groundwater basins. (*Id.*) The phrase "White River Flow

System" can be somewhat misleading to the layperson because it sounds like a place to go white-water rafting. Indeed, the protestants urged the State Engineer to treat the entire WRFS as though it were a flowing river under the "one river" theory. But in reality, the flow among the underground basins in the WRFS is extremely slow and does not resemble a river at all. (7 App. 1624-26; 14 App. 2978-84.) The water in the WRFS moves through rock and other materials of various permeability and is often impeded by the geological structure. (14 App. 2982-84; 15 App. 3026-27.) It is not free-flowing like river water. River water flow is measured in miles per day, but groundwater movement is measured in feet per day. (14 App. 2982-84; 15 App. 3026-27; 7 App. 1626.)

The State Engineer recognized this when he rejected the one river theory and stated that "comparing a groundwater flow system to a river is flawed by ignoring the time frames and geological uncertainties involved." (2 App. 289.) No State Engineer has ever managed Nevada's groundwater using a one river theory. (*Id.*) Rather, the State Engineer has always maintained that in systems like the WRFS, "up-gradient use will not, if at all, measurably affect down-gradient supply for hundreds of years." (*Id.*) Thus, the State Engineer uses a basin-by-basin approach because "that there [is] groundwater available for appropriation in each basin, and the amount available is related to the annual supply of the basin, i.e., the perennial yield." (*Id.*)

The State Engineer consulted a groundwater flow model that SNWA submitted to the BLM for an Environmental Impact Statement ("EIS") analysis. The model helped determine the effect that pumping in the DDC Valleys would have on the WRFS' discharge. (2 App. 289; 8 App. 1983.) The WRFS discharges at three main locations: Regional springs in White River and Pahranagat Valley, and the Muddy River Springs Area. (*Id.*) The model showed that "after 200 years of pumping, the regional warm springs in the White River Valley, Pahranagat Valley, and the Muddy River Springs Area are virtually unaffected. The State Engineer [found] that if no measurable impacts to existing rights occur within hundreds of years, then the statutory requirement of not conflicting with existing rights is satisfied." (*Id.*; 14 App. 2985-88.) The modeling results showed that the groundwater basins are not connected enough to treat as one river.

After properly rejecting the protestants' "one river" theory, the State Engineer calculated the perennial yield for the entire WRFS by relying on United States Geological Survey ("USGS") reports, expert testimony and expert reports, and computer-based analyses. (2 App. 291.) The perennial yield for the entire WRFS had to be calculated because many of the basins have no ET and independent analyses of the groundwater budgets for those basins are not feasible. (*Id.*) The State Engineer therefore developed a groundwater budget for the entire WRFS and allocated perennial yields to the appropriate basins. (*Id.*) The USGS

had previously estimated the perennial yield of each basin in this manner. (2 App. 290-91.)

For the few WRFS basins that have ET, the State Engineer calculated ET using many of the same techniques he used for Spring Valley. He relied on SNWA's expert testimony regarding data that SNWA obtained from its state-of-the-art system for measuring vegetation. (2 App. 292.) He also relied on the model SNWA prepared for the EIS. (*Id.*) Protestants' expert witnesses did not disagree with SNWA's ET calculations, and they were consistent with USGS reports. (2 App. 292, 299; 24 App. 5328; 7 App. 1676.)

The State Engineer then calculated the total recharge for WRFS using a mathematical groundwater balance formula, and subtracted precipitation. (2 App. 312-13.) The total recharge was then allocated among the WRFS basins using a computer program and the results were compared to earlier studies. (2 App. 313-15; 482-85; 3 App. 646-48.) The recharge number was adjusted based on the particular basin's ET and interbasin flows. (2 App. 317-21, 486-89; 3 App. 650-53.)

- Delamar Valley perennial yield. The State Engineer concluded that groundwater flows from Dry Lake Valley into Delamar Valley and that water originating in Dry Lake Valley had already been included in the perennial yield for Dry Lake Valley. (3 App. 653.) Thus,

groundwater originating in Dry Lake Valley was not included in the perennial yield. The State Engineer concluded, based on expert testimony and analyses provided by SNWA, that flows out of Delamar Valley did not support Flag or Butterfield Springs or any other existing rights. The State Engineer thus concluded that the perennial yield for Delamar Valley is 6,100 acre-feet annually. (*Id.*)

- Dry Lake Valley perennial yield. The State Engineer concluded that there would be no impacts to existing down-gradient rights for hundreds of years, and that the perennial yield for Dry Lake Valley was equal to the estimated recharge of 15,000 acre-feet annually. (2 App. 489-90.)
- Cave Valley perennial yield. Some of the water that is discharged from Cave Valley flows to two small springs – Flag and Butterfield Springs – where it is then used by existing rights holders. SNWA argued that only 3,800 acre-feet of the basin total of 12,900 acre-feet discharges as flows at the two springs. (2 App. 320-21.) The State Engineer disagreed and found that 7,300 acre-feet discharges as flow at the springs. To fully protect Flag and Butterfield Springs, the State Engineer reduced the 12,900 acre feet available in Cave Valley by

7,300 acre feet, thereby reducing the perennial yield in Cave Valley to 5,600 acre-feet annually. (*Id.*)

The State Engineer's calculations of perennial yield were based on numerous studies and reports, as well as the testimony of several expert witnesses called by both SNWA and the protestants.

ARGUMENT

I.

THE STATE ENGINEER'S CALCULATION OF THE AMOUNT OF WATER AVAILABLE TO SNWA FROM SPRING VALLEY WAS SUPPORTED BY SUBSTANTIAL EVIDENCE

The district court turned well-settled principles of Nevada water law on their head when it imposed brand new rules requiring the State Engineer to determine a firm timeline for the basin to return to equilibrium once pumping began, and by requiring an appropriator to capture all of the ET.

A. Standard of Review

The State Engineer's calculation of the amount of water available to SNWA was largely a question of fact. The standard of review is the same in this Court as it was in the trial court. *See Pyramid Lake Paiute Tribe of Indians v. Ricci*, 126 Nev. Adv. Op. 48, 245 P.3d 1145, 1147-48 (2010). "The decision of the State Engineer is prima facie correct, and the burden of proof is on the party attacking the decision." *Id.* (citing NRS 533.450(9)). This Court's "review is limited to 'a determination of whether substantial evidence in the record supports the State

Engineer's decision.'" (*Id.*) (quoting *Office of State Eng'r v. Morris*, 107 Nev. 699, 701, 819 P.2d 203, 205 (1991)).

"Substantial evidence is that which a reasonable mind might accept as adequate to support a conclusion." (*Id.* (internal quotation marks omitted) (quoting *Bacher v. State Eng'r*, 122 Nev. 1110, 1121, 146 P.3d 793, 800 (2006)).) The court "will not pass upon the credibility of the witnesses nor weigh the evidence . . . ." *Morris*, 107 Nev. at 701, 819 P.2d at 205; *City of N. Las Vegas v. Pub. Serv. Comm'n*, 83 Nev. 278, 281, 429 P.2d 66, 68 (1967). And "just because there was conflicting evidence does not compel interference with the [State Engineer's] decision so long as the decision was supported by substantial evidence." *Clark County Liquor & Gaming Licensing Bd. v. Simon & Tucker, Inc.*, 106 Nev. 96, 98, 787 P.2d 782, 783 (1990) (citing *O'Donnell v. Buhl*, 266 P.2d 668, 669 (Idaho 1954)) .

The complicated scientific and technical disputes that the State Engineer resolved highlight the fundamental reasons why courts defer to agency determinations. Those reasons have been fleshed out to a significant degree by the federal courts, which use the same "substantial evidence" standard as this Court. *See Consolo v. Fed. Mar. Comm'n*, 383 U.S. 607, 619-20 (1966) ("We have defined 'substantial evidence' as 'such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'").

The substantial evidence standard "frees the reviewing courts of the time consuming and difficult task of weighing the evidence, it gives proper respect to the expertise of the administrative tribunal and it helps promote uniform application" of the law. (*Id.* at 620.) Courts should be at their "'most deferential' when reviewing scientific judgments and technical analyses within the agency's expertise." *Lands Council v. McNair*, 629 F.3d 1070, 1074 (9th Cir. 2010) (citing *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983)); *see also Envtl. Def. Fund, Inc. v. Costle*, 578 F.2d 337, 339 (D.C. Cir. 1978) ("Where administrative judgment plays a key role, as is unquestionably the case here, this court must proceed with particular caution, avoiding all temptation to direct the agency in a choice between rational alternatives."). The same extreme deference is appropriate "where an agency is 'making predictions, within its area of special expertise, at the frontiers of science . . . as opposed to simple findings of fact . . . .'" *See Petal Gas Storage, L.L.C. v. F.E.R.C.*, 496 F.3d 695, 702 (D.C. Cir. 2007) (quoting *Balt. Gas & Elec.*, 462 U.S. at 103); *see also Costle*, 578 F.2d at 339 (noting difficult task in determining "whether the agency has exceeded the bounds of its permissible discretion, in an area characterized by scientific and technological uncertainty").

A reviewing court is "not to 'act as a panel of scientists, instructing the agency, choosing among scientific studies, and ordering the agency to explain

every possible scientific uncertainty.'" *Northern Plains Resource v. Surface Transp. Bd.*, 668 F.3d 1067 at 1074 (9th Cir. 2011) (quoting *Lands Council v. McNair*, 537 F.3d 981, 988 (9th Cir. 2008)). "Where expert witnesses dispute a factual issue the resolution of which implicates substantial agency expertise, [the court's] role is only to verify that the agency has relied upon sufficient expert evidence to establish a rational connection between the facts and the choice made." *See Petal Gas*, 496 F.3d at 702 (internal quotation marks omitted) (quoting *Wis. Valley Improvement Co. v. FERC*, 236 F.3d 738, 746-47 (D.C. Cir. 2001)).

The Nevada Legislature implicitly incorporated these ideas into NRS 533.024(1)(c), which only requires the State Engineer to use the "best available science in rendering decisions concerning the available surface and underground sources of water in Nevada." Thus, the Legislature has codified the common sense notion that the State Engineer's duty does not require him to go beyond the limits of human knowledge. As the Nevada Legislature has done for the State Engineer, the United States "Congress places a premium upon agency expertise, and, for the sake of uniformity, it is usually better to minimize the opportunity for reviewing courts to substitute their discretion for that of the agency." *Consolo*, 383 U.S. at 621.

B. The District Court Admitted that the State Engineer's Calculation of Perennial Yield Was Supported by Substantial Evidence

The district court agreed that for Spring Valley, the "State Engineer relied on substantial evidence, produced from numerous sources, when determining the amount of water available for the Spring Valley appropriation granted to SNWA." (1 App. 9.) That was correct. The State Engineer considered the testimony of multiple witnesses and documentary evidence. The State Engineer has always used the perennial yield to determine the amount of water available for appropriation. And this Court has approved of this approach. In *Ricci*, the Court upheld the State Engineer's ruling determining that "[o]f the 2,100 afa perennial yield, 672 afa had already been committed to permanent, permitted use. The remaining 1,428 afa was *unappropriated water available for permanent use*." *See Ricci*, 245 P.3d at 1149.

Thus, the district court's conclusion that the State Engineer relied on substantial evidence would have been the end of the inquiry if the district court had applied the appropriate standard.

C. Nothing in Nevada Law Requires SNWA to Show when a Basin Will Reach a New Equilibrium or that all Evapotranspiration Can Be Captured

Instead of accepting that the State Engineer's ruling was supported by substantial evidence, the district court substituted its judgment, reweighed the evidence and then grafted new requirements onto the perennial yield calculation. The court required the State Engineer to determine exactly when the groundwater

would reach 100% equilibrium and required SNWA to show that it could capture all of the ET.

1. The State Engineer's Tried and True Method Has Been the Way Appropriation Applications Have Been Processed for Decades

Neither of these judgments have ever been required in Nevada. For more than fifty years, the State Engineer has applied the methodology described above. The statute itself, and this Court's opinions, clearly allow up to 100% of the available unappropriated water to be developed. *See* NRS 533.370(2) (permitting appropriation of all "unappropriated water"); *Ricci*, 245 P.3d at 1149 (noting that all perennial yield above the water appropriated for existing use was "available for permanent use"). Every groundwater appropriation in Nevada has required some period of time during which the transient storage was depleted. (7 App. 1513.) But the State Engineer has never required that any appropriator, no matter how large or small the appropriation, determine precisely when the basin will return to equilibrium. And no authority has ever held that the State Engineer is required to determine when a basin will return to equilibrium.

The district court also erroneously concluded that the State Engineer's own standard requires salvage of all ET and erroneously stated that SNWA's expert "certified that uncaptured E.T. would have to be deducted from the perennial yield." (1 App. 12; 19 App. 4208; 20 App. 4311, 4348.) SNWA's expert never conceded that uncaptured ET must be deducted from the perennial yield. The

standards cited by the district court are: (1) "Perennial yield is ultimately limited to the maximum amount of natural discharge that can be salvaged for beneficial use," and (2) that perennial yield is an "assumption that water lost to natural E.T. can be captured by wells and placed to beneficial use." (1 App. 12.) Neither of these statements even hints that all ET must be captured. The first statement merely reiterates that the perennial yield is *capped* at the maximum amount of discharge that can be salvaged. And the second statement just acknowledges that ET that would otherwise be lost can instead be diverted for beneficial use by appropriators.

ET is merely a proxy, or a metric, for determining perennial yield. ET is not a means to develop water. In other words, the purpose of calculating ET is to determine *how much water is available*, not to determine how water must be captured. ET is the maximum amount of water available, not the minimum.

This is critical because the determination of perennial yield works in tandem with the other sections of NRS 533.370 to ensure that existing rights, the public interest and the environment are protected. The Nevada legislature has tasked the State Engineer with ensuring that no appropriations conflict with existing rights or "threaten[] to prove detrimental to the public interest," and that interbasin transfers are "environmentally sound as it relates to the basin from which the water is exported." *See* NRS 533.370(2); NRS 533.370(3)(c). The statutes require independent evaluation of those criteria, regardless of the calculation of perennial

yield. The proper protection of existing rights and the environment are afforded through the application of these latter provisions, not the criteria related to whether unappropriated water exists.

The State Engineer's unappropriated water decision was properly based solely on the groundwater balance method and a deduction for the quantity of existing water rights. If there is water available, the unappropriated water criterion is satisfied. Since impacts to existing rights and the environment are considered under separate statutory criteria, the unappropriated water consideration should not be used, as the district court directed, to analyze harm to existing rights or the environment. The district court's rule leads to an absurd result: unappropriated water exists, no conflicts exist with existing rights, and the development is environmentally sound, but the project still cannot be developed.

2. The District Court Improperly Reweighed the Evidence

The district court improperly focused solely on its view, unsupported by the record, that equilibrium would never be reached and then improperly substituted its judgment for the State Engineer's. The district court was troubled by the lack of certainty in the data because SNWA's best data showed that the basin would only be about 84% of the way toward equilibrium after 200 years. But SNWA's models showed a clear trend toward equilibrium and that there would consequently be no groundwater mining. (14 App. 2988A-C.) The State Engineer is "compelled to exercise [his] judgment in the face of scientific uncertainty unless that uncertainty

is *so profound* that it precludes any reasoned judgment." *Miami-Dade County v. EPA*, 529 F.3d 1049, 1065 (11th Cir. 2008) (emphasis added). The State Engineer can "apply his expertise to draw conclusions from suspected, but not completely substantiated, relationships between facts, from trends among facts, from theoretical projections from imperfect data, from probative preliminary data not yet certifiable as 'fact,' and the like." *See Upper Blackstone Water Pollution Abatement Dist. v. United States EPA*, 690 F.3d 9, 24 (1st Cir. 2012) (quoting *Ethyl Corp. v. EPA*, 541 F.2d 1, 28 (D.C. Cir. 1976)).

An agency is allowed to rely on models to help fill gaps in data. *See Natural Res. Def. Council v. E.P.A.*, 529 F.3d 1077, 1085 (D.C. Cir. 2008). "Any model is an abstraction from and simplification of the real world. Nevertheless, administrative agencies have undoubted power to use predictive models." *Small Refiner Lead Phase-Down Task Force v. U.S.E.P.A.*, 705 F.2d 506, 535 (D.C. Cir. 1983) (citing *Sierra Club v. Costle*, 657 F.2d 298, 332-35 (D.C. Cir. 1981)). Courts "look for evidence that the agency is conscious of the limits of the model." (*See id.*) And courts "generally defer to an agency's decision to proceed on the basis of imperfect scientific information, rather than to invest the resources to conduct the perfect study." *Natural Res. Def. Council*, 529 F.3d at 1086 (quoting *Sierra Club v. EPA*, 167 F.3d 658, 662 (D.C. Cir. 1999)); *see also Native Village of Elim v. State*, 990 P.2d 1, 8 (Alaska 1999) (holding that, particularly when there

is "substantial scientific uncertainty," "[c]ourts are singularly ill-equipped to make natural resource management decisions" and that they should "not substitute [their] judgment for that of the" entity tasked with making decisions based on existing science).

The State Engineer repeatedly acknowledged that hydrological science is inherently uncertain and that he was aware of the limits of the models presented by SNWA and the protestants. (1 App. 185, 187.) The State Engineer is not hamstrung by the lack of precise science. The State Engineer's candid recognition that science is uncertain is a virtue, not a flaw. *See Small Refiner Lead Phase-Down Task Force*, 705 F.2d at 535 (agency acts properly when it recognizes the limits of a model). In the exercise of his scientific and professional judgment, the State Engineer is capable of making informed predictions, including predictions about when equilibrium will be reached.

The model that the State Engineer relied upon reflects the best scientific evidence and the district court should not have acted as a scientist instructing the State Engineer to choosing among scientific studies and "explain every possible scientific uncertainty." *Northern Plains*, 668 F.3d at 1074 (quoting *Lands Council v. McNair*, 537 F.3d 981, 988 (9th Cir. 2008)). The district court improperly substituted its ad hoc bright line test for the State Engineer's decision. The State Engineer's decision was based on modeling evidence showing that the Spring

Valley basin will trend toward equilibrium over time, which a reasonable mind could have considered adequate to support the conclusion that equilibrium would eventually be reached. That determination is entitled to deference.

3. The District Court Gave SNWA and the State Engineer an Impossible Task

The district court's ruling recognized that "[o]bviously, any water-well [sic] cannot capture all the E.T. . . . ." (1 App. 18.) The State Engineer similarly noted that it is just as unrealistic for multiple water users to be able to collectively capture all of the ET. (1 App. 114.) If the district court is right that all ET must be captured, it would be impossible for any source of groundwater to be fully developed. But the Nevada Legislature and this Court have authorized development of groundwater sources up to the amount of the perennial yield and have declared that the preeminent public policy in the state with regard to water is beneficial use. *See* NRS 533.035; *Preferred Equities Corp. v. State Eng'r*, 119 Nev. 384, 389, 75 P.3d 380, 383 (2003); *see also* NRS 533.030(1) ("Subject to existing rights, . . . *all water* may be appropriated for beneficial use . . . ." (emphasis added)). This new limitation on the full beneficial use of groundwater is contrary to that public policy and has no basis in law, reality, or science. The district court's ruling imposes an impossible burden on SNWA, which cannot possibly be what the legislature intended when it enacted NRS 355.370(2).

Ironically, the district court's requirement that all ET be captured could lead to the conclusion that *more* pumping should be done, despite the fact that the district court's opinion reflects its worry that SNWA wanted to do *too much* pumping. Accelerated pumping also runs contrary to managed succession, which the State Engineer recognized requires slow changes in water levels which lead to the healthy adaption and transition of plant communities. The district court's failed to appreciate the requirements of managed succession, the concept of transitional storage, or that equilibrium in a large basin like Spring Valley takes a very long time.

4. If the State Engineer Had Required a Date Certain for Equilibrium and Proof of Total ET Capture, That Would Have Been Arbitrary and Capricious

If the State Engineer had suddenly flip-flopped from his decades-old technique and applied the method that the district court is now requiring, the State Engineer would have had to explain why he was departing from the tried and true method of calculating ET that he and his predecessors had consistently used. *Atchison, Topeka & Santa Fe Rwy. Co. v. Wichita Bd. of Trade*, 412 U.S. 800, 808 (1973) (plurality opinion) (noting that an agency has a "duty to explain its departure from prior norms"). In other words, if the State Engineer had done in the first instance what the district court has now required him to do, the State Engineer's actions would have been arbitrary and capricious because he had no reason to alter his normal method of evaluating appropriation applications. When

an agency changes its normal course of action, it must explain that a change is being made and "that there are good reasons for the new policy." *See F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009).

"[L]aw does not permit an agency to grant to one person the right to do that which it denies to another similarly situated. There may not be a rule for Monday, and another for Tuesday, a rule for general application, but denied outright in a specific case." *Frozen Food Express, Inc. v. United States*, 535 F.2d 877, 880 (5th Cir. 1976) (quoting *Mary Carter Paint Co. v. FTC*, 333 F.2d 654, 660 (5th Cir. 1964)). "[U]nder some circumstances and agency's shifting of the policy goalpost (e.g., the evidentiary requirements for a particular statutory or regulatory standard) may lead [a court] to conclude that the agency has acted arbitrarily or capriciously." *Qwest Corp. v. F.C.C.*, 689 F.3d 1214, 1228 (10th Cir. 2012). The district court faults the State Engineer for doing what he could not do in the first place and provides no reason backed by legitimate science why the State Engineer erred in doing what his office has always done. The district court's ruling was therefore arbitrary and capricious and should be reversed.

D. The Very Existence of NRS 335.3705 Shows that the District Court Was Wrong

The district court's analysis was distorted because it assumed that SNWA would be pumping the full amount of the award from day one, despite the fact that it upheld the staged development under NRS 335.3705. That statute expressly

permits the State Engineer to "limit the initial use of water to a quantity that is less than the total amount approved for the application." This is yet another reason that the district court's ruling should be reversed.

More interesting, however, is how NRS 335.3705 helps illuminate the meaning of the other water statutes. Several of the protestants argued below that NRS 533.3705 did not apply in this case. And one of the protestants, the Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-Day Saints, on Behalf of Cleveland Ranch, has filed a petition with this Court for limited writ review of whether NRS 533.3705 applies. It is strange why the protestants would make this argument, and so forcefully. One would assume the protestants would advance the argument that NRS 533.3705 *does* apply and that the State Engineer should exercise his discretion to approve smaller amounts of water.

One way to explain this curious strategy is that the protestants' argument on this point, dovetailed with their argument that SNWA is required to do the impossible and capture all ET (which they, in turn, claim will kill all of the plants and animals that they are concerned with saving), is just part of their agenda to oppose the SNWA project in every possible way. Their only goal is to put SNWA into an impossible position no matter the consistency of their arguments.

But perhaps the protestants' objection to the application of NRS 533.3705 make sense for another reason. The statute eviscerates their arguments. If NRS 533.3705 permits stepped up appropriation over time, it cannot possibly be the legislature's intent that before approving any application, the State Engineer must establish with absolute certainty that the full amount of pumping after a phase-in period will result in equilibrium over time. Rather, NRS 533.3705 can only be understood to recognize that monitoring, management, and mitigation plans are a vital part of the statutory framework by which the State Engineer administers Nevada's water pursuant to his express grant of authority by the Nevada Legislature. *Cf.* NRS 533.353 (permitting counties to be part of monitoring, management, and mitigation plans for applications filed after January 1, 2012). The only reason for authorizing water development to be stepped-up over time is to evaluate impacts at each stage and avoid or mitigate unwanted consequences. The Legislature has prescribed caution and measured development, not roadblocks.

II.

THE STATE ENGINEER'S DECISION THAT THE MONITORING, MANAGEMENT, AND MITIGATION PLAN WOULD BE EFFECTIVE IN AVOIDING ANY CONFLICTS OR ENVIRONMENTAL EFFECTS IN SPRING VALLEY WAS SUPPORTED BY SUBSTANTIAL EVIDENCE

The State Engineer relied on substantial evidence to determine the SNWA applications will not conflict with existing water rights and will be environmentally sound. These findings are buttressed by the phased-in development of pumping

over decades, and the 3M Plan adds yet another layer of protection. The 3M Plan allows the State Engineer to (1) evaluate the effects of pumping; (2) improve the groundwater model; (3) receive the assistance of scientists to set site-specific and unique triggers for when mitigation should be implemented; and (4) order specific mitigation methods if unreasonable adverse effects occur. With the support of expert testimony submitted by protestants and SNWA, the State Engineer specifically found that the 3M Plan will be effective, and that triggers for mitigation action can be effectively incorporated into the 3M Plan in the future.

The District Court substituted its judgment for the State Engineer and found that triggers must be established now. The district court based its judgment on its belief that "if there is insubstantial evidence and it is premature to set triggers and thresholds, it is premature to grant water rights." The district court's substitution of judgment was improper and demonstrates a lack of understanding of the complexity and variability of natural system and the uncertainty of projecting environmental responses to conditions affecting aquifers and biological resources. The State Engineer, on the other hand, has the knowledge and experience to apply adaptive management principles and the State Engineer properly determined that sufficient information exists to approve the applications. The State Engineer relied on voluminous reports and expert testimony that were introduced during six weeks of hearings before he approved the 3M Plan. (1 App. 112; 2 App. 259.) The State

Engineer's decision was also supported by evidence of baseline data, collaborative governmental oversight, adaptive management, ongoing monitoring and retained enforcement powers that will ensure objective triggers will be set in the future to properly protect existing water rights and the environment.

A. The State Engineer Is Not Required to Set Triggers Before Authorizing Pumping

The district court's holding that the State Engineer must identify triggers to determine when mitigation would be implemented *before* approving appropriation applications is another new requirement that the court created. The district court erred because no statute requires triggers to be set before an appropriation application is approved and because the 3M Plan, in conjunction with the phased-in development, adequately protects existing rights and the environment.

1. The State Engineer Has Broad Discretion to Impose Appropriate Conditions on Permits that Make Sense for a Particular Project

"The Nevada State Engineer has the inherent authority to condition his approval of an application to appropriate based on his statutory authority to deny applications if they impair existing water rights." *United States v. Alpine Land & Reservoir Co.*, 919 F. Supp. 1470, 1479 (D. Nev. 1996); *see also* NRS 534.110(5) (authorizing the State Engineer to set forth conditions of approval of an application to ensure that "the rights of holders of existing appropriations can be satisfied").

Accordingly, the State Engineer's authority to place conditions on the approval (*i.e.* a 3M Plan) arises out of his ultimate authority to deny an application.

In addition to his inherent power, the Nevada Legislature authorized the State Engineer to manage the state's water to ensure that the resource is being developed consistent with the Nevada statutes. The State Engineer is authorized to adopt monitoring, management, and mitigation plans. *See* NRS 534.110(5); 533.353;[1] *see also Pyramid Lake Paiute Tribe of Indians v. Washoe County*, 112 Nev. 743, 747, 918 P.2d 697, 699 (1996) (one factor that defines "public interest" under NRS 533.370(2) is that "[w]ithin an area that has been designated, the State Engineer may monitor and regulate the water supply"). The State Engineer may include express conditions in any groundwater permit to protect existing water rights. NRS 534.110(5). Even if there is no formal adaptive management plan, the State Engineer may "[r]equire periodical statements of water elevations, water used, and acreage on which water was used from all holders of permits and claimants of vested rights." NRS 534.110(2)(a). He has the express authority to order that withdrawals from a basin "be restricted to conform to priority rights." NRS 534.110(6).

[1] Section 533.353 requires the State Engineer to consider the views of a county from which water is being diverted when formulating a monitoring, management, and mitigation plan. That statute only applies to applications filed on or after January 1, 2012, but it reflects the State Engineer's existing authority to implement monitoring, management, and mitigation plans by placing conditions on a permit.

No statute requires a plan to take any particular form. And not one of these statutes, or any other statute, requires the State Engineer to establish "objective standards" for determining when mitigation will go into effect before issuing a permit. The district court created this requirement, along with the other new requirements that it imposed on the State Engineer, out of thin air.

The district court decision is also in conflict with another decision from the same judicial district in a case that is presently under review in this Court. *Eureka County v. State Engineer,* Case No. 61324. There, a Seventh Judicial District Court Judge ruled that the State Engineer *did not* need to establish triggers in a 3M Plan that was required for the approval of water rights for a mining project. In that case, the district court described that 3M Plan as requiring the subsequent "establishment of quantitative thresholds or 'action criteria' which, if triggered, serve as early warnings of potential impacts to existing rights. These thresholds will be set at appropriate levels to provide advance warning of potential impacts to existing water rights that might result from KVR's pumping." (26 App. 5954.) The court relied on NRS 534.110(5) and held that, "[a]lthough [the appellants] would require the State Engineer to include express measures for mitigating existing water rights, NRS 534.110(5) requires only that the State Engineer include express conditions to ensure that existing water rights are satisfied. The 3M Plan is an express condition to monitor the effects of KVR's pumping, to detect and

identify potential impacts, and to prevent them from adversely affecting existing water rights through management and mitigation measures recommended by the advisory committees and ordered by the State Engineer." (26 App. 5954-55.) Accordingly, the district court found "the 3M Plan contains appropriate standards to protect existing water rights" and it concluded "the State Engineer's approval of the 3M Plan is reasonable, within his area of expertise, and supported by substantial evidence in the record." (26 App. 5955.) For these same reasons, the 3M Plan under review is this case should have been approved by the district court.

Under the district court's rationale that triggers are needed now, the Nevada Legislature's own statutory scheme would be arbitrary and capricious. For example, NRS 534.250(2)(e), which governs a project to recharge water to aquifers or store water underground, requires the State Engineer to determine that the project "will not cause harm to users of land or other water within the area of hydrologic effect of the project." That language is similar to the requirement that the State Engineer find that SNWA's use will not "conflict[] with existing rights." *See* NRS 533.370(2).

But the Nevada Legislature has not required that any triggers be established before a recharge project is approved. Rather, the required monitoring is far less comprehensive than the 3M Plan. For example, NRS 534.250(5) states that the "State Engineer shall require the holder of a [recharge] permit to monitor the

operation of the project and the effect of the project on users of land and other water within the area of hydrologic effect of the project. In determining any monitoring requirements, the State Engineer shall cooperate with all government entities which regulate or monitor, or both, the quality of the water." And NRS 534.250(6) provides that "[t]he State Engineer, on his or her initiative or at the request of the holder of the permit, may modify the conditions of the permit *if monitoring demonstrates that modifications are necessary*. In determining whether modifications are necessary, the State Engineer shall consider uses of land or water which were not in existence when the permit was issued." (Emphasis added.) Like the 3M Plan, NRS 534.820(1) requires the operator of a recharge project to file annual reports describing the operation of the project and other information that the State Engineer requires. And the State Engineer is authorized to review a recharge project to determine whether the permit holder is complying with the terms and conditions of the permit and the public interest is "properly guarded." NRS 534.320.

These statutes conspicuously refer only to "monitoring," and leave it to the State Engineer to determine how to "properly guard[]" the public interest. If the State Engineer need only modify the conditions of a permit "if monitoring demonstrates that modifications are necessary," then objective standards for

determining when mitigation is necessary need not be established at the time the permit is approved.

Under the district court's rationale, however, this statutory scheme would be considered arbitrary and capricious because the recharge statutes would not be enough to prevent harm in the absence of triggers for mitigation. But the legislature recognized that triggers can be set after a water permit is granted, and provided the State Engineer with discretion to set those action levels based on his expertise. In this case, not only is the State Engineer monitoring the project and cooperating with all government entities that regulate water and the environment, he has already identified mitigation measures and will be working with scientists to develop triggers at the proper time. The 3M Plan goes beyond the requirements of the recharge statutes, and likewise satisfies the appropriation statutes.

2. Triggers Should and Will Be Set After Pumping Begins

As a matter of law, there is no conflict between the State Engineer's decision that he has sufficient information to determine that SNWA's applications should be approved and the State Engineer's decision to defer setting triggers until the future. The best evidence available indicates impacts from the project can be managed to avoid conflicts with existing rights and can be environmentally sound. While the State Engineer found that unique, site-specific, data is insufficient to prudently set triggers now, substantial evidence exists that such pumping can occur, and triggers can be set, without irreversible impacts from pumping. Based on that evidence, the

State Engineer specifically found that the "failure to set triggers or thresholds at this time does not invalidate the [3M Plan] or undercut the development of an effective adaptive management plan." (1 App. 205-06.)

The State Engineer explained exactly why triggers should not be set now and the district court should have deferred to the State Engineer:

> Protestants GBWN and CPB assert that the absence of quantitative standards or triggers in [SNWA's] Plan will limit its effectiveness. In order to set quantitative standards, well locations and other variables, such as pumping timing and duration, must be known. Stress placed on the system through pumping also helps determine these standards because it shows how the aquifer responds to pumping. Additionally, the natural variability in the system must be documented to ensure that any observed changes are due to pumping, rather than natural fluctuations due to seasonal recharge or other factors. The high volume of pumping activity prior to adoption of the monitoring and management plan allowed quantitative standards to be set in monitoring plans for the Owens Valley project. The same situation is not present in Spring Valley. Further, because [SNWA's] proposed pumping will not begin for many years, there is ample time for studies to be conducted to determine a baseline as well as quantitative thresholds. Dr. Harrington [protestants' expert witness] agreed that the collection of baseline data prior to groundwater withdrawal makes the Project far better positioned than the Owens Valley project to ensure water development occurs in a sustainable manner. The proper place to address pumping management concerns is in an operation plan for pumping management.
>
> The State Engineer finds that it is premature to attempt to set quantitative standards for mitigation actions in the Management Plan at this time.

(1 App. 140-41.)

Setting triggers later makes sense for environmental purposes too. Based on SNWA's expert testimony, the State Engineer concluded that there will be a gradual transition in plant life over time to healthy ecosystems that survive on precipitation rather than groundwater. (1 App. 210-11.) To determine how to manage this succession and mitigate any unreasonable effects, an analysis of the increase in the distance from the surface to groundwater (the "depth to water") is needed. (1 App. 210-12.) But "there is no one-to-one relationship between [depth to water] and plant function." (1 App. 210.) "This means that impacts to plant function cannot be predicted based solely on projected water table declines." (*Id.*) Other factors such as precipitation (which is obviously variable) and irrigation also have an impact on the location and type of vegetation. (*See id.*)

Thus, there is no dispute that triggers will be set for this project in the future. (1 App. 140-41; 8 App. 1983-84; 17 App. 3546; 18 App. 3838.) But pumping should occur to establish the empirical relationships between existing water levels, plant function and pumping. And pumping must be of a sufficient volume to stress the system in order to obtain meaningful data. The expert testimony of protestant Great Basin Water Network ("GBWN") acknowledged that pumping stress data is necessary for the model to be calibrated so that SNWA's groundwater model can predict local-scale impacts from pumping. (1 App. 140; 24 App. 5485-86.) To that end, the State Engineer required SNWA to pump between 85% and 100% of

the 38,000 acre-feet annually that is authorized for the first eight years. (1 App. 239.) The same percentage is required in stage two. (1 App. 240.)

The State Engineer followed the proper order of events. First, he relied on the best available evidence to determine the project can be developed without conflicting with existing rights, and in an environmentally sound manner. Then he required development in a staged fashion to further refine the data regarding impacts from pumping. Pumping will define the unique relationship between each pumping stress and existing water levels. A trigger can then be set. Triggers must be site specific. One cannot utilize a single definition of an adverse effect, and therefore a single value as a trigger for management action and/or mitigation. What is deemed an adverse effect at one site might not be at another site. The reason for this stems from the fact that the basins are large and conditions (geologic, hydrologic and biologic) are not only highly diverse over space, but also highly variable over time. Before one assesses if an observed change is "abnormal," one must have a good understanding of what "normal" conditions are at the site. Normal conditions are not represented by a single value, but are defined by a range of values representing the state of the system at the site in response to pre-existing stressors. If a trigger is set before pumping occurs, the trigger could underestimate the impact that pumping has on the water level, and an inappropriate trigger might

result. In contrast, waiting until there is more data to support the trigger is good science and good common sense.

From a policy perspective, if the State Engineer was required to set triggers before approving SNWA's applications, water development in this state would come to a standstill. The entire point of adaptive management is to provide the flexibility that resource managers need to develop and intelligently manage natural resources. The district court's decision rejects the State Engineer's amply supported conclusions and deprives the State Engineer of the ability to use this well-accepted technique for dealing with the uncertainty inherent in natural resource science.

B. Even if the 3M Plan Didn't Exist, the State Engineer Would Still Have the Obligation to Mitigate Unreasonable Adverse Impacts

The district court was too quick to discount the State Engineer's continuing regulatory role in the SNWA project. The State Engineer has already implemented one regulatory control – phased-in pumping. After the first eight years of pumping, the State Engineer will have a significant amount of data and dramatically improved modeling. He will then decide whether approval of increased pumping is consistent with Nevada law. *See* NRS 533.3705 ("The use of an additional amount of water that is not more than the total amount approved for the application may be authorized by the State Engineer at a later date *if additional evidence demonstrates to the satisfaction of the State Engineer that the additional*

amount of water is available and may be appropriated in accordance with this chapter and chapter 534 of NRS. In making that determination, the State Engineer may establish a period during which additional studies may be conducted or additional evidence provided to support the application." (Emphasis added.)) In other words, the State Engineer will have to redetermine whether the requirements of NRS 533.370 are still met before approving additional pumping. The district court completely ignored this and focused entirely on the 3M Plan.

The State Engineer also has a duty to order mitigation independent of the 3M Plan. Under NRS 533.430, every permit approved by the State Engineer is "subject to existing rights." The State Engineer is required to administer the water statutes and prescribe regulations for their administration. NRS 533.110(1). Ordering mitigation is necessary to ensure that the water statutes are properly administered. And the State Engineer is required to designate preferred uses of water if it appears that the groundwater basin is being depleted. NRS 533.120(2). He can seek injunctive relief for the violation of a permit (including non-compliance with the 3M Plan) and may seek penalties of up to $10,000 per day for violation of the terms of a permit. NRS 534.193(1)(a); NRS 534.195(1). Thus, the State Engineer's approval of an application is never the end of the story under Nevada law. This again demonstrates that the Nevada Legislature has given the

State Engineer the flexibility to address the water needs of Nevada through adaptive management.

C. The Extinction of the Endangered Species at Devil's Hole Was Prevented with a Bright-Line Test Because Objective Data Had Been Obtained After Pumping

The district court stated that the management plan at Devil's Hole was properly considered because it has an objective "trigger." At Devil's Hole, mitigation must occur when the water level falls 2.7 feet below a copper washer that is attached to the walls of the hole. The district court's reference to the Devil's Hole washer doesn't support the district court's reasoning; it instead further demonstrates why triggers would be premature here.

The Devil's Hole washer was the subject of the United States Supreme Court's attention in *Cappaert v. United States*, 426 U.S. 128 (1976). President Truman had issued a proclamation to preserve the Devil's Hole pool and the Devil's Hole pupfish. (*Id.* at 132.) The Cappaerts were pumping water that made the water level at Devil's Hole drop to 3.93 feet below the washer. (*Id.* at 133.) When the water level in the pool was more than 3 feet below the water, a rock shelf in the pool was above water and algae would not grow on the shelf. (*Id.* at 133.) If algae could not grow on the rock shelf, the Devil's Hole pupfish's spawning area decreased and they were threatened with extinction. (*Id.* at 133-34.) *Cappaert* upheld an injunction that prohibited pumping that would lower the water level more than 3 feet below the washer. 426 U.S. at 136. The triggering

threshold has changed to 2.7 feet since the Supreme Court's decision, but the idea is the same.

As the district court recognized, the Devil's Hole area is a "small fraction of area" compared to the SNWA project. Obviously, setting standards for the SNWA project are more complex than the Devil's Hole standard by innumerable orders of magnitude. The State Engineer cannot simply place a washer somewhere and obtain any meaningful data. Moreover, in *Cappaert*, there was existing, objective data that appears to have been generated only after pumping began. If the water level was more than three feet below the washer, no algae could grow on the shelf and the pupfish would die. That data justified a prohibition on pumping that dropped the water table below a particular level**.** (26 App. 5940-41.)

Here, data can be developed if water is pumped, and the data will then be put into the models by the State Engineer. The State Engineer and the members of TRP and BWG will be able to determine appropriate triggers and tie the already-identified mitigation methods to a particular trigger. The fact that the district court used Devil's Hole to suggest the kind of standards that the State Engineer should set indicates that the court did not fully appreciate the magnitude and complexity of the SNWA project.

D. Other Courts Have Approved Plans Like the 3M Plan

In addition to the district court in *Eureka County v. State Engineer,* Case No. 61324, federal courts have also approved the use of adaptive management plans to

identify specific mitigation measures. A flexible management plan that monitors "the real effects of the development it authorizes, and adapt[s] its mitigation measures . . . in response to trends observed" is "certainly not arbitrary or capricious." *Theodore Roosevelt Conseration P'ship v. Salazar*, 616 F.3d 497, 517 (D.C. Cir. 2010); *Navickas v. Conroy*, 2013 WL 686825 (D. Or. Feb. 25, 2013) ("adaptive management can 'provide the agency with the flexibility to respond to on-the-ground circumstances when they arise'").

The State Engineer identified multiple ways to mitigate any problems that arise from pumping, including grazing management, irrigation, water substitution, deepening wells, monetary compensation, changing the location and amount of pumping, replacement of water by SNWA, and termination of pumping. SNWA is required to prepare annual reports and deliver them to the State Engineer. SNWA is required to update its models with the data that it obtains from monitoring. This is enough. The State Engineer is not required to select a water level as a "trigger" at this time. *See Salazar*, 616 F.3d at 515-17; *Friends of Endangered Species, Inc. v. Jantzen*, 760 F.2d 976, 983 (9th Cir. 1985) (holding that when agency "acknowledged methodological limitations," issuance of a permit was not arbitrary and capricious when the permit was "expressly made subject to revocation and reconsideration based upon data that might be revealed from the continued monitoring called for under the Plan").

In *Salazar*, the Bureau of Land Management created an adaptive management plan that outlined various performance goals for the Bureau to strive for, such as "maintain functional migration routes," "maintain adequate water quality," and "minimize deaths and injuries to livestock due to development." *Salazar*, 616 F.3d at 516. The monitoring and mitigation measures were "not fixed, but flexible," and mitigation would be evaluated annually. (*Id.*) The Bureau intended to modify them as appropriate after consulting with other agencies, natural gas well operators, and other interested parties. (*Id.*) The court held, as this court should in this case, that "[a]llowing adaptable mitigation measures is a responsible decision in light of the inherent uncertainty of environmental impacts." (*Id.* at 517.)

Courts have similarly rejected arguments made by parties such as the protestants that an adaptive management plan is merely a "plan to make a plan." *See Defenders of Wildlife v. Salazar*, 698 F. Supp. 2d 141, 149 (D.D.C. 2010); *Wilderness Soc'y v. U.S. Bureau of Land Mgmt.*, 822 F. Supp. 2d 933, 941-944 (D. Ariz. 2011). This Court should do the same.

E. The State Engineer Did Not "Cede" His Monitoring Responsibilities to SNWA

The district court claimed that "impliedly," the State Engineer "has ceded the monitoring responsibilities to SNWA." (1 App. 18.) That is not true. The State Engineer has the sole authority to evaluate SNWA's annual reports and has

complete control over ensuring that SNWA's project complies with Nevada law. And only the State Engineer can authorize increased pumping after the first eight years. He expressly stated that the incorporation of the 3M Plan "in the permit terms for the Applications, *and the State Engineer's continued regulatory control over pumping under the Applications*, will ensure proper monitoring and oversight of the Project and its environmental soundness as it relates to groundwater-influenced resources." (1 App. 204 (emphasis added).) He further confirmed that "the regulation of water rights is in the State Engineer's purview, and the State Engineer proactively monitors impacts to existing rights and the environment. *The State Engineer always retains the authority to monitor water rights and any impact to them* . . . ." (1 App. 206 (emphasis added).) Despite these statutory duties, however, the Nevada Legislature has not put the burden of overseeing a project entirely on the State Engineer's shoulders. It is difficult to see how the State Engineer could accomplish anything if he was not authorized to rely on data collected by others. The State Engineer has not "ceded" his responsibilities to SNWA just because SNWA will be doing much of the leg work on the ground. The State Engineer still must make ongoing determinations of whether the SNWA project meets the requirements of Nevada law based on the information gathered by SNWA and the other participants in the 3M Plan and Federal Stipulation.

III.

THE STATE ENGINEER DID NOT AWARD WATER IN THE DDC VALLEY THAT HAD ALREADY BEEN APPROPRIATED

The district court concluded that the water SNWA wanted to pump from the DDC Valleys was already appropriated because, in its view, pumping would reduce the water available to water-rights holders in basins that were down-gradient from the DDC Valleys. (1 App. 19-20.) In so doing, the district court again substituted its judgment for the State Engineer and required him to do something that no State Engineer has done before – treat adjacent groundwater basins as though they are a flowing river. (*See id.* at 19.)

A. The District Court Substituted its Judgment for the State Engineer when it Adopted the One River Theory and Ordered More Studies

The district court accepted the protestant's "one river" theory, substituting its own judgment for the State Engineer's and making a finding of fact on appeal. That was improper. *See Northern Plains* , 668 F.3d at 1074 (courts are "not to 'act as . . . scientists, instructing the agency, choosing among scientific studies'"). As support for its finding of fact, the district court quoted – completely out of context – a portion of SNWA's expert report stating that "[j]ust like water in streams, groundwater moves from areas of higher hydraulic heads to areas of lower hydraulic heads." (1 App. 19.) But the district court ignored the other portion of that report that stated, "*the belief that groundwater occurs in underground rivers*

resembling surface streams . . . is a common misperception." (7 App. 1624 (emphasis added).) The idea that water travels from higher areas to lower areas is common sense. Extrapolating that idea to conclude that underground water behaves like a river is a huge leap in logic unsupported by science or the evidence. Not only did the district court improperly reweigh the evidence and choose which pieces it liked better, it cited evidence that doesn't even support its conclusion.

The district court's decision is fundamentally at odds with the State Engineer's expertise because, although the district court remanded for recalculation, the implication of the district court's ruling is that *no* water is available from the DDC Valleys simply because water has been appropriated in separate basins that are far away. The validity of the State Engineer's long-standing practice, and the error in the district court's appellate fact-finding, was confirmed through groundwater modeling.

After adopting the "common misperception" that the WRFS should be treated as one river, the district court remanded for "additional hydrological study of" the DDC Valleys. (1 App. 2.) Yet again, the district court overstepped its bounds. NRS 533.368(1) "is the only statutory authority discussing the need for studies." *United States v. Alpine Land & Reservoir Co.*, 341 F.3d 1172, 1184 (9th Cir. 2003). "[T]he determination of whether to require a study—be it cumulative, hydrological, environmental, or any other form—is left to the sound discretion of

the State Engineer." (*Id.*) The State Engineer decided that, after considering multiple hydrological studies, SNWA's state-of-the-art technology, and expert testimony, there was no need for additional hydrological study. The district court erred by ordering more studies when the studies already showed that there was no possibility of conflict.

B. The District Court Erred By Reweighing the Evidence and Determining that there Was the Potential for a Conflict with Existing Rights

The district court held that the State Engineer's conclusion that "up-gradient use will not, if at all, measurably affect down-gradient supply for hundreds of years," somehow meant that there was a conflict with existing rights. (1 App. 20.) The district court's holding is perplexing because the plain language of the State Engineer's ruling states that he concluded, as a matter of fact, that there would be no measurable effect on down-gradient supply. Without a down-gradient effect, there is no conflict.

In any event, as noted above, SNWA presented evidence derived from a model that was developed for the BLM to prepare an EIS. (18 App. 3811.) It took 18 months for the model to be developed after intense collaboration with an independent contractor and the BLM's Hydrology Technical Group. (2 App. 339; 18 App. 3827.) Some members of the State Engineer's staff participated as observers. (*Id.*) Several experts in groundwater modeling were involved in developing the model, including Dr. Keith Halford, who works for the United

States Geological Survey and is an international authority in groundwater modeling. (*Id.*)

SNWA used a 75-year prediction to model any adverse impacts on existing rights or the environment. (2 App. 345.) The State Engineer found that this was a reasonable time frame because uncertainty increases as projections go further into the future. (*Id.*) The model predicted that only Flag Springs and Butterfield Springs would experience a reduction in spring discharge of more than 15%. (2 App. 348; 3 App. 514-15, 677.) Any potential effects on existing rights or the environment at Flag Springs and Butterfield Springs were addressed when the State Engineer set aside 7,300 acre-feet annually in Cave Valley to protect the springs. The State Engineer found that no other impacts would occur, whatsoever, on existing rights or the environment in down gradient basins. (2 App. 354; 14 App. 2986, 2988.) The district court not only substituted its judgment for the State Engineer, it was demonstrably wrong about the facts and the science. Because the State Engineer held back ample water to cover any potential impacts at Flag Springs and Butterfield Springs, the State Engineer relied on substantial evidence that there will be no conflict anywhere in the WRFS, even after hundreds of years.

The protestants attempted to use a model called the Regional Aquifer System Analysis ("RASA") to show that there would be effects on existing rights

in the down gradient basins in the WFRS. (2 App. 349.) That model was thoroughly discredited and the State Engineer was justified in giving it less weight than SNWA's model. *See Clark County Liquor & Gaming Licensing Bd. v. Simon & Tucker, Inc.*, 106 Nev. 96, 98, 787 P.2d 782, 783 (1990) ("[J]ust because there was conflicting evidence does not compel interference with the [State Engineer's] decision so long as the decision was supported by substantial evidence.") For example, SNWA's expert witness testified that the RASA model was never intended to predict drops in water levels or reduced flow in springs, and written authorities stated that the model was inadequate to predict changes in discharge after pumping. (2 App. 349-50.) The State Engineer found that the RASA model was not properly calibrated and failed to account for geological structures. (2 App. 349.) SNWA's experts testified that the RASA model was imprecise and the protestants' expert agreed. (2 App. 351.) The State Engineer consequently found that "there is no reason to use the RASA model instead of [SNWA's model] to make predictions of impacts due to pumping in Delamar, Dry Lake, and Cave Valleys. The RASA model was never intended to be used to make such predictions. It is very coarse and has many limitations, which its original authors and Dr. Meyers [protestants' expert witness] acknowledge." (*Id.*)

The State Engineer found that SNWA's model was "the best scientific tool he ha[d] to evaluate potential impacts due to pumping in the DDC Valleys." (2

App. 352.) That tool informed the State Engineer that there would be no impacts in the DDC valleys or elsewhere in the WRFS. The district court should be reversed because it second-guessed this conclusion and relied on the protestant's evidence after the State Engineer had properly discounted the weight of that evidence.

C. The District Court Improperly Imposed a Beyond-All-Doubt Burden of Proof on SNWA

Perhaps the district court's ruling means that if there is any *potential* impact on existing rights, no matter how far in the future or how improbable, an application must be denied. This is either another substitution of the district court's judgment for the State Engineer's or the application of an incorrect burden of proof. "Agency adjudication should use the standard of proof set out in the agency's governing statutes." *See Nassiri v. Chiropractic Physicians' Board*, __ P.3d __, __, 2014 WL 1325754, at *3 (Nev. Apr. 3, 2014). "On appeal, the reviewing court should then determine whether substantial evidence supports the agency's factual determinations." (*Id.*)

Nevada's water statutes do not establish a burden of proof. So the burden was preponderance of the evidence. *See Nassiri*, 2014 WL 1325754, at *3 (holding that in the absence of a specific statute, preponderance standard applies). Under the preponderance of the evidence standard, the fact finder need only

determine whether the existence of a contested fact is more probable than not. (*Id.* at *4.)

The contested fact[2] here was whether SNWA's pumping would "conflict[] with existing rights." The State Engineer concluded that SNWA's 75-year model showed that it was more probable than not that there would be no impact on down-stream basins. That conclusion was supported by substantial evidence. The district court's ruling, however, would require the State Engineer to find that there was no possible way whatsoever that the pumping would have an impact on existing rights before that ruling could be found to be supported by substantial evidence. The district court effectively placed a beyond-all-doubt burden of proof on SNWA. No adjudicative system requires proof beyond all doubt that a fact is true. Even criminal trials only require proof beyond reasonable doubt. The district court's standard is impossible to meet, like the district court's other requirements. That standard is also not the law.

[2] The State Engineer's determination that SNWA's pumping would not "conflict[] with existing rights" was either a question of fact, or a mixed question of fact and law. When a finder of fact must consider a legal definition "in context with the factual circumstances," it is resolving a mixed question of fact and law. *See Garman v. State, Employment Sec. Dept.*, 102 Nev. 563, 565, 729 P.2d 1335, 1336 (1986). In any event, whether the State Engineer was resolving a question of fact or a mixed question of fact and law, the State Engineer's determination regarding conflicts was subject to the "substantial evidence" review in an appellate court. (*See id.*)

The district court also failed to recognize that NRS 533.370(2) only requires that the State Engineer determine that there will be no conflict with "*existing* rights." The district court has required the State Engineer to predict hundreds of years into the future. That is not what the statute requires. A decision today based on the hypothetical situation hundreds of years from now has no grounding in the statute. The district court erred by requiring the State Engineer to have a perfectly calibrated crystal ball. The State Engineer is only required to rely on the best available science, which he did. NRS 533.024(1)(c).

D. The "Paper Rights" the District Court Refers to Were Pending Applications Which Were Later Denied

The district court claimed that the State Engineer "tacitly acknowledge[d] the double appropriation of the same water," because counsel referred to rights in Coyote Springs (which is down-gradient from the DDC Valleys) as "paper water rights" in a hearing before the district court. (1 App. 19.) The district court said that it presumed that those rights were valid, and "[i]f the rights were invalid, there would be no over appropriation." (*Id.*) The "paper water rights" that counsel referred to were pending applications for appropriation of water. In separate proceedings, those applications were later denied and the "paper water rights" are invalid. (26 App. 5880, 5909.) So under the district court's own theory, there was no overappropriation.

E. The District Court Did Not Defer to the State Engineer Despite its Lip Service to the Contrary

Although the district court recited the proper standards, it did not apply them properly. The district court made this quite clear when it stated that "it is also unseemly to this court, that one transitory individual may simply defer serious water problems and conflict to later generations, whether in seventy-five (75) years or 'hundreds,' especially when the 'hundreds' of years is only a *hoped* for resolution." (1 App. 20.) The Nevada Legislature has designated the State Engineer as the steward of water in Nevada. The district court's apparent disagreement with the Legislature's decision does not somehow make the State Engineer an illegitimate public authority. And, in any event, the State Engineer decided that there would be no impact on existing rights within 75 years or 200 years based on the evidence presented at the hearing. The State Engineer is not "hoping" that there will be no impact on existing rights – the evidence demonstrated that there would be no impact. The district court improperly usurped the State Engineer's authority and put itself in the State Engineer's shoes.

IV.

THE DISTRICT COURT SUBSTITUTED ITS JUDGMENT FOR THE STATE ENGINEER'S BY CALLING THE STATE ENGINEER'S RULINGS "ARBITRARY AND CAPRICIOUS"

Although all of the parties agree that the standard of review is "substantial evidence," the district court often concluded that the State Engineer's rulings were

"arbitrary and capricious." Under the arbitrary and capricious standard, the Court determines whether there were full and fair administrative proceedings, whether all interested parties had a "full opportunity to be heard," whether the State Engineer has "clearly resolve[d] all the crucial issues presented," and whether the State Engineer has "prepare[d] findings in sufficient detail to permit judicial review." *See Revert v. Ray*, 95 Nev. 782, 787, 603 P.2d 262, 264-65 (1979).

There can be no real dispute that hearings lasting six weeks were full and fair. After this Court's ruling in *Great Basin Water Network v. Taylor*, 126 Nev. Adv. Op. 20, 234 P.3d 912 (2010), the State Engineer re-noticed SNWA's applications and reopened the protest period. All protestants were offered a full opportunity to be heard at the six-week hearing. The State Engineer resolved all of the issues presented (albeit not to the protestants' liking) and issued a 218-page ruling for Spring Valley, a 162-page ruling for Delamar Valley, a 164-page ruling for Dry Lake, and a 170-page ruling for Cave Valley. The State Engineer did not act arbitrarily or capriciously. Rather, the district court, faced with the fact that the State Engineer's ruling was based on substantial evidence, added requirements to Nevada law and said that the State Engineer acted arbitrarily and capriciously by not following these new, unknown requirements. This was the mechanism by which the district court substituted its judgment for the State Engineer's. Whether the standard is substantial evidence or arbitrary and capricious, however, the

district court is not permitted to substitute its judgment for the State Engineer's decision. *See Revert*, 95 Nev. at 786, 603 P.2d at 264.

CONCLUSION

For the foregoing reasons, this Court should vacate the district court's December 13, 2013 decision and affirm State Engineer Rulings 6164, 6165, 6166, and 6167.

DATED this 29th day of May 2014.

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CERTIFICATE OF COMPLIANCE

I hereby certify that this brief complies with the formatting requirements of NRAP 32(a)(4), the typeface requirements of NRAP 32(a)(5) and the type style requirements of NRAP 32(a)(6) because this brief has been prepared in a proportionally spaced typeface using Microsoft Word 2010 with 14 point, double-spaced Times New Roman font.

I hereby certify that I have read this appellate brief, and to the best of my knowledge, information, and belief, it is not frivolous or interposed for any improper purpose. I further certify that this brief complies with all applicable Nevada Rules of Appellate Procedure, in particular NRAP 28(e), which requires every assertion in the brief regarding matters in the record to be supported by a reference to the page of the transcript or appendix where the matter relied on is to be found. I understand that I may be subject to sanctions in the event that the accompanying brief is not in conformity with the requirements of the Nevada

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I HEREBY CERTIFY that on May 29, 2014, I served a copy of the foregoing PETITION FOR WRIT OF MANDAMUS OR, IN THE ALTERNATIVE, PROHIBITION by mailing a true and correct copy thereof, postage prepaid, at Las Vegas, Nevada, addressed as follows:

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