

**IN THE OFFICE OF THE STATE ENGINEER  
OF THE STATE OF NEVADA**

IN THE MATTER OF APPLICATIONS 53987 )  
 THROUGH 53992, INCLUSIVE, AND 54003 )  
 THROUGH 54021, INCLUSIVE, FILED TO )  
 APPROPRIATE THE UNDERGROUND )  
 WATERS OF SPRING VALLEY, CAVE )  
 VALLEY, DELAMAR VALLEY AND DRY )  
 LAKE VALLEY HYDROGRAPHIC BASINS )  
 (180, 181, 182 AND 184), LINCOLN COUNTY )  
 AND WHITE PINE COUNTY, NEVADA. )

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**PROPOSED RULING SUBMITTED BY CORPORATION OF THE  
PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY  
SAINTS ON BEHALF OF THE CLEVELAND RANCH**

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## **GENERAL**

### **I. DESCRIPTION OF APPLICATIONS**

The Applications are accurately described in Ruling 6164. That portion of Ruling 6164 is incorporated by reference here.

Ruling 6164 denied four of the Applications<sup>1</sup> and that part of Ruling 6164 was not appealed. Those four applications are not at issue here.

### **II PROCEDURAL HISTORY**

The procedural history of these Applications is described in Ruling 6164 up to the point of that Ruling. That procedural history is incorporated here. In April 2012, some of the Protestants filed petitions for Judicial Review of Ruling 6164. On October 10, 2013, the District Court reversed and remanded Ruling 6164 (hereafter “Remand Decision”).

### **III. LIST OF PROTESTANTS**

Ruling 6164 accurately identifies who the Protestants are and which Applications they protested. That portion of Ruling 6164 is incorporated by reference here.

### **IV. WITHDRAWN PROTESTS**

Ruling 6164 identifies the protests that were withdrawn. That portion of Ruling 6164 is incorporated by reference here.

### **V. PARTICIPATING PROTESTANTS**

The Protestants who actively participated in the remand hearing, either through offering witness testimony or engaging in cross examination, were the Great Basin Water Network, White Pine County and their related individual and corporate counterparts (the “GBWN”), Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-day Saints, on behalf of the Cleveland Ranch (“CPB” or the “Cleveland Ranch”), Millard and Juab Counties, Utah (the “Utah Counties”), and the Confederated Tribes of the Goshute Reservation, Duckwater Shoshone Tribe, and Ely Shoshone Tribe (collectively, the “Tribes”). In addition to 72 written public comments being filed in the office of the State Engineer from September 11 through October 23, 2017, the State Engineer made accommodations for the public to comment during the remand hearing on the afternoon of September 29, 2017, at which time further public comment was received.

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<sup>1</sup> Applications 54016, 54017, 54018 and 54021.

## **VI. SUMMARY OF GROUNDS FOR PROTEST**

Ruling 6164 describes the grounds on which Protestants based their protests. That portion of Ruling 6164 is incorporated here by reference. The Protestants did not file new protests on remand. On remand, the grounds for protest were limited to those that were relevant to the Remand Decision.

## **VII. PRE-HEARING ORDERS**

On November 28, 2016, the State Engineer issued a Notice of Hearing and Interim Order (the "Interim Order"). The Interim Order required the parties to serve on each other and the State Engineer an exhibit list, a witness list, a reasonably detailed summary of the testimony of each witness, and copies of any documentary evidence they intend to introduce into the hearing record by June 30, 2017. The Interim Order also required that if a party intends for a witness to provide expert testimony, the evidentiary exchange must include a written report prepared and signed by the witness. The Interim Order required expert reports to contain a complete statement of all opinions expressed and the basis and reasons for those opinions, the data or other information considered by the witness in forming the opinion, any exhibits to be used as a summary of or in support of the opinions and a statement of qualifications of the witness.

The Interim Order also required the parties to serve on each other and the State Engineer, by August 11, 2017, an additional exhibit list, witness list, witness testimony summaries, and documentary evidence intended to be introduced as rebuttal to the other parties' first evidentiary exchange.

On September 13, 2017, the State Engineer issued an Interim Order on Motions in Limine (the "Order on Motions in Limine") resolving four motions in limine that were filed before the administrative hearing.

On August 28, 2017, the CPB filed two motions in limine. The first sought to exclude testimony and evidence relating to theoretical ET capture wells, such as SNWA Exhibit No. 475, as the evidence pertained to wells or well fields not described in the Applicant's pending applications. The CPB argued that the well field is not relevant under NAC § 533.260(1) and consideration of such theoretical points of diversion deprives it of its due process rights. The CPB also argued that evidence on this proposed well field violated prior rulings in these proceedings which confirmed that the State Engineer would not consider anything but the specific pending applications.

The Applicant opposed the motion, claiming that the District Court cited a groundwater model scenario created during the U.S. Bureau of Land Management Environmental Impact Statement (“EIS”) process, thereby making the testimony relevant because the EIS pumping scenario simulated the pumping of theoretical ET capture wells.

The State Engineer denied the CPB’s motion in limine and indicated he would determine what weight, if any, to give the evidence at the appropriate time.

The CPB’s second motion sought to exclude the testimony of SNWA witness Don A. Barnett, including his curriculum vitae (SNWA Exhibit No. 608) and his Declaration (SNWA Exhibit No. 609) for failure to adhere to the State Engineer’s Interim Order. The Applicant opposed the motion, arguing that Mr. Barnett was named as a rebuttal witness to address issues raised in the Myers’ Report and the Aquaveo Report. The State Engineer found that the resume of Mr. Barnett (SNWA Exhibit No. 608) lacked specificity as to what area of expertise he might be qualified as an expert, but denied the motion insofar as it sought to exclude the resume. The State Engineer also found that Mr. Barnett’s declaration (SNWA Exhibit No. 609) did not comport with the requirements of the Interim Order, and therefore excluded Exhibit No. 609. Further, the State Engineer concluded that Mr. Barnett could testify as a factual witness, but would not be allowed to offer expert opinions.

The Applicant filed two motions in limine as well. The first sought to exclude nearly all of the Aquaveo Report (Exhibit CPB No. 19) and related testimony from Drs. Jones and Mayo, claiming that specific portions of the Aquaveo Report were outside of the scope of the remand order. The Applicant requested exclusion of evidence or testimony relating to: (1) water budgets, sustainability, safe yield and the State Engineer’s prior calculation of the perennial yield of Spring Valley, (2) whether ET Capture is required under Nevada law; and (3) alleged impacts that the Applicant’s pumping might have on the Cleveland Ranch.

The CPB opposed the motion, arguing that the Remand Decision repudiated the idea that a water budget analysis alone can succeed without taking into account ET capture, that the Remand Decision recognized that if withdrawals exceed the ET capture over a long period of time, the result is permanent damage to the aquifer by groundwater mining; and that the Aquaveo Report demonstrates that, without capturing the ET in the northern part of Spring Valley, the water table in the southern part will be permanently and irretrievably lowered, thereby damaging the Cleveland Ranch’s existing water rights.

The State Engineer denied the Applicant's motion in limine and indicated he would determine what weight, if any, to give the evidence at the appropriate time. The State Engineer found that he was required by the Remand Decision to recalculate the water available for appropriation from Spring Valley assuring that the basin will reach equilibrium between discharge and recharge in a reasonable time. The State Engineer found that the CPB believes the discussion as to time to reach equilibrium requires discussion of various concepts found within the Aquaveo Report. Further, the State Engineer was unable to determine the specific provisions of the Aquaveo Report that the Applicant asserts failed to comply with the Interim Order.

The Applicant's second motion in limine sought to exclude GBWN Exhibit Nos. 281, 282, 290, and 292 and related testimony, based in large part on the Applicant's contention that the exhibits address issues that are outside of the specific issues on remand.

The GBWN opposed the motion on the grounds that the hearing rules do not provide for pre-hearing exclusionary motions, as well as arguing that the evidence the Applicant sought to exclude was relevant and was within the remand instructions of the Remand Decision as it relates to hydrology, modeling, drawdown, and impacts of the sought after appropriations, as well as the potential ineffectiveness of the 3M Plan.

The State Engineer denied the Applicant's second motion in limine in its entirety and indicated he would determine what weight, if any, to give the evidence at the appropriate time.

#### **VIII. STATUTORY STANDARD TO GRANT**

The statutory standards for granting applications to appropriate groundwater from a basin are set forth in section VIII of Ruling 6164 and are incorporated by reference here.

#### **IX. STATUTORY STANDARD TO DENY**

The statutory standards for denying applications to appropriate groundwater from a basin are set forth in section IX of Ruling 6164 and are incorporated by reference here.

#### **X. STATUTORY STANDARD FOR INTERBASIN TRANSFERS**

The statutory standards for an interbasin transfer of groundwater are set forth in section X of Ruling 6164 and are incorporated by reference here..

#### **XI. GUIDING PRINCIPLES IN THE APPLICATION OF NEVADA WATER LAW TO THIS DECISION**

The Remand Decision defines the issues which must be addressed in this Ruling and provides the legal framework within which those issues must be resolved.

**A. The Duty to Preserve Natural Resources**

The Remand Decision quoted the Nevada Supreme Court opinion in *Lawrence v. Clark County*, 127 Nev. 390, 254 P.2d 606 (2011), for the proposition that the State Engineer is required to “oversee an environmentally sound stewardship of the water.”

“If the current law governing the water Engineer does not clearly direct the Engineer to continuously consider in the course of his work the public’s interest in Nevada’s natural water resources, the law is deficient. It is then appropriate, if not our constitutional duty, to expressly reaffirm the Engineer’s continuing responsibility as a public trustee to allocate and supervise water rights so that the appropriations do not substantially impair the public interest in the lands and waters remaining. [The public trust] is an affirmation of the duty of the state to protect the people’s common heritage of streams, lakes, marshlands, and tidelands, surrendering that right of protection only in rare cases when the abandonment of that right is consistent with the purposes of the trust. Our dwindling natural resources deserve no less.”<sup>2</sup>

**B. Water Available for Appropriation**

The Remand Decision accepted the State Engineer’s calculation of water available for appropriation as being supported by substantial evidence including deductions made by the State Engineer.

The Engineer began his calculation of the Spring Valley appropriation with the ‘estimated average groundwater evapotranspiration (E.T.),’ at 84,100 afa. Thus, the perennial yield of Spring Valley is 84,000 afa. ROA 000214. Existing water rights are 18,873 afa and ‘an additional 4,000 afa is reserved for future growth and development for a total of 22,873 afa of water committed to the basin. Subtracting 22,873 afa from the perennial yield of 84,000 afa leaves 61,127 afa available for appropriation.’ ROA 000215.<sup>3</sup>

**C. Perennial Yield**

The Remand Decision noted that “for many years” the State Engineer has used the same definition of perennial yield:

“The perennial yield of a groundwater reservoir may be defined as the maximum amount of groundwater that can be salvaged each year over the long term without depleting the groundwater reservoir. Perennial yield is ultimately limited to the maximum

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<sup>2</sup> Remand Decision, p.9 quoting *Lawrence v. Clark County*, 127 Nev. 390, 397, 254 P.2d 606, 611 (2011).

<sup>3</sup> Remand Decision, pp. 9-10. As noted in subsection 4 following, the amount available for appropriation must be reduced by the amount of uncaptured ET

amount of natural discharge that can be salvaged for beneficial use. The perennial yield cannot be more than the natural recharge to a groundwater basin and in some cases is less.”<sup>4</sup>

Building on this definition, the District Court explained that the definition of perennial yield is tied to the longstanding prohibition in Nevada law against groundwater mining:

If more water comes out of a reservoir than goes into the reservoir, equilibrium can never be reached. This is known as water mining and “[w]hile there is no statute that specifically prevents groundwater mining, the policy of the Engineer for over one hundred (100) years has been to disallow groundwater mining.” This policy remains today.<sup>5</sup>

The Remand Decision then explains the link between perennial yield, groundwater mining, and equilibrium:

The Engineer defines groundwater mining as pumping exceeding the perennial yield over time such that the system never reaches equilibrium. ROA 56. Natural discharge in Spring Valley is almost exclusively E.T. ROA 000057. E.T. occurs by plants and phreatophytes discharging the groundwater from the basin through use. In Spring Valley, this is the water sought for beneficial use. Of course, to do so, the phreatophytes must be completely eliminated. Engineer Ans. Brief, p.53-54.<sup>6</sup>

The Remand Decision concludes this discussion by observing:

Obviously, any water-well cannot capture all of the E.T., and while pumping and E.T. are both occurring, the water table drops. A reasonable lowering of the water table and death of most of the phreatophytes is a trade-off for a beneficial use of the water.<sup>7</sup>

The Remand Decision acknowledged that the Applicant and the State Engineer argued for different interpretations of the law on groundwater mining, perennial yield and ET capture, but it rejected those contentions. The Applicant argued that “[t]he whole question of groundwater mining and E.T. capture and timed equilibrium are not part of the water law and they are not necessary.”<sup>8</sup> The State Engineer likewise argued that “[i]t is unclear where

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<sup>4</sup> Remand Decision, p. 10.

<sup>5</sup> Remand Decision, p. 10.

<sup>6</sup> Remand Decision, p. 10.

<sup>7</sup> Remand Decision, p. 10.

<sup>8</sup> Remand Decision, p. 11 quoting SNWA Ans. Brief, Vol. 1, p.69.



[Cleveland Ranch] got the impression that groundwater development in Nevada is required to be an E.T. salvage project, which is certainly not contained in statutory law.”<sup>9</sup>

The Remand Decision then explains:

Perhaps Cleveland Ranch and the other Protestants “got the impression” from the Engineer’s definition: “Perennial yield is ultimately limited to the maximum amount of natural discharge that can be salvaged for beneficial use.” ROA 000056. Moreover, in the Engineer’s Ruling 5726 he defined perennial yield as an “assumption that water lost to natural E.T. can be captured by wells and placed to beneficial use.” The Nevada Supreme Court stated, “[t]he perennial yield of a hydrological basin is the equilibrium amount or maximum amount of water that can safely be used without depleting the source.” *Pyramid Lake Paiute Tribe of Indians v Ricci*, 126 Nev. Adv. Op. 48; 245 P.3d 1146, 1147 (2010).<sup>10</sup>

**D. The Required Reduction of Available Water**

The District Court remanded for an award to the Applicant of less than the calculated ET of Spring Valley, with the requirement that, whatever amount is awarded, the evidence must show some prospect that the basin will reach equilibrium within a reasonable amount of time:

This Court finds that the Engineer’s own calculations and findings show that equilibrium, with SNWA’s present award, will never be reached and that after two hundred (200) years, SNWA will likely capture but eighty-four (84%) of the E.T. Further, this court finds that losing 9,780 afa from the basin, over and above E.T after 200 years is unfair to following generations of Nevadans, and is not in the public interest. In violating the Engineer’s own standards, the award of 61,127 afa is arbitrary and capricious.

This finding by the court requires that this matter be remanded to the State Engineer for an award less than the calculated E.T. for Spring Valley, Nevada, and that the amended award has some prospect of reaching equilibrium in the reservoir.<sup>11</sup>

The Remand Decision also noted that “SNWA’s expert certified that uncaptured E.T. would have to be deducted from the perennial yield. ROA 34928. This, the Engineer did not do.”<sup>12</sup>

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<sup>9</sup> Remand Decision, p. 12, quoting State Engineer Ans. Brief, pp. 53-54.

<sup>10</sup> Remand Decision, pp. 11-12.

<sup>11</sup> Remand Decision, pp. 12-13.

<sup>12</sup> Remand Decision, p. 12.

It appears that the District Court accepted the State Engineer's initial calculation of available water as 61,127 afa, but requires that number to be reduced by the amount of uncaptured ET. Unfortunately, the Applicant chose not to present any evidence on the amount of ET that would be captured, or uncaptured, by the 15 wells at issue. The only substantial evidence on the topic was that which was presented by the CPB.

Furthermore, the Remand Decision requires that the State Engineer ensure that the amended award will reach equilibrium in a reasonable period of time. Once again, however, the Applicant failed to present any evidence that the 15 wells at issue would ever reach equilibrium. The only substantial evidence on the topic was presented by the Protestants, in particular the CPB.

**E. The Monitor, Manage, and Mitigate Plan**

The Remand Decision also addressed the Monitor, Manage and Mitigate Plan (the "3M Plan") and provided specific direction on the necessary provisions for an acceptable 3M Plan.

**1. The 3M Plan Must Have Objective Standards**

The Remand Decision explained that the 3M Plan was flawed because mitigation planning "is not part of this plan but will be handled separately when impact location and magnitude are better understood."<sup>13</sup> Another flaw is that the absence of any objective standards:

There are no objective standards to determine when mitigation will be required and implemented. The Engineer has listed what mitigation efforts can possibly be made, i.e., stop pumping, modifying pumping, change location of pumps, drill new wells, or increase or improve leopard frog populations in a different location from one that suffers an unreasonable impact. ROA 000190. Also, the Engineer has noted that if pumping has an adverse effect on swamp cedars, SNWA could mitigate, ROA 000189, but [the 3M Plan] does not cite objective standards of when mitigation is necessary.<sup>14</sup>

The Remand Decision rejected the argument made by the State Engineer and the Applicant that it would be premature to set objective triggers requiring mitigation:

[I]f SNWA, and thereby the Engineer, has enough data to make informed decisions, setting standards and 'triggers' is not premature. Curiously, the Engineer has made the finding that a failure to even make 'Mitigation' a part of the current MMM plan 'demonstrates Applicant's determination to proceed in a

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<sup>13</sup> Remand Decision, p. 15.

<sup>14</sup> Remand Decision, pp. 15-16.

scientifically informed, environmentally sound manner.’ ROA 000183. It seems that if there is enough data to make informed decisions, exactly when an unreasonable impact to either the environment or existing rights occurs, the Engineer or SNWA should recognize it and make the decision to mitigate. If there is not enough data (as shown earlier, no one really knows what will happen with large scale pumping in Spring Valley), granting the appropriation is premature. The ruling is arbitrary and capricious.<sup>15</sup>

**2. The 3M Plan Should Show How the State Engineer Will Monitor and Enforce the 3M Plan**

Another flaw identified in the Remand Decision is the absence of any provision for the 3M Plan to be monitored by the State Engineer—and the State Engineer’s assurances were not enough:

Still other flaws with the MMM Plan are evident. The Engineer stated: “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.”

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Regarding monitoring and proactive monitoring by the Engineer, there is no plan. The Federal/SNWA stipulation requires yearly reports to the Engineer, but even a cursory examination of the stipulation reveals that between SNWA, the Federal agencies and existing water right holders, the goals and motivations of each party will certainly conflict. The Engineer finds that he has jurisdiction to oversee the “environmental soundness” of the project “and will do so.” ROA 000178. Again, he has not stated how this will be accomplished. If the Engineer believes that his department will monitor the non-Federal rights and environment, he has not said how it will be done. The Engineer pointed out in *Great Basin Water Network v. State Engineer*, 126 Nev. Adv. Op. 20; 234 P.3d 912 (2010), that he is short staffed. There are 172,605 acres in Spring Valley alone. ROA 18788. Without a plan to monitor that large of an area, a statement that the Engineer will monitor the area is also arbitrary and capricious.<sup>16</sup>

The Remand Decision found that 3M Plan improperly “ceded the monitoring responsibilities to SNWA.”<sup>17</sup> And while the State Engineer said the Applicant had the ability to

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<sup>15</sup> Remand Decision, p. 16.

<sup>16</sup> Remand Decision, p. 17.

<sup>17</sup> Remand Decision, p. 18.

recognize “impacts” the 3M Plan “failed to set any standard of how impacts may be recognized,” leaving it to the Applicant.<sup>18</sup>

The District Court agreed with Protestants that the 3M Plan was arbitrary and capricious because it did not contain objective standards:

The Engineer rightly recognized his “heavy burden of ensuring” that this water project is environmentally sound. ROA 000173. A heavy burden indeed and one which is not complete. Several of the Protestants noted that the MMM plan is filled with good intentions but lacks objective standards. This Court agrees. Granting water to the SNWA is premature without knowing the impacts to existing water right holders and not having a clear standard to identify impacts, conflicts or unreasonable environmental effects so that mitigation may proceed in a timely manner.<sup>19</sup>

**F. The Remand Decision Orders**

The Remand Decision gave two directives related to Ruling 6164 that need to be addressed in this ruling:

1. A recalculation of water available for appropriation from Spring Valley assuring that the basin will reach equilibrium between discharge and recharge in a reasonable time;
2. Define standards, thresholds or triggers so that mitigation of unreasonable effects from pumping of water are neither arbitrary nor capricious in Spring Valley, Cave Valley, Dry Lake Valley and Delamar Valley ....<sup>20</sup>

**G. Additional Guidance from Eureka County v. State Engineer**

Subsequent to the issuance of Ruling 6164, the Nevada Supreme Court issued an unanimous *en banc* decision in *Eureka County v. State Engineer*, 131 Nev. Adv. Op. 84, 359 P.3d 1114 (2015). This case proclaimed some additional legal standards that must inform and govern the present ruling.

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<sup>18</sup> Remand Decision, p. 18.

<sup>19</sup> Remand Decision, pp. 17-18.

<sup>20</sup> Remand Decision, p. 23.

1. **There Must Be Substantial Evidence that a Specific Mitigation Technique Will Be Used and Will Work**

The Nevada Supreme Court explained that, if 3M plans are allowed, the applicant proposing the plan must submit substantial evidence to show that a specific mitigation technique will actually mitigate a particular problem:

The State Engineer and KVR point to KVR's experts' testimony as evidence that mitigation could occur and would be successful. But Katzer, an hydrology expert, testified only that there were "a variety of [mitigation] techniques. You could increase the well if it's being fed by a well or you could run a pipeline to it from part of the distribution system." KVR's other expert, Smith, similarly testified that if predicted water table drawdown were to occur due to KVR's pumping, "certainly there can be mitigation measures taken, many of which could include shifting[] pumping around the well field as an easy example." While KVR's experts testified as to the existence of a few possible mitigation techniques, they did not specify what techniques would work, much less techniques that could be implemented to mitigate the conflict with the existing rights in this particular case.<sup>21</sup>

2. **There Must Be Substantial Evidence that Substituted Water Can Achieve Effective Mitigation**

The Nevada Supreme Court further explained that if substitute water is to be used as a mitigation technique, the applicant must submit substantial evidence that such water is available and that this technique will be effective:

The State Engineer implies on appeal that KVR's mitigation could encompass providing substitute water to the senior rights holders by arguing that said holders are entitled only to the beneficial use of the amount of their water rights, and have no right to the historical source of their water rights. [Citation omitted]. But to the extent KVR's mitigation would involve substitute water sources—which is not reflected in the State Engineer's decision or the evidence that was presented to him—there was no evidence before the State Engineer that KVR applied for or committed certain of its already obtained water rights to mitigation or where the substituted water would otherwise come from. . . .

This is setting aside the further, specious assumption that water from a different source would be a sufficient replacement. Take, for example, the testimony given by an existing rights holder before the State Engineer that he had seen problems before with piping in water for animals because the pipes can

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<sup>21</sup> *Eureka County v. State Engineer*, 131 Nev. Adv. Op. 84, 359 P.3d 1114, 1119 (2015).

freeze and interfere with the flow in the extreme winter cold. Given these, seemingly supported, concerns over such potential problems, it is therefore unclear that substitution water, if available, would be sufficient. [Citations omitted.]

Added to this, a surface water rights holder may be found to have abandoned its right if it no longer delivers the water or maintains the source of diversion. NRS 533.060(4)(a)-(d). Requiring that existing rights holders use water other than from the source that they currently have rights in might mean the existing rights holder would need to obtain a new permit to appropriate that new water....<sup>22</sup>

**3. A Successful Application Must Be Based on Presently Known Substantial Evidence**

The Nevada Supreme Court also held in the *Eureka County* case that “substantial evidence” means presently known evidence and that applications cannot be granted based on information to be gathered in the future:

[T]he State Engineer’s decision to grant an application, which requires a determination that the proposed use or change would not conflict with existing rights, NRS 533.370(2), must be made upon presently known substantial evidence, rather than information to be determined in the future, for important reasons.

First, those who protest an application to appropriate or change existing water rights must have a full opportunity to be heard, a right that includes the ability to challenge the evidence upon which the State Engineer’s decision may be based. *Revert v. Ray*, 95 Nev. 782, 787, 603 P.2d 262, 264 (1979); *see also* NRS 533.365(5) (‘Each applicant and each protestant shall . . . provide to the State Engineer and to each protestant and each applicant information required by the State Engineer relating to the application or protest.’). [Citation omitted.] This necessarily means that the opportunity to challenge the evidence must be given *before* the State Engineer grants proposed use or change applications. . . . And allowing the State Engineer to grant applications conditioned upon development of a future 3M Plan when the resulting appropriations would otherwise conflict with existing rights, could potentially violate protestants’ rights to a full and fair hearing on the matter, a rule rooted in due process. *Revert*, 95 Nev. at 787, 603 P.2d at 264.

Furthermore, the State Engineer’s decision to grant an application must be sufficiently explained and supported to allow for judicial review. *Id.*, 603 P.2d at 265; *see also Port of Jacksonville Mar. Ad Hoc Comm., Inc. v. U.S. Coast Guard*,

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<sup>22</sup> *Eureka County v. State Engineer*, 131 Nev. Adv. Op. 84, 359 P.3d 1114, 1119 (2015).

788 F.2d 705, 708 (11<sup>th</sup> Cir. 1986) (even under deferential substantial evidence review, courts must not merely ‘rubber stamp’ agency action: they must determine that the ‘agency articulated a rational connection between the facts presented’ and the decision) (internal quotation omitted). The State Engineer thus may not defer the determination of what mitigation would encompass to a later date: even if he may grant applications where the resulting appropriations would conflict with existing rights based upon the finding that the applicant would be able to successfully mitigate that deleterious effect, an assumption we do not adopt today, the finding must be based upon evidence in the record to support that mitigation would be successful and adequate to fully protect those existing rights.<sup>23</sup>

#### **4. Summary of Eureka Principles**

1. There must be specific triggers to implement specific mitigation techniques;
2. There must be substantial evidence that the specific mitigation measure identified will work;
3. Protestants must be given an opportunity to challenge any application before the State Engineer can grant an award; and
4. An application can only be granted on the basis of presently known substantial evidence and not evidence to be developed in the future.

### **FINDINGS OF FACT**

#### **I. BENEFICIAL USE AND NEED FOR WATER**

The Applicant must demonstrate a need to put the water from the Applications to beneficial use in Southern Nevada.<sup>24</sup> Ruling 6164 made certain findings with respect to this issue. Those factual findings are incorporated here by reference. Those factual findings were not at issue in the remand hearing.

#### **II. GOOD FAITH INTENTION AND FINANCIAL ABILITY**

The Applicant must provide proof satisfactory to the State Engineer of the Applicant’s intention in good faith to construct any work necessary to apply the water to the intended beneficial use with reasonable diligence, and financial ability and reasonable expectation actually to construct the work and apply the water to the intended beneficial use with reasonable

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<sup>23</sup> *Eureka County v. State Engineer*, 131 Nev. Adv. Op. 84, 359 P.3d 1114, 1120 (2015).

<sup>24</sup> See NRS 533.030(1); NRS 533.035; NRS 533.045; NRS 533.060(1); NRS 533.070(1); NRS 533.370(3)(a).

diligence.<sup>25</sup> Ruling 6164 made certain findings with respect to this issue. Those factual findings are incorporated here by reference. Those factual findings were not at issue in the remand hearing.

### **III. THE PENDING APPLICATIONS CANNOT ACHIEVE EQUILIBRIUM**

In Ruling 6164, the State Engineer defined perennial yield and made certain findings related to perennial yield, ultimately concluding that the perennial yield of the Spring Valley Hydrographic Basin is 84,000 acre-feet. The State Engineer's findings on perennial yield in Ruling 6164 are incorporated here by reference except as modified in this Ruling.

#### **A. Definition of Perennial Yield**

Perennial yield has, for many years, been defined by the State Engineer as follows:

The perennial yield of a groundwater reservoir may be defined as the maximum amount of groundwater that can be salvaged each year over the long term without depleting the groundwater reservoir. Perennial yield is ultimately limited to the maximum amount of natural discharge that can be salvaged for beneficial use. The perennial yield cannot be more than the natural recharge to a groundwater basin and in some cases is less.<sup>26</sup>

In Ruling 6164, the State Engineer explained:

If the perennial yield is exceeded, groundwater levels will decline and steady state conditions will not be achieved, a situation commonly referred to as groundwater mining. Additionally, withdrawals of groundwater in excess of the perennial yield may contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased pumping costs, and land subsidence.<sup>27</sup>

#### **B. Requirement of ET Capture and Achieving Equilibrium**

In Ruling 5726, the State Engineer estimated the perennial yield of Spring Valley as 80,000 acre-feet.<sup>28</sup> "This estimate," the State Engineer said, "relies on the capture of groundwater ET as the limit of the perennial yield."<sup>29</sup> The very idea of perennial yield is that "water lost to natural ET can be captured by wells and placed to beneficial use."<sup>30</sup> Thus, "limiting

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<sup>25</sup> NRS 533.370(1)(c).

<sup>26</sup> State Engineer's Ruling 6164, p. 56.

<sup>27</sup> State Engineer's Ruling 6164, p. 56.

<sup>28</sup> State Engineer's Ruling 5726, p. 32.

<sup>29</sup> State Engineer's Ruling 5726, p.32.

<sup>30</sup> State Engineer's Ruling 5726, p. 27.



groundwater development to a basin's perennial yield ensures sustainable development of the groundwater resource."<sup>31</sup>

This is not a new concept. In 1940, Charles V. Theis of the USGS published a landmark paper summarizing how development of groundwater works:

Under natural conditions ... previous to development by wells, aquifers are in a state of approximate dynamic equilibrium. Discharge by wells is thus a new discharge superimposed upon a previously stable system, and it must be balanced by an increase in the recharge or the aquifer, or by a decrease in the old natural discharge, or by loss of storage in the aquifer, or by a combination of these.<sup>32</sup>

For the Spring Valley aquifer to reach a new equilibrium in response to a new discharge through pumping, there must be a corresponding decrease in natural discharge through evapotranspiration.

It takes time, however, for a basin to reach this new equilibrium. In Ruling 6164, the State Engineer rejected the Protestants argument that "the perennial yield of a basin is further limited to the amount of groundwater discharge that the proposed pumping will actually capture in a reasonable amount of time."<sup>33</sup> Ruling 6164 found that "there is no provision in Nevada water law that addresses time to capture, and no State Engineer has required that ET be captured within a specified amount of time. It will often take a long time to reach near-equilibrium in large basins and flow systems, and this is no reason to deny water right applications. The estimated time a pumping project takes to reach a new equilibrium does not affect the perennial yield of a basin."<sup>34</sup>

In its Remand Decision, the District Court agreed that "the time to reach equilibrium is not a valid reason to deny the grant of water," but then added that "it may very well be a reason to limit the appropriation below the calculated E.T."<sup>35</sup> The Remand Decision explained that "there is no valid evidence of when the SNWA will capture E.T., if ever."<sup>36</sup> The Remand Decision rejected the position taken by the State Engineer and the Applicant that ET capture is

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<sup>31</sup> State Engineer's Ruling 6164, pp. 56-57.

<sup>32</sup> Theis, C.V., 1940. The source of water derived from wells. *Civil Engineering* 10(5): 277-80.

<sup>33</sup> State Engineer's Ruling 6164, p. 90.

<sup>34</sup> State Engineer's Ruling 6164, p. 90.

<sup>35</sup> Remand Decision, p. 11.

<sup>36</sup> Remand Decision, p. 11.

not a requirement of Nevada water law, finding that this requirement is inherent in the State Engineer's definition of perennial yield and in the prohibition against groundwater mining.<sup>37</sup>

The District Court concluded:

This Court finds that the Engineer's own calculations and findings show that equilibrium, with SNWA's present award, will never be reached .... This finding by the court requires that this matter be remanded to the State Engineer for an award less than the calculated E.T. for Spring Valley, Nevada, and that the amended award has some prospect of reaching equilibrium in the reservoir.<sup>38</sup>

The District Court's conclusion that ET capture is required governs this Ruling. The District Court derived its' understanding that ET capture is required from several sources. The long-standing 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*" and is "ultimately limited to the maximum amount of *natural discharge that can be salvaged for beneficial use.*"<sup>39</sup> In Spring Valley, "natural discharge" occurs primarily through ET<sup>40</sup>

Ruling 3486 shows why this longstanding definition of perennial yield requires ET capture. In that case, the wells the applicant applied for were too remote from active ET zones to capture ET. Thus, the State Engineer held that the perennial yield had to be lowered:

The capture of groundwater evapotranspiration by pumping will probably not occur in the foreseeable future because some remaining areas of active evapotranspiration are too remote from the concentrated pumping areas. Consequently, the state engineer finds that the maximum amount of natural discharge available for capture and therefore the perennial yield does not exceed 19,000 acre-feet annually.<sup>41</sup>

At closing argument, the Applicant dismissed the significance of Ruling 3486 which demonstrates that the State Engineer has rejected applications that failed to achieve effective salvage through ET capture. Inasmuch as Ruling 3486 predated the present applications by little more than a year, the CPB argued that the Applicant clearly should have known that natural discharge salvage through ET capture was a critical analytical factor in a hydrologically closed

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<sup>37</sup> Remand Decision, pp. 11-12.

<sup>38</sup> Remand Decision, pp. 12-13.

<sup>39</sup> State Engineer's Ruling 6164, p. 56 (emphasis added).

<sup>40</sup> State Engineer's Ruling 6164, p. 57; Remand Decision p. 10.

<sup>41</sup> State Engineer's Ruling 3486, p. 3.

basin such as Spring Valley. The Applicant essentially argued that Ruling 3486 was an isolated aberration:

CPB has found only one ruling in the tens of thousands of decisions that have been made on groundwater rights in the state of Nevada, one ruling that they say means ET capture was applied in Nevada.<sup>42</sup>

That argument by the Applicant is not an accurate representation of the historical policy of the State Engineer's Office. In October of 1971, State Engineer Roland Westergard published the State of Nevada Water Planning Report.<sup>43</sup> In discussing perennial yield, the State Engineer adopted a formulation that has been repeatedly invoked by successive State Engineers in the following decades.<sup>44</sup>

Perennial yield of a ground water reservoir may be defined as the maximum amount of ground water that can be salvaged each year over the long term without depleting the ground water reservoir. Perennial yield is ultimately limited to the *maximum amount of natural discharge that can be salvaged* for beneficial use. Perennial yield cannot be more than the natural recharge to a ground water basin and in some cases is less. An example of such a condition is Pahrump Valley (162). In Pahrump the average annual recharge is estimated to be 22,000 acre feet, however, because of the difficulty in salvaging the subsurface outflow from the deep carbonate-rock reservoir, the perennial yield is only 12,000 acre feet. . . .<sup>45</sup>

The report went on to note the role of ET salvage:

System yield is defined as the maximum amount of surface and ground water that can be obtained each year from sources within a system for an indefinite period of time. System yield cannot be more than the natural inflow to or outflow from a system. Generally, estimates of system yield are based on the

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<sup>42</sup> Transcript, Vol. 10, p. 2049:5-8 (Taggart) (October 6, 2017).

<sup>43</sup> State Engineer's Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13 (Oct. 1971).

<sup>44</sup> See, e.g., State Engineer's Rulings 3372 and 3617 by State Engineer Morros; Rulings 3708 and 3733 by State Engineer Turnipseed; Rulings 5293 and 5363 by State Engineer Ricci; and Rulings 5867 and 5969 by State Engineer Taylor. These are merely illustrative examples. There are many, many other rulings to the same effect.

<sup>45</sup> State Engineer's Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13. (emphasis added). It is noteworthy that the last sentence of the quoted material represents a clear unequivocal caution about the over use of a water budget. It is obvious in the example cited that a water budget would estimate 22,000 acre feet of available water whereas the real perennial yield would only be 12,000 acre feet.

following limitations and assumptions: (1) present beneficial uses represent salvage and are therefore included; (2) most evapotranspiration discharge can be salvaged . . . .<sup>46</sup>

Of course, in Spring Valley, the only natural discharge available to be salvaged is ET. Finally, the report recognized the role of transitional storage in moving an aquifer to a new equilibrium condition:

Transitional storage reserve 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.<sup>47</sup>

And contrary to the contention made by the Applicant, these sound policies have been applied in other rulings. In Ruling 3462, State Engineer Morros addressed six applications in the Pahump basin and ruled this way:

The perennial yield of a ground water reservoir may be defined as the maximum amount of water of usable chemical quality that can be withdrawn and consumed economically each year for an indefinite period of time, and can be determined by a comparison analysis of ground water recharge (inflow) and the maximum amount of natural discharge (outflow) available for recapture. . . . Natural discharge consists of spring discharge, subsurface outflow and natural evapotranspiration by phreatophytes. . . . Ground water evapotranspiration however, is being captured more slowly by pumping than was spring discharge. As of 1976, about 2,500 acre-feet annually of ground water evapotranspiration remained of the estimated 14,000 acre-feet annually discharged under natural conditions. The capture of all ground water evapotranspiration by pumping will probably not occur in the foreseeable future because some remaining areas of active evapotranspiration are too remote from the concentrated pumping areas. . . .<sup>48</sup>

Accordingly, the State Engineer denied all six applications, noting:

Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible reversal of ground water gradients which would result in significant changes in the recharge/discharge relationship. These conditions have developed in several other ground water basins within the State of Nevada where storage

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<sup>46</sup> State Engineer's Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13.

<sup>47</sup> State Engineer's Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13.

<sup>48</sup> State Engineer's Ruling 3462, pp 2, 3.

depletion and declining water tables have been recorded and documented and provide substantial evidence of the adverse effect of these conditions.<sup>49</sup>

To the same effect was Ruling 3607, dated June 1989, just months before the present applications were filed. Once again, the State Engineer found that, although there was significant groundwater ET that was not being captured, the proposed pumping regime did not capture that water because the well location was too remote from the areas of active ET.<sup>50</sup>

Not only is ET capture a longstanding requirement, inherent in the definition of perennial yield, sustainable groundwater development cannot occur without ET capture. To achieve a new acceptable equilibrium, the water table must be lowered to a point below the root zone of the phreatophytes. The water withdrawn in that process is labelled “transitional storage” in the Water Planning Report No. 3.<sup>51</sup> Thereafter, the water no longer lost to ET is considered “salvage,” which can be responsibly withdrawn from the aquifer without further lowering the water table. That is the new equilibrium required by the Remand Decision.

Transitional storage is not unlimited, however. If a new equilibrium is not reached within a reasonable time, groundwater mining begins to occur. The exact amount of time to reach this new equilibrium is not the critical factor. The critical factor is whether a new equilibrium will be reached “without depleting the groundwater reservoir.”

There are circumstances under which some ET in a groundwater basin cannot, for various reasons, be captured. Thus, perennial yield is not determined by the total amount of discharge in a basin but by the maximum amount of natural discharge that can be captured. As stated in Ruling 6164, “If the perennial yield is exceeded,” meaning if “the maximum amount of discharge [*i.e.*, ET] that can be salvaged for beneficial use” is exceeded, “groundwater levels will decline and steady state conditions will not be achieved, a situation commonly referred to as groundwater mining.”<sup>52</sup> Thus, ET capture and equilibrium are required to avoid groundwater mining.

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<sup>49</sup> State Engineer’s Ruling 3462, p.3.

<sup>50</sup> State Engineer’s Ruling 3607, p. 3.

<sup>51</sup> State Engineer’s Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13 (Oct. 1971).

<sup>52</sup> State Engineer’s Ruling 6164, p. 56. In Planning Report No. 3, for example, it was explained that “[i]n Pahrump, the average annual recharge is estimated to be 22,000 acre feet,” however, “because of the difficulty in salvaging the subsurface outflow from the deep carbonate-rock reservoir, the perennial yield is only 12,000 acre feet ....”

Ruling 6164 found that lowering the water table 50 feet after 75 years of pumping was reasonable.<sup>53</sup> The District Court reversed, however, because the evidence showed that equilibrium would not be reached at that point, and that even after 200 years, there was “no equilibrium in sight.”<sup>54</sup>

**C. Recalculating the Water Available for Appropriation**

The Remand Decision requires “[a] recalculation of the water available for appropriation from Spring Valley assuring that the basin will reach equilibrium between discharge and recharge in a reasonable time.”<sup>55</sup> Thus, the District Court remanded the matter to the State Engineer “for an award less than the calculated E.T. for Spring Valley” and with a realistic prospect of reaching equilibrium.<sup>56</sup>

“Perennial yield is estimated by developing a groundwater budget for a hydrographic basin.”<sup>57</sup> A budget is developed to assure that discharge does not exceed recharge. The Remand Decision requires more, however. A water budget determines the maximum amount of groundwater that is theoretically available for appropriation. Under the Remand Decision, the Applicant must submit substantial evidence that natural discharge will be reduced in an amount equal to the amount being pumped. And the Applicant must demonstrate that this new equilibrium will be reached without unreasonably lowering the water table.

A proper distribution of wells is necessary to capture ET and reduce natural discharge as much as possible, thereby reaching near equilibrium. The spatial relationship between the wells and natural discharge zones has a significant impact on whether a new equilibrium will be reached and, if so, how long it will take. “The pumps should be placed as close as economically possible to areas of rejected recharge or natural discharge where ground water is being lost by evaporation or transpiration by nonproductive vegetation .... By so doing this lost water would be utilized by the pumps with a minimum lowering of the water level in the aquifer.”<sup>58</sup> When groundwater is pumped from areas remote from natural discharge, “the condition of equilibrium

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<sup>53</sup> State Engineer’s Ruling 6164, p. 132.

<sup>54</sup> Remand Decision at 11.

<sup>55</sup> Remand Decision, p. 23.

<sup>56</sup> Remand Decision, p. 13.

<sup>57</sup> State Engineer’s Ruling 6164, p. 57,

<sup>58</sup> Theis, C.V., 1940. The source of water derived from wells. *Civil Engineering* 10(5):277-280.

connoted by the concept of perennial safe yield may never be reached in the predictable future and the water used may all be taken from storage.”<sup>59</sup>

The time required for a system to come to equilibrium depends on how quickly the discharge can be captured. How quickly the discharge can be captured is a function of the distribution of the pumping wells and the properties of the aquifer. It may take a long time for natural discharge to be captured. A pumping system is only sustainable if the wells are distributed in a manner that results in the system coming to equilibrium, which means the pumping rate may be substantially less than what would be determined using a water budget alone. A long time to capture natural discharge and reach equilibrium may not be significant in a smaller project where only a minimal amount of water is being removed from transitional storage in the interim. But in a project as large as this one, large amounts of water will be removed from storage if the project does not reach equilibrium within a reasonable amount of time.

On remand, the Applicant did not attempt to make the showing required by the Remand Decision with respect to the 15 wells represented by the Applications at issue. The Applicant presented no evidence of the ET capture that would occur as a result of its proposed pumping.<sup>60</sup> Rather, the Applicant conceded that its project was not designed to capture ET and reach equilibrium.<sup>61</sup>

In contrast, the CPB put on undisputed evidence that the proposed system would never reach equilibrium at the proposed points of diversion, regardless of the pumping rate.<sup>62</sup> This evidence was based on model simulations performed using the same CCRP model used by SNWA experts in 2011, but with the following appropriate updates: (1) the pumping rate was reduced from 91,000 AFA to 61,000 to match the appropriation levels approved in Ruling 6164; (2) the ET discharge was increased from 75,000 AFA to 84,100 AFA to match the updated ET estimated provided by Ruling 6164; and (3) the baseline simulation was updated to include water rights purchased by the Applicant in recent years.<sup>63</sup> These simulations were limited to the 15

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<sup>59</sup> Theis, C.V., 1940. The source of water derived from wells. *Civil Engineering* 10(5):277-280.

<sup>60</sup> Transcript, Vol. 5, pp. 1069:18-21 (Watrus) (Sept. 29, 2017).

<sup>61</sup> Exhibit SNWA\_597, p. 6; Transcript, Vol. 4, pp 990:6-992:11 (Burns) (Sept. 28, 2017).

<sup>62</sup> Exhibit CPB\_19, Exhibit CPB\_25.

<sup>63</sup> Transcript, Vol. 6, pp. 1181:19-1182:5 (Jones) (Oct. 2, 2017).

wells the Applicant has applied for in the Applications that are pending before the State Engineer.<sup>64</sup>

These model simulations showed that the proposed pumping system will never reach a new equilibrium. The primary reason is the spatial distribution of the wells. They are too remote from the ET discharge zone(s). One effect of that flaw, as shown by model simulations, is that the proposed pumping would result in pulling a substantial amount of groundwater from neighboring basins.<sup>65</sup>

According to the undisputed evidence, after 75 years of pumping, the system would be capturing about 38,000 afa, meaning about 62% of the pumping would be the result of captured ET, while still withdrawing 15,155 afa from storage (continually lowering the water table and depleting storage) with 8,218 afa coming from adjacent valleys.<sup>66</sup>

After 200 years of pumping, ET capture would only be at 69%, with the rest being withdrawn from storage (9,000 afa) and interbasin transfer (10,000 afa).<sup>67</sup> After 200 years, the model predicts that the Applicant would have withdrawn 3.68 million acre feet from storage which, based on the Applicant's estimate of the total amount of storage in Spring Valley, represents 43% to 77% of the total available storage.<sup>68</sup> About 1.5 to 2 million acre feet would have been withdrawn from adjacent valleys.<sup>69</sup> And the system would still be far from equilibrium.<sup>70</sup>

The CPB also did a fractional pumping analysis to see if equilibrium could be reached at a lower rate of pumping. The analysis started at 90% and went down to 10% at intervals of 10%, *i.e.*, 90%, 80%, 70%, etc. down to 10%. The system does not reach equilibrium at any of these pumping rates.<sup>71</sup> The 100% pumping rate achieves 69% ET capture after 200 years and the 10% pumping rate achieves 83% ET capture after 200 years.<sup>72</sup> This analysis confirms that the problem is not the pumping rate, but the location of the wells in relation to where ET discharge is

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<sup>64</sup> Transcript, Vol. 6, pp. 1183:23-1184:6 (Jones) (Oct. 2, 2017).

<sup>65</sup> Transcript, Vol. 6 pp. 1178:23-1179:9 (Jones/Mayo) (Oct. 2, 2017).

<sup>66</sup> Transcript, Vol. 6, pp. 1192:9-21 (Jones) (Oct. 2, 2017).

<sup>67</sup> Transcript, Vol. 6, pp. 1188:14-1190:7 (Jones/Mayo) (Oct. 2, 2017).

<sup>68</sup> Transcript, Vol. 6, pp 1191:14-21 (Jones) (Oct. 2, 2017).

<sup>69</sup> Transcript, Vol. 6, pp. 1194:7-14 (Jones) (Oct. 2, 2017).

<sup>70</sup> Transcript, Vol. 6, pp. 1194:15-16 (Jones) (Oct. 2, 2017).

<sup>71</sup> Transcript, Vol. 6, pp. 1198:5-13 (Jones) (Oct. 2, 2017).

<sup>72</sup> Transcript, Vol. 6, pp. 1200:15-20 (Jones) (Oct. 2, 2017).



occurring. While the proposed wells are located in the southern end of Spring Valley, 70% of the ET in Spring Valley occurs in the northern half.<sup>73</sup>

The Applicant did not dispute this evidence but conceded that its project was not designed to capture evapotranspiration. The Applicant's expert agreed with the CPB's conclusion that there is no pumping rate at which the system would ever reach equilibrium under the current well field configuration.<sup>74</sup> The flow system designed by the Applicant "does not reach equilibrium after 200 years of pumping," the Applicant concedes, "because the production well configuration was not designed to capture ET."<sup>75</sup>

The conclusion from this evidence is that the spatial distribution of the Applicant's 15 proposed points of diversion in Spring Valley is not designed to capture ET and reach equilibrium. The wells are located in the central and southern ends of Spring Valley and none are near the ET discharge zones in the northern end of the valley. Accordingly, under this pumping configuration, water would be perpetually mined from storage and pulled from adjacent valleys regardless of the pumping rate. Therefore, there is no reduced appropriation that would achieve what the Remand Decision requires: reaching equilibrium within a reasonable amount of time without unreasonably lowering the water table.<sup>76</sup>

The proposed pumping regime would result in pumping that exceeds the perennial yield, which could have severely negative consequences. The State Engineer has explained those consequences:

Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible reversal of ground water gradients which could result in significant changes in the recharge/discharge relationship. These conditions have developed in several other ground water basins within the State of Nevada where storage

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<sup>73</sup> Transcript, Vol. 6, pp. 1195:22-1196:4 (Jones) (Oct. 2, 2017).

<sup>74</sup> Transcript, Vol. 4, pp. 990:6-991:13 (Burns) (Sept. 28, 2017).

<sup>75</sup> Exhibit SNWA\_597, p. 6.

<sup>76</sup> Furthermore, the State Engineer finds that even if the wells under consideration could reach equilibrium, the award would have to be reduced to 42,338 afa because that is all the ET capture that these wells could achieve after 200 years. Exhibit CPB\_25, p. 13; Transcript, Vol. 6, p. 1236:18-1237:16 (Jones) (October 2, 2017).

depletion and declining water tables have been recorded and documented and provided substantial evidence of the adverse effect of these conditions.<sup>77</sup>

**D. Alternative Well Field Design**

Over the objection of Protestants, the Applicant submitted evidence regarding a conceptual 101-well field that could achieve 98% equilibrium after 200 years of pumping. The State Engineer allowed this evidence into the record but finds it is worthy of little or no weight. The State Engineer is limited to considering the currently pending Applications at their current points of diversion.

**1. The District Court's Remand Order**

The Applicant cites as authority for its hypothetical well field the Remand Decision, which states, "SNWA did claim that after two hundred (200) years; their evidence showed that eighty-four (84%) of the E.T. would be captured and eight four percent [is] close to a hundred percent."<sup>78</sup> This 84% ET capture scenario was not based on the pending Applications but a different well field design; thus, the Applicant takes this reference as the District Court's approval of consideration of alternative well field designs. But the District Court was merely citing an argument made by the Applicant. It is not clear whether the District Court was even aware of the well field design behind this scenario. Nothing in the Remand Decision authorizes or requires the State Engineer to consider alternative well field designs.

**2. The State Engineer Already Rejected Consideration of Alternative Well Field Designs**

During the 2011 hearing on these same Applications, the Applicant attempted to proffer information about possible changes to the well field design. The Hearing Officer interjected and explained why this evidence would not be allowed:

[The SNWA has] applied for a diversion rate from specifically 19 wells, and that's all the State Engineer is considering. He's not considering a different well field.... We're talking about the applications under consideration here.... [A]nd we've had people in here arguing, Well, I'm going to move the well field other places. And I have said that's not what we're considering. We're considering the applications that are before us.<sup>79</sup>

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<sup>77</sup> State Engineer's Ruling 3486, pp. 3-4.

<sup>78</sup> Remand Decision, p. 11.

<sup>79</sup> Transcript Vol. 11, pp. 2507:23-2508:10 (Oct. 10, 2011).

In Ruling 6164, the State Engineer reaffirmed that only the pending applications were before him.

In addition, Dr. Myers provided many simulations of pumping at alternative points of diversion. At this time, the State Engineer is only considering the points of diversion for the Applications before him. If the Applicant wishes to change the points of diversion of the Applications, it must submit further applications to change the points of diversion to the State Engineer pursuant to NRS 533.345. If such applications are submitted, the State Engineer will consider pumping at the new points of diversion. Alternative points of diversion are irrelevant to the analysis of whether the proposed pumping unreasonably conflicts with existing rights for this hearing.<sup>80</sup>

The Applicant did not challenge this portion of Ruling 6164 on appeal.

### **3. Considering Alternative Well Fields Would Be Inconsistent with Nevada Water Law**

Nevada law requires the State Engineer to consider only the Applications that are filed, with their specific points of diversion. “[T]he State Engineer shall approve or reject each application ....”<sup>81</sup> This is done based on the “best available science”<sup>82</sup> applied to the information provided in the application and the statutory criteria as applied to each application. Nothing in Nevada water law authorizes the State Engineer to approve an application that does not meet the statutory criteria based on the possibility, or even the promise, of potential changes in pumping rates or points of diversion.

An application to appropriate water in Nevada “shall contain,” among other things:

- (3) The amount of water which it is desired to appropriate, expressed in terms of cubic feet per second ....
- (5) A substantially accurate description of the location of the place at which the water is to be diverted from its source ....
- (6) A description of the proposed works [*i.e.*, wells, pipelines, etc.].
- (7) The estimated cost of such works.
- (8) The estimated time required to construct the works, and the estimated time to complete the application of the water to beneficial use.<sup>83</sup>

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<sup>80</sup> State Engineer’s Ruling 6164, p. 150.

<sup>81</sup> NRS 533.370(2).

<sup>82</sup> NRS 533.024(1)(c).

<sup>83</sup> NRS 533.335.

The standards for granting and denying such an application are set forth by statute and rely on the information provided in the application. The State Engineer “shall reject” an application and “refuse to issue the requested permit” where “[1] there is no unappropriated water in the proposed source of supply, or [2] where its proposed use or change conflicts with existing rights or with protectable interests in existing domestic wells ..., or [3] threatens to prove detrimental to the public interest.”<sup>84</sup>

The applicant must also provide proof of: “(1) Intention in good faith to construct any work necessary to apply the water to the intended beneficial use with reasonable diligence; and (2) Financial ability and reasonable expectation actually to construct the work and apply the water to the intended beneficial use with reasonable diligence.”<sup>85</sup> The burden of proof is on the applicant to show that the statutory standards are met.<sup>86</sup>

Where the statutory standards are not met, the State Engineer has no discretion but “shall” deny the applications. This requires the State Engineer to consider only the applications that are before him, with their proposed pumping rate, point of diversion, and proposed works. It is based on this precise information that the State Engineer considers: (1) whether the proposed use conflicts with existing rights or with protectable interests in existing domestic wells as set forth in NRS 533.024, (2) whether the proposed use threatens to prove detrimental to the public interest as set forth in NRS 533.370, (3) whether the applicant has provided satisfactory proof of its intention in good faith to construct any work necessary to apply the water to the intended beneficial use; (4) whether the applicant has the financial ability to do so, as required by NRS 533.370(1)(c), and NRS 533.375; (5) “whether the approval of the Applications is environmentally sound as it relates to Spring Valley,”<sup>87</sup> and (6) whether springs and streams on which livestock rely must be protected.<sup>88</sup>

No evidence has been submitted to the State Engineer to show that the Applicant’s hypothetical 101-well field meets any of these statutory criteria. The Applicant conceded that a conflicts analysis has to be done at the actual proposed points of diversion and not a hypothetical

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<sup>84</sup> NRS 533.370(2).

<sup>85</sup> NRS 533.370(1)(c).

<sup>86</sup> See *Bacher v. State Engineer*, 122 Nev. 1110, 1116, 146 P.3d 793, 797 (2006) (“NRS Chapter 533 prescribes the general requirements that every applicant must meet to appropriate water.”).

<sup>87</sup> State Engineer’s Ruling 6164, p. 27 citing NRS 533.370(3)(c).

<sup>88</sup> NRS 533.495.

future well field.<sup>89</sup> Additionally, the 3M plan submitted by the Applicant is based on the information in the pending Applications.

The State Engineer is authorized to limit the initial use of water to a quantity that is less than the amount approved for an application while requiring additional studies and the submission of additional evidence to justify the full pumping rate.<sup>90</sup> Nothing in Nevada law, however, allows the State Engineer to condition an application on the promise of a different well field design in the future.

Further, the 101-well field design presented by the Applicant was apparently nothing more than a concept and does not represent the Applicant's actual intentions. Ms. Drici testified that the 101-well model presented during the hearing is just a conceptual model and "definitely not" what would actually be done.<sup>91</sup> The simulations show that this 101-well field could conceivably reach equilibrium, but the Applicant did not look at how much the water table would be lowered as a result.<sup>92</sup> A conflicts analysis was not done on this 101-well-field design.<sup>93</sup>

Other State Engineer rulings and cases have concluded that it violates the State's public policy and is detrimental to the public interest to approve applications based on imaginary points of diversion. *See, e.g., United States v. Alpine Land & Reservoir Co.*, 2012 WL 4442804, \*3 (D. Nev. 2012), *citing and quoting* the State Engineer's 2008 Ruling #5857, at p. 15, denying applications to change the point of diversion and place of use of waters on the grounds that the applications did not state what was actually intended by the applicant:

The State Engineer concludes that to establish an imaginary or made-up point of diversion for the purposes of retaining priority would violate the Alpine Decree and Nevada water law and therefore, would threaten to prove detrimental to the public interest.

Further, if the State Engineer approved applications that do not meet the statutory criteria based on the possibility or promise of future changes to the well field design, the State Engineer would lose the ability to enforce the statutory criteria. Having already approved the pending applications, nothing in Chapter 533 would give the State Engineer the right to compel the Applicant to file change applications. And if change applications were filed, but those

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<sup>89</sup> Transcript, Vol. 10, p. 2052:1-6 (Taggart) (Oct. 6, 2017).

<sup>90</sup> NRS 533.3705.

<sup>91</sup> Transcript, Vol. 5, p. 1077:4-7 (Drici) (Sept. 29, 2017).

<sup>92</sup> Transcript, Vol. 5, p. 1081:6-15 (Burns) (Sept. 29, 2017).

<sup>93</sup> Transcript, Vol. 5, 1086:1-13 (Burns) (Sept. 29, 2013).

applications did not meet the statutory criteria and were denied, the Applicant would still have the right to pump from the original points of diversion based on the State Engineer's approval of those applications, even though those applications did not meet the statutory criteria.

Simply put, it would violate various provisions of Chapter 533 for the State Engineer to approve applications that do not meet the statutory criteria based on the possibility or promise of change applications being filed in the future. The answer here for the Applicant is to simply submit new applications for the 101 wells, or whatever final design it comes up with.

**4. Due Process Prohibits the State Engineer from Granting Applications Based On Future Changes**

"Inherent in any notice and hearing requirement are the propositions that the notice will accurately reflect the subject matter to be addressed and that the hearing will allow full consideration of it."<sup>94</sup> Protestants prepared for these hearings based on what was in the 19 Applications actually filed by the Applicant. The Applicant's witness (Mr. Burns) testified that the Applicant does intend to develop the 15 wells in question.<sup>95</sup>

"It is also settled in this state that the water law and all proceedings thereunder are special in character, and the provisions of such law not only lay down the method of procedure but strictly limits it to that provided."<sup>96</sup> "The procedural rights of parties before an administrative body cannot be made to suffer for reasons of convenience or expediency."<sup>97</sup>

The Applicant did not submit evidence to show that its hypothetical 101-well field design, or any other design, meets the statutory criteria. Protestants did not have the opportunity to object or present evidence to applications based any alternative well-field design. It is not enough to say that Protestants can object when (or if) change applications are filed because, at that point, the Applicant will already have been granted the right to appropriate water from the

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<sup>94</sup> *Public Service Comm'n of Nevada v. Southwest Gas Corp.*, 99 Nev. 268, 271, 662 P.2d 624, 626 (1983).

<sup>95</sup> Transcript, Vol. 5, p. 1070:3-6 (Watus) (Sept. 29, 2017) ("At this point, we plan to develop the 15 wells. But are those the only 15 wells that will be in existence 200 years down the line? That's the real question."). See also Transcript, Vol. 5, p. 1071:10-13 (Watus) (Sept. 29, 2017) ("We intend to start Stage 1 with these 15 points of diversion. But, we also – or I also – I expect that during this time frame, we will be filing change applications.").

<sup>96</sup> *Application of Filippini*, 66 Nev. 17, 27, 202 P.2d 535, 540 (1949).

<sup>97</sup> *Bivins Constr. v. State Contractors' Bd.*, 107 Nev. 281, 283, 809 P.2d 1268, 1270 (1991).

present points of diversion. Thus, Protestants will have been denied due process because the present Applications will have been granted based on evidence that has not been submitted.

#### **IV. EXISTING RIGHTS**

To determine the amount of water available for appropriation in a groundwater basin, the State Engineer must determine the amount of committed groundwater rights in the basin. Ruling 6164 made certain findings with respect to this issue. Those factual findings are incorporated here by reference without modification. Those factual findings were not at issue in the remand hearing.

#### **V. IMPACTS TO EXISTING RIGHTS**

When considering new applications to appropriate water, the Nevada State Engineer must deny the applications if development of the wells will conflict with existing water rights or with protectable interests in existing domestic wells.<sup>98</sup>

##### **A. Spring Valley Monitoring, Management, and Mitigation Plan**

The Manage, Monitor and Mitigate Plan (the “3M Plan”) is critical to the pending 15 Applications because this describes how the Applicant proposes to avoid conflicts with other water rights or the public interest. If the 3M Plan fails, so must the 15 applications.

##### **1. Adaptive Management Was Intended to Be a Key Part of the 3M Plan**

In response to questions by Mr. Taggart, the Applicant’s panel of experts described adaptive management as a key element of the 3M Plan.

Q. Is there – is adaptive management part of this plan?

A. MR. PRIEUR: Yes, it’s a key element. Part because, as we’re getting more baseline data, we’re getting a better understanding of the variability in the system. That is incorporated in several ways. First, in terms of updating the formula for the investigation trigger, to incorporate that additional baseline data. As part of the monitoring investigation and management actions, once there’s aquifer response data, which is so important to have in an effective predictive tool, that data is then incorporated into these predictive tools to better assess projection or simulations for changing in water level with time and distance.

So, throughout the process, that active management’s in place. Once the mitigation action is in place, if it’s needed, there’s monitoring associated with that to see is the mitigation action effective and accomplishing the goals of the plan.

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<sup>98</sup> NRS 533.370(2).

And if there's any new data from that to make it more effective, that is also incorporated into the program.<sup>99</sup>

As Zane Marshall described it for Mr. Taggart:

A. MR. MARSHALL: Well, adaptive management is a process of structured decision-making. It's a process that the Department of Interior recommends in long-term projects, large projects that have uncertainty. And any time we manage natural resources, there is uncertainty in that. And the Department of Interior recommends that – that their agencies use adaptive management to manage natural resources.

And so we apply, in this 3M Plan, the use of adaptive management to ensure that we are achieving the objectives with the plan, avoiding unreasonable adverse effects, implementing effective mitigation with adaptive management.<sup>100</sup>

In other words, the Applicant bases setting investigation triggers, as well as the monitoring and management actions, upon adaptive management. Unfortunately, that key element is fundamentally flawed.

Mr. Marshall explained to Mr. Taggart that the adaptive management program, which is a key element of the 3M Plan, was derived from Exhibit 541 entitled *Adaptive Management: The U.S. Department of the Interior Technical Guide*. This is the document on which Mr. Marshall and his colleagues relied in developing the 3M Plan.

A. MR. MARSHALL: Well, this document lays out the framework for the Department of Interior in terms of what adaptive management is and how it should be applied to natural resource management. And so this is the – this document is the foundation of our concept for adaptive management application in the 3M Plan.<sup>101</sup>

This key element and foundation of the 3M Plan was not followed in a very critical aspect. At page 4 of Exhibit 541 appears the cautionary *Problem-Scoping Key for Adaptive Management*.

The following key can help in dissecting a particular management problem and determining whether adaptive management is an appropriate approach to decision making. If the answer to any question in the key is negative, then an approach other than adaptive management is likely to be more appropriate.

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2. Can stakeholders be engaged?

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<sup>99</sup> Transcript, Vol. 2, pp. 345:16-346:12 (Priour) (Sept. 26, 2017).

<sup>100</sup> Transcript, Vol. 2, p. 376:5-16 (Marshall) (Sept. 26, 2017).

<sup>101</sup> Transcript, Vol. 2, p. 381:13-18 (Marshall) (Sept. 26, 2017).



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[If] No – without active stakeholder involvement an adaptive management process is unlikely to be effective.

On cross examination, Mr. Marshall had to concede that the Applicant failed to engage any of the stakeholders in the drafting of the 3M Plan or the adaptive management portions of it. Consequently, the stakeholders such as the Tribes, Great Basin Water Network, the Cleveland Ranch, Millard and Juab Counties and the other Protestants were not engaged and, therefore, the critical adaptive management process is unlikely to be effective.

The State Engineer finds that the failure to engage the other stakeholders was a significant oversight. The record discloses that, if the Applicant had engaged with the Tribes, the Applicant would have learned that the cultural significance of the swamp cedars attaches to each individual tree rather than the grove as a whole. Thus, this lead to the dichotomy by which the 3M Plan defines an unreasonable effect on the swamp cedars as the extirpation of all of the swamp cedars.<sup>102</sup> Whereas, to the Tribes, the loss of one swamp cedar, with its association to the massacres, is wholly unacceptable. Had the Applicant engaged with the Tribes, it might also have discovered that the springs associated with the swamp cedars are considered by the Tribes to be sacred and the provision of water from alternate sources would never have been sufficient.

If the Applicant had engaged with Millard and Juab Counties, it might have learned that the pumping regime will cause interbasin flow from Snake and Hamlin Valleys into Spring Valley. There is no provision in the 3M Plan to monitor that undesirable effect.

If the Applicant had engaged in conversation with the Cleveland Ranch, it might have learned more about the concerns over the source of water for the Ranch's springs and sub-irrigated pasture. It might have learned about the need to investigate and react quickly in order to prevent the loss of a forage season.

If the Applicant had engaged with the Great Basin Water Network, it might have learned about concerns over whether simply promising to ultimately protect senior water rights would necessarily preserve the habitats for flora and fauna.

The Applicant describes adaptive management as the key element of the 3M Plan. The Applicant described Exhibit 541 as the critical Bible which guided the adaptive management program. The failure to follow the dictate of Exhibit 541 renders the adaptive management

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<sup>102</sup> Exhibit SNWA\_592 p.3, Transcript, Vol. 4, pp. 881:15-22, 890:9-14 (Marshall) (Sept. 28, 2017).

program ineffective which, in turn, undercuts the purported validity of the 3M Plan.

**2. Recognizable, Objective Investigation Triggers are Required**

The Remand Decision made clear that there should be objective triggers to implement mitigation measures. In an apparent effort to meet that standard, the Applicant presented its 3M Plan, Exhibit 592, which, in turn, was supported by Exhibit 507 and a number of other exhibits. Obviously, a significant amount of time and effort went into creation of the 3M Plan. However, it still fails to provide definite and objective standards at critical junctures.

The Remand Decision cited the Devil's Hole 3M plan as providing "an objective and recognized standard" by requiring remedial action whenever water levels dropped a certain distance below a copper washer. Remand Decision at p. 18. The Applicant's 3M Plan deliberately eschewed an objective or recognized standard in favor of describing a process by which the Applicant can employ formulas to compute when it thinks an investigation has been triggered. It is a process, not an objective standard. It provides for the Applicant, and the Applicant alone, to make the calculation when it deems appropriate it to do so. The calculation itself is based on a moving baseline of six months data. None of the conditions that initiated the calculation, the moving baseline or the activation of an investigation trigger is required to be shared with the owner of the impacted water rights. The trigger can scarcely be considered an "objective and recognized standard" if it is known only to the Applicant.

**3. Recognizable Mitigation Triggers Are Required**

Take as an example Table 3-2 of exhibit 592, which shows that each of the four potential triggers is predicated on a determination that a decline in water level is the result of the Applicant's Groundwater Development Project Pumping ("GDP"). There are no objective or recognizable standards proffered by the Applicant's 3M Plan about how that determination will be made. The Applicant's 3M Plan appears to contemplate that the determination of whether a decline is caused by the GDP pumping is a determination to be made by the Applicant whenever and however it may choose. There is no timeline and there are no objective standards. There is no requirement to notify the owner of the impacted water rights about what determinations are being made.

**4. Definitive and Effective Mitigation Action is Required**

After the investigation trigger is activated and after a mitigation trigger is activated, then the 3M Plan provides:

Mitigation actions for senior underground water rights will include one of the following or an effective alternative action:

- Lowering of the pump if the well has the depth and capacity to produce the water right.
- Compensate well owners for the incremental increase in power usage if the usage increase is greater than 25 percent to produce a similar volume of water.
- Deepen the well if the aquifer has the ability to yield the water right.
- Rehabilitate the well to increase well efficiency.
- Drill and equip a replacement well.
- Convey water to the site from an SNWA water right POD to the effected site.
- Transfer or exchange of the impacted senior water right for an SNWA water right of an equal or better priority at another location.
- Modify the SNWA pumping rates duration, and/or distribution.
- Temporary storage tank to supplement the well production until other mitigation action is implemented. Water supplying the tank can be sourced by pumping the impacted well for a longer period of time at a lower pumping rate, by a truck delivering water, or other sources.

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Additional management and mitigation actions are presented in the 3M Plan analysis report (Marshall et al., 2017 at Sections 3.2.4 and 3.2.8).

Exhibit 592 at p. 3-22. It is noteworthy that this list of potential mitigation measures does not include any standard for deciding which measure(s) should or will be implemented.

Neither is there any substantial evidence in the record that any of these potential mitigation measures will be used or can be used in a specific instance or that any of these measures can achieve effective mitigation. The Nevada Supreme Court's *en banc* decision in *Eureka County v. State Engineer*,<sup>103</sup> explains that merely identifying possible mitigation techniques is insufficient. The 3M Plan must specify which techniques will be implemented and provide substantial evidence that those techniques will work. Furthermore, that substantial evidence must be based on presently known substantial evidence rather than on information to be determined in the future.

The State Engineer thus may not defer the determination of what mitigation would encompass to a later date: even if he may grant applications where the

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<sup>103</sup> 131 Nev. Adv. Op. 84, 359 P.3d 1114 (2015)

resulting appropriations would conflict with existing rights based upon the finding that the applicant would be able to successfully mitigate that deleterious effect, an assumption we do not adopt today, the finding must be based upon evidence in the record to support that mitigation would be successful and adequate to fully protect those existing rights.<sup>104</sup>

## 5. Habitat and Species Protection is Required

When it comes to the protection of habitat and species, the Applicant's 3M Plan takes the position that the protection of senior water rights will automatically protect habitats and species. In his testimony, Zane Marshall acknowledged that this approach is "a foundation of the 3M Plan."

And so we took the approach – and it's a foundation of the 3M Plan – that is, by through the protection of senior water rights, particularly those that are related to – obviously relate to the habitats of these ecosystems and species that we intend to protect with the 3M Plan, by protecting those senior water rights, we can also protect those environmental resources that are groundwater-dependent and ensure that we don't cause adverse effects.

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[A]nother major component, again, is the protection of senior water rights. If we protect senior water rights to support habitat, we'll protect habitat and then we protect species. And so the next fundamental point of the plan is it's habitat-based in most cases. And it's also resource-based, so we identify specific resources that we want to build the 3M Plan around.<sup>105</sup>

There are at least two fundamental problems with this approach. First, although the contention has logical appeal, there is a dearth of substantial evidence that this approach will work dependably. If a spring dries up, there is no evidence in the record that supplying water to the same area by truck or pipe will necessarily preserve the existing ecosystem and its constituent parts.

Second, the 3M Plan is focused only on the preservation of senior water rights. In an area as big as Spring Valley, there may well be important ecosystems dependent on junior water rights. The 3M Plan does not squarely address junior water rights. In Exhibit 507 at footnote 1 on page 4-5, the Applicant addresses junior water rights this way:

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<sup>104</sup> 131 Nev. Adv. Op. 84 at 15-16, 359 P.3d at 1121

<sup>105</sup> Transcript, Vol. 2, pp. 371-72 (Marshall) (Sept. 26, 2017).

In the event it is determined that SNWA is responsible for mitigation to junior water rights, those rights may be included in the 3M Plans by reference to their location and the Management Categories described in Section 3.2.5.<sup>106</sup>

Saying that you can address junior rights in the future is not the same thing as saying you will address them, nor does it confirm how they will be addressed. This does not provide an assurance that conflicts with junior water rights, or the habitats dependent on junior water rights, will be avoided. Under NRS 533.370(2), the State Engineer is directed to reject an application which conflicts “with [any] existing rights . . . or threatens to prove detrimental to the public interest.”<sup>107</sup> The Applicant has not presented any conflict analysis to show that the proposed 15 wells will not conflict with junior water rights and any related habitats. Although the Applicant generally proposes to avoid conflicts through the 3M Plan implementation, it has not brought junior rights and related habitats within the penumbra of the 3M Plan.

Thus, the State Engineer must conclude that, even if the 3M Plan could somehow adequately protect all the senior water rights, there is not enough substantial evidence to ensure that that approach will adequately protect important habitats and ecosystems.

Throughout the 3M Plan, the Applicant reserves for itself the calculation of investigation triggers, the assessment of mitigation triggers and the choice of what mitigation method will be used and when it will be used. In most cases, there are no deadlines. There is no substantial evidence that any or all of the proposed mitigation techniques will actually work. This unilateral non-public evaluation and assessment process does not satisfy the requirement of the Remand Decision that the standards be objective and recognizable.

**B. Conflicts with Existing Rights**

The undisputed evidence submitted through the analysis of Drs. Jones and Mayo demonstrated that trying to achieve equilibrium with the 15 wells under consideration would result in major conflicts with existing water rights, such as those held by the Cleveland Ranch:

We’ve also noted that the only way the system could theoretically come to equilibrium would be by generating an aggregate cone of depression which starts in the south and migrates to the north and, in doing so, it would have to essentially dewater the aquifer beneath the Cleveland Ranch properties which lies directly

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<sup>106</sup> Exhibit SNWA\_507 p.4-5 fn.1.

<sup>107</sup> NRS 533.370(2).

between the wells in the south and the main ET discharge zone in the north part of the valley.<sup>108</sup>

This is because the 15 wells are located at the south end of a relatively long, narrow valley and a substantial portion of the target ET is located to the north and on the other side of the Cleveland Ranch.

The end result is that trying to pursue ET capture and equilibrium with the 15 wells under consideration necessarily results in serious conflict with the water rights of Cleveland Ranch and others in Spring Valley. Therefore, because the 15 wells under consideration would conflict with existing rights, the applications must be rejected and permits refused pursuant to NRS 533.370.

## VI. PUBLIC INTEREST

Nevada Revised Statute 533.370 provides that the State Engineer must reject an application if the proposed use “threatens to prove detrimental to the public interest.” This must be addressed on a case-by-case basis.

In Ruling 5726, the first ruling to address these applications, the State Engineer reviewed the case law and history of how State Engineers have interpreted this statutory provision. In Ruling 6164, the State Engineer “further refine[d]” that analysis and provided specific criteria.

### A. Analysis of Judicial Interpretations

Ruling 6164 analyzed judicial interpretations of the “public interest” criteria. That analysis is incorporated here by reference without modification.

### B. Standards Used in this Case for Analysis of Whether the Use of the Water Threatens to Prove Detrimental to the Public Interest

The analysis of this issue set forth in Ruling 6164 is incorporated here without modification.

### C. Analysis of Public Interest Criteria in this Case

The Public Interest criteria represent a broad spectrum of important policy issues, some of which have been summarized this way:

Withdrawals of ground water in excess of the perennial yield contribute to adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased economic pumping lifts, land subsidence and possible reversal of ground water gradients which could result in significant changes in the recharge-discharge relationship. These conditions have developed in several

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<sup>108</sup> Transcript, Vol. 6, p. 1196:18-1197:1 (Jones) (Oct. 2, 2017).

other ground water basins within the State of Nevada where storage depletion and declining water tables have been recorded and documented.<sup>109</sup>

The 15 applications under consideration invoke some of these and other public interest issues.

**1. Storage Depletion**

The waters beneath Spring Valley belong to the citizens of Nevada and are entrusted to the oversight of the State Engineer. Storage depletion, also known as groundwater mining, represents the permanent loss of water from the aquifer. Limited groundwater mining is an acceptable trade-off to achieve ET salvage. Groundwater mining beyond that of transitional storage withdrawal is against State policy and represents the squandering of the patrimony of future generations of Nevadans. Pursuing equilibrium by pumping the 15 wells will result in massive groundwater mining and is against the public interest.

**2. Subsidence**

Substantial groundwater mining will result in partial collapse of the aquifer, land subsidence and the permanent loss of storage capacity in the aquifer. This is clearly against the public interest.

**3. Reversal of Groundwater Gradients**

Currently, there is an interbasin flow of approximately 7,000 acre feet from Spring Valley to Hamlin Valley.<sup>110</sup> Pumping towards equilibrium with the 15 wells under consideration will cause a reversal of that flow such that Snake and Hamlin Valleys will be contributing to interbasin flow to Spring Valley.<sup>111</sup>

**4. Cultural Resources**

It is in the public interest to protect important cultural resources. The swamp cedars and the related spring are examples of such important cultural resources. Groundwater mining threatens both the swamp cedars and the related spring and the 3M Plan provides no meaningful protection. This is against the public interest.

**VII. INTERBASIN FLOW**

Ruling 6164 made certain findings with respect to this issue. Those findings are incorporated here by reference except as modified by this Ruling. "Basin boundary flows are not

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<sup>109</sup> State Engineer's Ruling 3462, p. 2.

<sup>110</sup> Transcript, Vol. 6, p. 1186:10-13 (Jones).

<sup>111</sup> Transcript, Vol. 6, pp. 1186:19-1188:4 (Jones); Aquaveo Report.

a component of the perennial yield of Spring Valley. Any outflow to Snake Valley and/or Hamlin Valley is reserved for those basins.”<sup>112</sup> In Ruling 6164, the State Engineer reviewed the various estimates of net outflow from Spring Valley to Hamlin Valley and concluded that the outflow rate is between 4,000 and 12,000 afa.<sup>113</sup> Analysis of both the CCRP model submitted by the Applicant on June 30, 2017, and the CCRP model submitted by Aquaveo on June 30, 2017, showed that both models predict that pumping the 15 wells at the allocated rate would result in a reversal of that interbasin flow such that water will be drawn from Hamlin Valley into Spring Valley.<sup>114</sup> The State Engineer finds that this would be against the public interest as well as the declared policy of the State Engineer.<sup>115</sup>

### **VIII. PLACE OF USE (LINCOLN COUNTY)**

Ruling 6164 made certain findings with respect to this issue. Those factual findings are incorporated here by reference without modification. Those factual findings were not at issue in the remand hearing.

### **IX. OTHER PROTEST GROUNDS**

Ruling 6164 made certain findings with respect to this issue. Those factual findings are incorporated here by reference without modification. Those factual findings were not at issue in the remand hearing.

### **X. UNAPPROPRIATED WATER**

In Ruling 6164, the State Engineer concluded that the estimated annual groundwater ET in Spring Valley is 84,100 acre-feet.<sup>116</sup> Using this as a basis, the State Engineer found that the perennial yield of Spring Valley is 84,000 acre feet.<sup>117</sup> The State Engineer calculated existing water rights of 18,873 afa and reserved an additional 4,000 afa for future growth and development, leaving 61,127 afa available for appropriation.<sup>118</sup>

The State Engineer concludes again that there is 61,127 afa available for appropriation from Spring Valley. Nevertheless, because the Applicant has not presented substantial evidence that its proposed pumping would eventually capture this ET, thereby reaching equilibrium (i.e.,

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<sup>112</sup> State Engineer’s Ruling 6164, p. 90.

<sup>113</sup> State Engineer’s Ruling 6164, pp. 84-85.

<sup>114</sup> Transcript, Vol. 6, p. 1186:10-p. 1187:13 (Jones) (October 2, 2017); Exhibit CPB\_25, pp. 10-12.

<sup>115</sup> State Engineer’s Ruling 6164, p. 90.

<sup>116</sup> State Engineer’s Ruling 6164, p.90.

<sup>117</sup> State Engineer’s Ruling 6164, p.90.

<sup>118</sup> State Engineer’s Ruling 6164, pp. 214-15.



steady state conditions), while this amount is hypothetically available, the Applicant has not demonstrated the ability to appropriate this water without unreasonably lowering the water table.

## **CONCLUSIONS OF LAW**

### **I. JURISDICTION**

The State Engineer has jurisdiction over the parties and the subject matter of this action and determination.<sup>119</sup>

### **II. DUTY TO DENY**

The State Engineer is prohibited by law from granting an application to appropriate the public waters where:<sup>120</sup>

- A. there is no unappropriated water at the proposed source;
- B. the proposed use or change conflicts with existing rights;
- C. the proposed use or change conflicts with protectable interests in existing domestic wells as set forth in NRS 533.024; or
- D. the proposed use or change threatens to prove detrimental to the public interests.

Furthermore, the State Engineer is required by the Remand Decision to make “A recalculation of water available for appropriation from Spring Valley assuring that the basin will reach equilibrium between discharge and recharge in a reasonable time; and to define standards, thresholds or triggers so that mitigation or unreasonable effects from pumping of water are neither arbitrary nor capricious in Spring Valley . . .”

The Nevada Supreme Court decision of *Eureka County v. State Engineer*, 131 Nev. Adv. Op. 84, 359 P.3d 1114 (2015), also requires that: (1) there must be specific triggers to implement specific mitigation techniques; (2) there must be substantial evidence that the specific mitigation measure identified will work; (3) protestants must be given an opportunity to challenge any application before the State Engineer can grant an award; and (4) an application can only be granted on the basis of presently known substantial evidence and not evidence to be developed in the future.

### **III. GOOD FAITH, REASONABLE DILIGENCE, FINANCIAL ABILITY**

The State Engineer concludes that the Applicant provided proof satisfactory of its intention in good faith to construct any work necessary to apply the water to the intended beneficial use with reasonable diligence, and its financial ability and reasonable expectation

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<sup>119</sup> NRS Chapters 533 and 534.

<sup>120</sup> NRS 533.370(2).

actually to construct the work and apply the water to the intended beneficial use with reasonable diligence. Therefore, if all other statutory requirements are fulfilled, NRS 533.370(1) requires the Applications to be approved.

**IV. NEED, CONSERVATION, ENVIRONMENTALLY SOUND, FUTURE GROWTH AND DEVELOPMENT BASIN OF ORIGIN**

The State Engineer concludes that the Applicant has justified the need to import water from Spring Valley; that an acceptable conservation plan is being effectively carried out; that the use of the water is environmentally sound as it relates to the basin of origin; and that by reserving 4,000 afa in the basin of origin, that the export of water will not unduly limit the future growth and development of Spring Valley. Therefore, there is no reason to reject the Applications under NRS 533.370(3).

**RULING**

The protests to Applications 54003-54021 are upheld and the Applications are denied.

The State Engineer concludes that, although there are 61,127 afa available for appropriation, after 200 years the wells under consideration would only capture 42,338 afa which means that the award to the applicant would have to be reduced by 21,789 afa for a new award of 42,338 afa if the subject wells could reach equilibrium. However, the Applicant failed to present any evidence, much less substantial evidence, that the wells under consideration will ever reach equilibrium under any pumping regime. Therefore, the Applications must be denied. Furthermore, the Applicant relies upon the 3M Plan to avoid conflicts with existing rights or threatened harm to the public interest. The 3M Plan is flawed in several material respects such that it will not avoid conflicts with existing rights or the threat of harm to the public interest.

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STATE ENGINEER

**Submitted by:**

HEJMANOWSKI & McCREA LLC and  
KAEMPFER CROWELL



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Severin A. Carlson, Bar # 9373  
Kaempfer Crowell

**CERTIFICATE OF SERVICE**

I hereby certify that on this 19<sup>th</sup> day of January, 2018, a true and correct copy of the foregoing

**PROPOSED RULING SUBMITTED BY CORPORATION OF THE PRESIDING**

**BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS ON**

**BEHALF OF THE CLEVELAND RANCH** was served on the following persons by electronic

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