

**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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**CLOSING BRIEF OF CORPORATION OF THE  
PRESIDING BISHOP OF THE CHURCH OF JESUS CHRIST OF LATTER-DAY  
SAINTS ON BEHALF OF THE CLEVELAND RANCH**

**PRELIMINARY STATEMENT**

The outcome of this litigation was foreordained 29 years ago when SNWA chose points of diversion for its applications. Just one year earlier in Ruling 3486, the State Engineer found that the “areas of active evapotranspiration” in another basin were “too remote from the concentrated pumping areas” leaving some evapotranspiration (“ET”) uncaptured.<sup>1</sup> The State Engineer reduced the perennial yield to account for this uncaptured ET. The reason for doing this has been expressed repeatedly by the State Engineer. Before pumping begins, a groundwater basin is considered to be in a state of equilibrium, called “steady state” conditions. The groundwater budget is balanced. Sustainable groundwater development requires maintaining this balance. That is done by ensuring that when new pumping is introduced to a balanced system, it reduces natural discharge in an amount equal to what is pumped. There will always be a temporary imbalance, but properly managed, the system will reach a new equilibrium without unreasonably lowering the water table.

If natural discharge is not reduced in this manner when new pumping begins, a new equilibrium will not be reached, steady state conditions will not be achieved, and water levels

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<sup>1</sup> State Engineer’s Ruling 3486, p. 3.

will continually decline—perpetual groundwater mining. This is why, for decades the definition of *perennial yield* has been directly tied to capturing natural discharge.<sup>2</sup> That definition forms the basis for sustainable groundwater development in Nevada.

In Spring Valley, natural discharge occurs almost exclusively through ET. Thus, sustainable development of groundwater requires capturing this ET, which means choosing points of diversion near areas of active ET. But that is not what SNWA did. No one knows for sure why SNWA chose these specific points of diversion, but it was not to capture ET. Mr. Burns speculated that these sites were chosen to *avoid* ET capture.<sup>3</sup> It is no surprise, then, that the undisputed evidence shows that SNWA’s proposed system would mine millions of acre feet of water from permanent storage without ever reaching equilibrium. And that is why the outcome of this proceeding was foreordained in 1989 when SNWA chose its points of diversion.

The District Court remanded for an award of “less than the calculated E.T. for Spring Valley” with the requirement that, whatever amount was awarded, the evidence had to show that the system had “some prospect of reaching equilibrium ....”<sup>4</sup> SNWA made no effort make this showing.<sup>5</sup> The undisputed evidence showed that the system would not reach equilibrium, no matter how much water SNWA was awarded. What the system would reach is conflict with existing water rights and the public interest.

Further, even as modified, SNWA’s 3M Plan still fails to provide meaningful protections to existing water rights and does not satisfy the Remand Decision.

SNWA’s hypothetical 101-well field is irrelevant. The statutory scheme does not allow the State Engineer to grant applications that do not satisfy the statutory criteria based on the possibility that some other design could satisfy the statutory criteria. For these reasons, the State Engineer has no choice but to deny SNWA’s remaining 15 applications.

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<sup>2</sup> State Engineer’s Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13 (Oct. 1971).

<sup>3</sup> Transcript, Vol. 5, pp. 1082:17-1083:23 (Burns) (Sept. 29, 2017)

<sup>4</sup> Remand Decision, p. 13.

<sup>5</sup> Transcript Vol 5, pp. 1069:18-1070:21 (Watrus) (Sept. 29, 2017); *see also* Transcript, Vol. 4, 990:6-13 (Burns) (Sept. 28, 2017).

## BACKGROUND

Cleveland Ranch, owned by CPB, is in the center of Spring Valley. It has 30,564 AFA of water rights, consisting of surface water (streams, springs, seeps) and groundwater rights (wells).

SNWA applied to appropriate water from 19 points of diversion in Spring Valley. CPB protested 12 of those applications. In 2011, CPB's experts, Norm Jones and Alan Mayo, used SNWA's own groundwater model to show that SNWA's system had little chance of reaching equilibrium and that, before it could ever do so, it would cause drastic drawdowns and annihilate existing water rights.<sup>6</sup> SNWA disputed this evidence by questioning the usefulness of the model and raising the possibility of human driven management decisions to monitor, manage, and mitigate these inevitable conflicts.

Ruling 6164 granted 15 of the 19 applications. The Ruling refused to consider evidence of drawdowns beyond 75 years.<sup>7</sup> And it noted that "the model cannot account for human-driven management decisions to reduce, relocate, or stop pumping to prevent impacts to existing water rights or environmental areas of interest."<sup>8</sup> The Ruling adopted SNWA's 3M Plan with a promise to oversee and enforce that plan to protect existing rights and the environment.

CPB and other Protestants appealed and the District Court reversed Ruling 6164. The District Court accepted the State Engineer's long-standing definition of *perennial yield*.<sup>9</sup> The District Court then described the process of sustainable groundwater development, whereby natural discharge is eliminated in response to new pumping so that, over time, the system reaches a new equilibrium.<sup>10</sup> The District Court accepted that this process requires a "reasonable lowering of the water table and the death of most of the phreatophytes ...."<sup>11</sup> And the District

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<sup>6</sup> Exhibit CPB\_011 (2011).

<sup>7</sup> State Engineer's Ruling 6164 pp. 129-30.

<sup>8</sup> State Engineer's Ruling 6164, p. 130.

<sup>9</sup> Remand Decision, p.10.

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

<sup>11</sup> Remand Decision, p.10.

Court agreed with the State Engineer that “the time to reach equilibrium is not a valid reason to deny the grant of water,” but explained that it “may very well be a reason to limit the appropriation below the calculated E.T.”<sup>12</sup> The District Court rejected the argument that ET capture is not required.<sup>13</sup>

The District Court reversed Ruling 6164 because SNWA failed to submit “valid evidence” that its groundwater project would capture ET and reach equilibrium. The District Court remanded “for an award less than the calculated E.T.” with the requirement that the amended award have “some prospect of reaching equilibrium in the reservoir.”<sup>14</sup>

The District Court also remanded for reconsideration of the 3M Plan, finding it was “flawed in several respects.”<sup>15</sup> The District Court remanded for the State Engineer to “[d]efine standards, thresholds or triggers so that mitigation of unreasonable effects from pumping of water are neither arbitrary nor capricious in Spring Valley ....”<sup>16</sup>

As shown below, SNWA failed to meet its burden on remand. Indeed, SNWA did not even attempt to meet its burden.

**I. ET capture is the foundation of sustainable groundwater development.**

Sustainable groundwater development requires a balanced groundwater budget, also known as “steady state” conditions.<sup>17</sup> “Generally, groundwater systems are thought to be in steady state prior to human development of the resource. Steady state means that recharge to the groundwater system equals discharge; thereby resulting in a balanced groundwater budget.”<sup>18</sup>

When new pumping is introduced to a balanced system, the increased discharge creates an imbalance. To rebalance the groundwater budget, there must be a corresponding increase in recharge, or a decrease in discharge. As explained by Charles V. Theis:

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<sup>12</sup> Remand Decision, p. 11.

<sup>13</sup> Remand Decision, p. 12.

<sup>14</sup> Remand Decision, p. 13.

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

<sup>16</sup> Remand Decision, p. 23.

<sup>17</sup> State Engineer’s Ruling 5726, p. 27.

<sup>18</sup> State Engineer’s Ruling 6164, p. 57.

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 on a previously stable system, and *it must be balanced* by an increase in the recharge of 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>19</sup>

These basic concepts are captured in the State Engineer's long-standing definition of *perennial yield*. Perennial yield is "the maximum amount of groundwater that can be salvaged each year over the long term without depleting the ground-water reservoir."<sup>20</sup> It is not based on the total amount of natural discharge but is "limited to the *maximum amount of natural discharge that can be salvaged* for beneficial use."<sup>21</sup> "If the perennial yield is exceeded," the State Engineer warns, "ground-water levels will decline and steady-state conditions will not be achieved, a situation commonly referred to as groundwater mining."<sup>22</sup> Similarly, the Nevada Supreme Court has defined perennial yield as "the equilibrium amount or maximum amount of water that can safely be used without depleting the source."<sup>23</sup>

Built into these definitions is the requirement of salvaging or eliminating "natural discharge" to reach "equilibrium" or "steady-state" conditions after new pumping begins. Natural discharge in Spring Valley occurs primarily through ET.<sup>24</sup> Thus, in Spring Valley, "perennial yield," is "limited to the maximum amount" of ET "that can be salvaged for beneficial use."<sup>25</sup> The idea is "that water lost to natural ET" (water already being discharged) "can be captured by wells and placed to beneficial use," thus maintaining equilibrium between discharge and recharge.<sup>26</sup> Accordingly, the "estimate of the perennial yield" for Spring Valley "relies on the capture of ground-water ET as the limit of the perennial yield."<sup>27</sup>

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<sup>19</sup> Theis, C.V., 1940. The source of water derived from wells. *Civil Engineering* 10(5):277-80 (emphasis added).

<sup>20</sup> State Engineer's Ruling 6164, p. 56.

<sup>21</sup> State Engineer's Ruling 6164, p. 56 (emphasis added).

<sup>22</sup> State Engineer's Ruling 6164, p. 56.

<sup>23</sup> *Pyramid Lake Paiute Tribe of Indians v. Ricci*, 245 P.3d 1145, 1147 (Nev. 2010).

<sup>24</sup> State Engineer's Ruling 5726, p. 27.

<sup>25</sup> State Engineer's Ruling 6164, p. 56.

<sup>26</sup> State Engineer's Ruling 5726, p. 27.

<sup>27</sup> State Engineer's Ruling 5726, p. 32.

In basins like Spring Valley, without ET capture, new discharges through pumping will not be offset by declines in natural discharge. There will be a “water budget deficit” and “steady state conditions cannot be reached . . . .”<sup>28</sup> And this is the very definition of groundwater mining. “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.”<sup>29</sup> “While 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.”<sup>30</sup>

Failing to achieve “steady state” conditions—a balanced groundwater budget—leads to “adverse conditions such as water quality degradation, storage depletion, diminishing yield of wells, increased pumping costs, and land subsidence.”<sup>31</sup> In this case, the groundwater mining would also decimate existing rights.<sup>32</sup>

SNWA suggests a different definition of *groundwater mining*. As explained by its counsel, SNWA has “taken the position that groundwater mining in Nevada does not occur if permits granted in a groundwater basin do not exceed the perennial yield.”<sup>33</sup> In other words, “groundwater mining does not occur as long as permits are issued in an amount less than perennial yield[.]”<sup>34</sup> Under this definition, ET capture does not matter. But that contention was squarely rejected by the Remand Decision. SNWA’s proposed definition of *groundwater mining* is also contrary to the State Engineer’s definition, which is directly tied to “steady state” conditions.<sup>35</sup> As stated by Dr. Jones: “You cannot, on the one hand, state that groundwater mining is prohibited yet, at the same time, state that equilibrium and ET capture do [ ] not matter because if you do not have a state of equilibrium you have, by definition, groundwater mining.”<sup>36</sup>

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<sup>28</sup> State Engineer’s Ruling 5726, p. 36.

<sup>29</sup> State Engineer’s Ruling 6164, p. 56.

<sup>30</sup> Remand Decision, p.10.

<sup>31</sup> State Engineer’s Ruling 6164, p. 56.

<sup>32</sup> See *infra* p. 24.

<sup>33</sup> Transcript, Vol. 6 1305:16-24 (Taggart) (Oct. 2, 2017).

<sup>34</sup> Transcript, Vol. 6 1305:16-24 (Taggart) (Oct. 2, 2017).

<sup>35</sup> State Engineer’s Ruling 6164, p. 56.

<sup>36</sup> Transcript, Vol. 6, 1164:19-23 (Jones) (Oct. 2, 2017).

Of course, some lowering of the water table is necessary to capture ET. “A decline in water levels always occurs when a new pumping stress is applied and water levels will continue to decline as transitional storage is removed until steady state conditions can be reached.”<sup>37</sup> Nevada law expressly allows for a “reasonable lowering of the static water level” in response to new pumping, but only “at the appropriator’s point of diversion.”<sup>38</sup>

The water that is withdrawn from storage in order to lower the water table, eliminate ET, and reach steady state conditions is called “transitional storage.” As explained by the State Engineer in 1971: “Transitional storage” is the water “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>39</sup> Thus, transitional storage is not limitless. (Under SNWA’s definition of *groundwater mining*, transitional storage would have to be limitless.) The very concept of *transitional* storage is that a new equilibrium will be reached and water will stop being pumped from storage. But this cannot occur without ET salvage.

The exact amount of time it takes to reach equilibrium is not the critical factor. What matters is whether equilibrium will be reached “without depleting the groundwater reservoir.”<sup>40</sup> A small project that takes a long time to reach equilibrium will only remove a small amount of water from storage during the transition. But SNWA has applied for the “largest interbasin appropriation and transfer of water ever requested in the history of the state of Nevada.”<sup>41</sup> This project will withdraw massive amounts of water from storage. And even a small imbalance will result in substantial continuing withdrawals from storage.

Again, the very concept of *perennial yield* is based on eliminating natural discharge (ET) in order to create steady state conditions so that the pumping can continue “indefinitely.”<sup>42</sup> As Dr. Bredehoeft testified, “when you read ‘perennial yield,’ that’s what you’re – that’s what

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<sup>37</sup> State Engineer’s Ruling 5726, p. 36.

<sup>38</sup> NRS § 534.110(4).

<sup>39</sup> State Engineer’s Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13.

<sup>40</sup> State Engineer’s Ruling 5726, p. 26.

<sup>41</sup> *Great Basin Water Network v. State Engineer*, 234 P.3d 912, 914 (Nev. 2010).

<sup>42</sup> Transcript, Vol. 24, p. 5372:19 (Bredehoeft) (Nov. 20, 2011).

you're setting out as your objective.”<sup>43</sup> And that is precisely why “perennial yield” is directly tied to ET capture. Without ET capture, the system will not achieve steady state conditions and you will not be able to pump “indefinitely” without continually lowering the water table.

Because ET capture is necessary to achieve steady state conditions, the State Engineer must require applicants to show that their proposed pumping will capture sufficient ET to reach a new equilibrium. And the applicant should carefully choose points of diversion that will capture ET. The State Engineer has recognized that “[t]he magnitude of transitional storage depletion and ground-water decline” is directly “dependent on *the location and magnitude of pumping*, the location and magnitude of natural inflow and outflow, and the hydraulic properties of the aquifers ....”<sup>44</sup> To achieve ET capture with “a minimum lowering of the water table in the aquifer” wells “should be placed as close as economically possible to areas of ... natural recharge where ground water is being lost by [ET] ....”<sup>45</sup>

The State Engineer enforced these ideas in Ruling 3486 by reducing the perennial yield of a basin because the “areas of active evapotranspiration” in that basin were “too remote from the concentrated pumping areas” leaving ET uncaptured.<sup>46</sup> If the State Engineer had taken SNWA’s approach and ignored actual ET capture, the water budget in that basin would have been imbalanced, resulting in a perpetual lowering of the water table. Similarly, in Ruling 3462, the State Engineer denied six applications because of uncaptured ET.

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>47</sup>

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<sup>43</sup> Transcript, Vol. 24, p. 5373:10-12 (Bredehoeft) (Nov. 10, 2011).

<sup>44</sup> State Engineer’s Ruling 5726, p. 36 (emphasis added).

<sup>45</sup> Theis, C.V., 1940. The source of water derived from wells. *Civil Engineering* 10(5):277-80.

<sup>46</sup> State Engineer’s Ruling 3486, p. 3.

<sup>47</sup> State Engineer’s Ruling 3462, pp. 2-3.



Ruling 3607 reached a similar conclusion. Although there were areas of active ET, the State Engineer found that the proposed pumping regime would not capture that ET because the proposed points of diversion were too remote from those areas of active ET.<sup>48</sup> And in 1971, the State Engineer explained that in Pahrump, “the average annual recharge is estimated to be 22,000 acre feet,” but “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>49</sup> In other words, because some of the natural discharge could not be captured, the perennial yield had to be reduced.

In that same 1971 report, the State Engineer explained that estimates of perennial yield “are based on the following limitations and assumptions: (1) present beneficial uses represent salvage and are therefore included; (2) most evapotranspiration discharge can be salvaged ....”<sup>50</sup>

Thus, when determining the perennial yield of a basin, the State Engineer must consider how much natural discharge can actually be salvaged. And when considering an application for a new appropriation, the State Engineer must consider whether the proposed pumping will achieve steady state conditions by reducing natural discharge in an amount equal to the proposed pumping. When groundwater is pumped from areas remote from natural discharge, “the condition of equilibrium 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>51</sup> And this is exactly where SNWA went wrong all the way back in 1989.

**II. The Remand Decision properly applies these basic principles by requiring SNWA to show that its proposed pumping will capture ET and reach a new equilibrium without depleting the aquifer.**

Throughout the remand hearing, SNWA raised questions about whether the Remand Decision properly applied Nevada law. It makes no difference. We are bound by the Remand

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<sup>48</sup> State Engineer’s Ruling 3607, p. 3.

<sup>49</sup> State Engineer’s Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13 (emphasis added).

<sup>50</sup> State Engineer’s Office, *Water for Nevada, State of Nevada Water Planning Report No. 3*, p. 13 (emphasis added).

<sup>51</sup> Theis, C.V., 1940. The source of water derived from wells. *Civil Engineering* 10(5):277-280.

Decision. In any case, the Remand Decision faithfully applied the basic principles of Nevada law set forth above. It is SNWA that is seeking a radical departure from basic principles of sustainable groundwater development.

SNWA argued to the District Court that “[t]here is no mention of ET capture anywhere in Nevada law.”<sup>52</sup> To the contrary, the requirement of ET capture is all over Nevada Water law. It is inherent if not explicit in at least the following: (1) the longstanding definition of *perennial yield*; (2) the longstanding prohibition against groundwater mining; (3) the statutory concept of “safe yield,”<sup>53</sup> (4) the concept of “steady state” conditions or equilibrium; (5) the statutory prohibition against an unreasonable lowering of the water table; (6) the concept of *transitional storage*; and (7) the prohibition against conflicts with existing water rights. These are the fundamental principles of sustainable groundwater development, and they all rely on ET capture. It is not an overstatement to say that, in basins like Spring Valley where natural discharge occurs primarily through ET, ET capture is the foundation of sustainable groundwater development.

It is SNWA’s approach, which shows no concern for ET capture and steady state conditions, that is a radical departure from well-established Nevada groundwater law. And departing from these basic principles of sustainable development when faced with the “largest interbasin appropriation and transfer of water ever requested in the history of the state of Nevada”<sup>54</sup> would be disastrous.

The Remand Decision was right to reject SNWA’s argument 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>55</sup> Not only are they part of well-established Nevada law, they are absolutely necessary to sustainable groundwater development.

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<sup>52</sup> SNWA’s Ans. Br. to CPB, p. 24.

<sup>53</sup> NRS 533.371(4).

<sup>54</sup> *Great Basin Water Network v. State Engineer*, 234 P.3d 912, 914 (Nev. 2010).

<sup>55</sup> Remand Decision, p. 11 quoting SNWA Ans. Brief, Vol. 1, p. 69.

**III. SNWA made no attempt to satisfy the Remand Decision. The undisputed evidence showed that the system would never reach equilibrium, no matter the pumping rate.**

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>56</sup> Under the Remand Decision, SNWA was required to submit evidence of how much ET its groundwater project would capture and also show that equilibrium or “steady state” conditions would be achieved without depleting the groundwater aquifer. SNWA made no attempt to meet this burden.<sup>57</sup> SNWA conceded that its project was not designed to capture ET and reach equilibrium.<sup>58</sup>

CPB put on undisputed evidence that SNWA’s groundwater project would never reach equilibrium.<sup>59</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 SNWA in recent years.<sup>60</sup> These simulations were limited to the 15 wells proposed in the applications that are pending before the State Engineer.<sup>61</sup>

This evidence showed that the proposed pumping system will never reach equilibrium. The primary reason is the spatial distribution of the wells. They are too remote from the ET discharge zones. SNWA’s own witnesses agreed. Dr. Burns acknowledged that the “proximity of the well locations to the discharge area” was the primary cause of the failure to capture ET.<sup>62</sup> And the effects of that flaw, as shown by model simulations, are that the proposed pumping

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<sup>56</sup> Remand Decision, p. 23.

<sup>57</sup> Transcript, Vol. 5, pp. 1069:18-21 (Watrus) (Sept. 29, 2017).

<sup>58</sup> Exhibit SNWA\_597, p. 6; Transcript, Vol. 4, pp 990:6-992:11 (Burns) (Sept. 28, 2017).

<sup>59</sup> Exhibit CPB\_19, Exhibit CPB\_25.

<sup>60</sup> Transcript, Vol. 6, pp. 1181:19-1182:5 (Jones) (Oct. 2, 2017).

<sup>61</sup> Transcript, Vol. 6, pp. 1183:23-1184:6 (Jones) (Oct. 2, 2017).

<sup>62</sup> Transcript, Vol. 4, 980:10-11 (Burns) (Sept. 28, 2017).

would substantially dewater the aquifer, destroy existing rights, and pull a substantial amount of groundwater from neighboring basins, without ever approaching equilibrium.<sup>63</sup>

According to the undisputed evidence, after 75 years of pumping, the system would be capturing about 38,000 AFA of ET discharge, 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>64</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>65</sup> And after 200 years, the model predicts that SNWA would have withdrawn 3.68 million acre feet from storage which, based on SNWA's estimate of the total amount of storage in Spring Valley, represents 43% to 77% of the total available storage.<sup>66</sup> Additionally, about 1.5 to 2 million acre feet would have been withdrawn from adjacent valleys.<sup>67</sup> And the system would still be far from equilibrium.<sup>68</sup>

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>69</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>70</sup> This analysis confirms that the primary problem is not the pumping rate, but the location of the wells in relation to active ET zones. 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>71</sup>

Again, rather than dispute this evidence SNWA's witnesses conceded the point.

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<sup>63</sup> Transcript, Vol. 6 pp. 1178:23-1179:9 (Jones/Mayo) (Oct. 2, 2017).

<sup>64</sup> Transcript, Vol. 6, pp. 1192:9-21 (Jones) (Oct. 2, 2017).

<sup>65</sup> Transcript, Vol. 6, pp. 1188:14-1190:7 (Jones/Mayo) (Oct. 2, 2017).

<sup>66</sup> Transcript, Vol. 6, pp. 1191:14-21 (Jones) (Oct. 2, 2017).

<sup>67</sup> Transcript, Vol. 6, pp. 1194:7-14 (Jones) (Oct. 2, 2017).

<sup>68</sup> Transcript, Vol. 6, pp. 1194:15-16 (Jones) (Oct. 2, 2017).

<sup>69</sup> Transcript, Vol. 6, pp. 1198:5-13 (Jones) (Oct. 2, 2017).

<sup>70</sup> Transcript, Vol. 6, pp. 1200:15-20 (Jones) (Oct. 2, 2017).

<sup>71</sup> Transcript, Vol. 6, pp. 1195:22-1196:4 (Jones) (Oct. 2, 2017).

Q. Do you have an opinion about whether reducing the award by simply reducing the award you can accomplish the goal the court indicated, which was reaching equilibrium in the basin?

A. No. That really doesn't get you there. Reducing the award, reducing the appropriation is not really the issue. As I described earlier, it's the proximity of the wells to the discharge area.<sup>72</sup>

The system "does not reach equilibrium after 200 years of pumping," SNWA concedes, "because the production well configuration was not designed to capture ET."<sup>73</sup>

The Remand Decision required SNWA to prove ET capture and equilibrium without depleting the groundwater reservoir. The undisputed evidence shows substantial uncaptured ET, substantial depletion of the groundwater reservoir, and no chance of equilibrium. And awarding less water is not the solution because, at its current points of diversion, ET capture and equilibrium cannot be achieved regardless of pumping rates. The State Engineer has no choice but to deny these applications.

**IV. The State Engineer cannot grant SNWA's 15 applications based on a hypothetical well field.**

In the remand hearing, SNWA submitted evidence that a different design with 101 wells spread throughout Spring Valley could achieve equilibrium. The State Engineer allowed this evidence to be admitted, but now that it has been considered, the State Engineer must disregard it. Nevada law does not allow the State Engineer to approve applications for specific points of diversion based on the possibility that different applications with different points of diversion could achieve equilibrium.

**A. The Remand Decision does not authorize consideration of alternative well field designs.**

SNWA cites the Remand Decision as authority for its hypothetical well field. The Remand Decision noted that "SNWA did claim that after two hundred (200) years; their evidence showed that eighty-four (84%) of the E.T. would be captured and eighty four percent

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<sup>72</sup> Transcript, Vol. 4, 990:6-13 (Burns) (Sept. 28, 2017).

<sup>73</sup> Exhibit SNWA\_597, p. 6.

[is] close to a hundred percent.”<sup>74</sup> This 84% ET capture scenario was not based on the pending applications but a different well field design; thus, SNWA takes this reference as the District Court’s approval of consideration of alternative well field designs.

The District Court had no reason to think this 84% ET capture scenario was based on a different well field design. In its brief to the District Court, SNWA argued that it had submitted evidence to the State Engineer showing that “a substantial percentage of groundwater ET could be captured *after full project development is complete*, and a minimal amount of water would be removed from storage.”<sup>75</sup> “Full project development” seemingly referred to this project, not some hypothetical project. To support this argument, SNWA noted that the “BLM Draft Environmental Impact Statement for the Groundwater Project states that eighty-four percent of ET in Spring Valley will be captured 75 years *after full build out*.”<sup>76</sup> Again, “after full build out” implied build out of the 15 wells at issue. What SNWA did not mention to the District Court is that this 84% ET capture prediction was not based on development of this project but “simulated pumping from 81 wells distributed throughout the Spring Valley basin and was not limited to the 15 points of diversion ... specifically identified in SNWA’s applications.”<sup>77</sup> The District Court had no reason to think this 84% ET capture scenario was based on a hypothetical well field. Nothing in the Remand Decision authorizes the State Engineer to consider alternative well field designs.

**B. The State Engineer has already rejected consideration of alternative well field designs.**

During the 2011 hearing on these same applications, SNWA 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:

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<sup>74</sup> Remand Decision, p. 11.

<sup>75</sup> SNWA’s Ans. Br. to CPB, p. 20 (emphasis added).

<sup>76</sup> SNWA’s Ans. Br. to CPB, p. 20 (emphasis added).

<sup>77</sup> SNWA’s Op. to CPB’s Mot. in Limine to Exclude Testimony and Evidence Relating to Theoretical ET-Capture Wells, p. 2.

[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>78</sup>

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>79</sup>

**C. Nevada law requires applications to be rejected or approved based on the information in the applications, including specific points of diversion.**

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>80</sup> This is done based on the “best available science”<sup>81</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 potential changes in pumping rates or points of diversion.

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

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<sup>78</sup> Transcript Vol. 11, pp. 2507:23-2508:10 (Oct. 10, 2011).

<sup>79</sup> State Engineer's Ruling 6164, p. 150.

<sup>80</sup> NRS 533.370(2).

<sup>81</sup> NRS 533.024(1)(c).

use conflicts with existing rights or with protectable interests in existing domestic wells, (2) whether the proposed use threatens to prove detrimental to the public interest,<sup>82</sup> (3) “whether the approval of the Applications is environmentally sound as it relates to Spring Valley,”<sup>83</sup> and (4) whether springs and streams on which livestock rely will be protected.<sup>84</sup>

No evidence has been submitted to the State Engineer to show that SNWA’s hypothetical 101-well field meets any of these statutory criteria. SNWA conceded, for example, that no conflicts analysis was done for this hypothetical well field.<sup>85</sup> Further, SNWA’s simulations showed that this 101-well field could conceivably reach equilibrium, but SNWA did not look at how much water would be taken from storage or how much the water table would be lowered before it reached equilibrium.<sup>86</sup> The 3M Plan also does not address this hypothetical well field.

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>87</sup> But this extra layer of protection only applies when the statutory standards for granting the applications at issue are otherwise met. Nothing in Nevada law allows the State Engineer to condition approval of an application on the promise of a different well field design in the future.

Further, the 101-well field design presented by SNWA was nothing more than a concept and does not represent SNWA’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>88</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

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<sup>82</sup> NRS 533.370(2).

<sup>83</sup> State Engineer’s Ruling 6164, p. 27 citing NRS 533.370(3)(c).

<sup>84</sup> NRS 533.495.

<sup>85</sup> Transcript, Vol. 10, p. 2052:1-6 (Taggart) (Oct. 6, 2017); Transcript, Vol. 5, 1086:1-13 (Burns) (Sept. 29, 2017).

<sup>86</sup> Transcript, Vol. 5, p. 1081:6-15 (Burns) (Sept. 29, 2017).

<sup>87</sup> NRS 533.3705.

<sup>88</sup> Transcript, Vol. 5, p. 1077:4-7 (Drici) (Sept. 29, 2017).



of diversion. In Ruling 5857, quoted in *United States v. Alpine Land & Reservoir Co.*,<sup>89</sup> the State Engineer expressly refused to consider imaginary points of diversion:

“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.”<sup>90</sup>

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, there does not appear to be anything in Chapter 533 that would give the State Engineer the right to compel an applicant to file change applications. And if change applications were filed, what would happen if they did not meet the statutory criteria and were denied? The applicant would presumably still have the right to pump from the original points of diversion based on the State Engineer’s approval of the original applications, even though those applications also did not meet the statutory criteria. Simply put, it would be fundamentally inconsistent with the provisions of Chapter 533 for the State Engineer to approve applications that do not meet the statutory criteria based on the possibility of change applications being filed in the future.

SNWA chose not to submit applications for its hypothetical well field. It was SNWA’s choice and not the fault of the Protestants or the State Engineer. The answer here for SNWA is to simply submit new applications for the 101 wells, or whatever final design it comes up with. Dr. Watrus testified that 101 wells is not a significant amount for a project of this size.<sup>91</sup>

**D. Granting applications based on future changes would violate Due Process.**

The Nevada Supreme Court has stated that due process requires notice and a hearing on what is actually at issue: “Inherent in any notice and hearing requirement are the propositions

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<sup>89</sup> 2012 WL 4442804, \*3 (D. Nev. 2012).

<sup>90</sup> *United States v. Alpine Land & Reservoir Co.*, 2012 WL 4442804, \*3 (D. Nev. 2012), quoting State Engineer’s Ruling 5857, p. 15.

<sup>91</sup> Transcript, Vol. 4, p. 1009:7-19 (Watrus) (Sept. 28, 2017).

that the notice will accurately reflect the subject matter to be addressed and that the hearing will allow full consideration of it.”<sup>92</sup> CPB and other Protestants prepared for these hearings based on what was in the 19 applications filed by SNWA. SNWA witnesses testified that SNWA does intend to develop the 15 wells in question.<sup>93</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>94</sup> “The procedural rights of parties before an administrative body cannot be made to suffer for reasons of convenience or expediency.”<sup>95</sup>

SNWA 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 on alternative well-field designs. It is not enough to say that Protestants can object when (or if) change applications are filed because, at that point, SNWA will already have been granted the right to appropriate water from the present points of diversion. As the Nevada Supreme Court recently said, “Notice must be given at an appropriate stage in the proceedings to give parties meaningful input in the adjudication of their rights.”<sup>96</sup> Thus, Protestants will have been denied due process because the present applications will have been granted based on evidence that has not and may not ever be submitted.

**V. The 3M plan is deficient in material respects.**

The Monitoring, Mitigation and Management Plan (“3M Plan”) is critical to the pending applications because it is the means by which SNWA proposes to address conflicts and avoid unreasonable effects.<sup>97</sup> However, this 3M Plan falls far short of the mandate guidelines of the

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<sup>92</sup> *Public Service Comm’n of Nevada v. Southwest Gas Corp.*, 99 Nev. 268, 271, 662 P.2d 624, 626 (1983).

<sup>93</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>94</sup> *Application of Filippini*, 66 Nev. 17, 27, 202 P.2d 535, 540 (1949).

<sup>95</sup> *Bivins Constr. v. State Contractors’ Bd.*, 107 Nev. 281, 283, 809 P.2d 1268, 1270 (1991).

<sup>96</sup> *Eureka County v. The Seventh Judicial District Court*, 133 Nev. Adv. Op. 111 (Dec. 28, 2017).

<sup>97</sup> SNWA Ex. 592. The current 3M Plan entirely replaces the prior version introduced in 2011. Ex. 592 at pp. 1-2.

Remand Decision and a recent Nevada Supreme Court decision. The Remand Decision was critical of the prior 3M Plan in several respects:

There are no objective standards to determine when mitigation will be required and implemented.<sup>98</sup>

The 3M Plan listed mitigation efforts that *could* be made but did not state what mitigation *would* be made and *when*.<sup>99</sup>

Without a stated objective standard of when mitigation *would* be implemented, the Ruling was arbitrary and capricious.<sup>100</sup>

There was no plan presented as to how the State Engineer will be able to monitor an area as large as Spring Valley.<sup>101</sup>

Impliedly, the State Engineer has delegated his monitoring responsibilities to the Applicant.<sup>102</sup>

“[M]atter must be remanded to the State Engineer until objective standards can be established and stated – as to when mitigation must occur.”<sup>103</sup>

Less than two years after the Remand Decision, the Nevada Supreme Court issued its *en banc* decision in *Eureka County v. State Engineer*.<sup>104</sup> *Eureka* overturned a State Engineer decision on the principal grounds that:

[E]ven assuming that under NRS 533.370(2) the State Engineer has authority to grant an application that conflicts with existing rights based upon a determination that the applicant will be able to mitigate the State Engineer’s decision to approve the applications and issue the permits at issue here is not supported by sufficient evidence that successful mitigation efforts may be undertaken so as to dispel the threat to the existing rights holders. We thus reverse the district court’s decision denying judicial review of the State Engineer’s decisions and remand.<sup>105</sup>

*Eureka* went on to articulate these important principles that must govern the current proceedings:

1. The Applicant must show by substantial evidence what *specific* mitigation techniques will be implemented and that such technique *will actually work*.

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<sup>98</sup> Remand Decision, p. 15.

<sup>99</sup> Remand Decision, pp. 15-16 (emphasis added).

<sup>100</sup> Remand Decision, p. 17 (emphasis added).

<sup>101</sup> Remand Decision, p. 17.

<sup>102</sup> Remand Decision, p. 18.

<sup>103</sup> Remand Decision, p. 18.

<sup>104</sup> 131 Nev. Adv. Op. 84, 359 P.3d 1114 (2015).

<sup>105</sup> 131 Nev. Adv. Op. at 84, 359 P.3d at 1115-6.

2. It is specious to assume that water from a different source would be an adequate or effective mitigation technique.
3. A decision to grant an application must be made upon *presently known substantial evidence*, rather than information to be determined in the future, for important reasons.<sup>106</sup>

One reason for the third principle is that due process demands that Protestants have an opportunity to meaningfully challenge the evidence *before* the State Engineer makes a decision on the applications. Furthermore, all of the relevant evidence must be made part of the record in advance of the State Engineer's decision in order to allow for fully informed judicial review.

**A. Recognizable, Objective Investigation Triggers Are Still Lacking.**

The Remand Decision made clear that there should be objective triggers to implement mitigation measures. SNWA's revised its 3M Plan, Exhibit 592, still fails to provide definite and objective standards at critical junctures.

The 3M Plan deliberately eschewed an objective or recognized standard in favor of describing a *process* by which SNWA can employ formulas to compute when *it* thinks an investigation has been triggered. It is a process, not an objective standard. It provides for SNWA to make the calculation when it deems it appropriate 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 timely shared with the owner of the impacted water rights or the State Engineer. The trigger can scarcely be considered an "objective and recognized standard" if it is known only to SNWA.

**B. Recognizable Mitigation Triggers Are Lacking**

An example of inadequate standards is Table 3-2 of SNWA Ex. 592, which shows on p. 3.21 that each of the four potential mitigation triggers is predicated on a determination that a decline in water level is the result of the GDP pumping. There are no objective or recognizable standards proffered by the 3M Plan about how that determination will be made. The 3M Plan appears to contemplate that the determination of whether a decline is caused by the GDP

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<sup>106</sup> 131 Nev. Adv. Op. at 84, 359 P.3d at 1119-1120 (emphasis added).

pumping is a determination to be made by SNWA whenever and however it may choose. There is no timeline and there are no objective standards. Nor is there any requirement to notify the owner of the impacted water rights about what determinations are being made.

**C. Definitive and Effective Mitigation Action is Lacking**

After the investigation trigger is activated and after a mitigation trigger is activated, then the 3M Plan simply provides a smorgasbord of possible actions.<sup>107</sup> 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 did SNWA present substantial evidence that any of these measures can achieve effective mitigation. The Nevada Supreme Court's *en banc* decision in *Eureka*<sup>108</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. And that must be *presently known* substantial evidence, not information to be determined in the future.

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<sup>107</sup> 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).

SNWA Ex. 592 at p. 3-22.

<sup>108</sup> 131 Nev. Adv. Op. 84, 359 P.3d 1114 (2015)

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>109</sup>

Here, the record is wholly devoid of any substantial evidence whatsoever as to what mitigation method will work or what method must be chosen.

**D. Habitat and Species Protection is Lacking**

SNWA'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."<sup>110</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 address junior water rights. Instead, in SNWA Ex. 507 at footnote 1 on page 4.5, SNWA addresses junior water rights this way:

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>111</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 of avoiding conflicts with junior water rights, or the habitats dependent on junior water

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<sup>109</sup> 131 Nev. Adv. Op. 84 at 15-16, 359 P.3d at 1121

<sup>110</sup> Transcript, Vol. 2, pp. 371-72 (Marshall) (Sept. 26, 2017).

<sup>111</sup> Exhibit SNWA\_507 p.4-5 fn.1.

rights. 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>112</sup> SNWA 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 SNWA 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. Even if the 3M Plan could somehow adequately protect all those water rights, there is not enough substantial evidence to ensure that that approach will adequately protect important habitats and ecosystems.

Throughout the 3M Plan, SNWA 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.

**E. 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 between the wells in the south and the main ET discharge zone in the north part of the valley.<sup>113</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.

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<sup>112</sup> NRS 533.370(2).

<sup>113</sup> Transcript, Vol. 6, p. 1196:18-1197:1 (Jones) (Oct. 2, 2017).

The end result is that trying to pursue ET capture and equilibrium with the 15 wells under consideration necessarily results in very material 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.

**F. 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.

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 other ground water basins within the State of Nevada where storage depletion and declining water tables have been recorded and documented.<sup>114</sup>

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

**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. Some storage depletion is necessary and appropriate to achieve ET salvage and reach a new equilibrium. 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.

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<sup>114</sup> State Engineer’s Ruling 3462, p. 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.

**Reversal of Groundwater Gradients** Currently, there is an interbasin flow of approximately 4,000 to 12,000 acre feet from Spring Valley to Hamlin Valley.<sup>115</sup> This water belongs to Hamlin Valley and is not part of the perennial yield of Spring Valley.<sup>116</sup> Undisputed evidence showed that the proposed pumping with the 15 wells under consideration will reverse that flow such that Snake and Hamlin Valleys will be contributing to interbasin flow to Spring Valley.<sup>117</sup>

**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.

#### **G. The 3M Plan and Adaptive Management**

A critical component of the 3M Plan is the adaptive management program. The essence of the 3M Plan is that it will utilize adaptive management to react to changing conditions in order to avoid conflicts and other unreasonable impacts. SNWA acknowledged that adaptive management is a key element to the 3M Plan.

A. MR. PRIEUR: Yes, it's a key element.... [A]s 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

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<sup>115</sup> State Engineer's Ruling 6164, pp. 84-85.

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

<sup>117</sup> Transcript, Vol. 6, pp. 1186:19-1188:4 (Jones); Aquaveo Report.

simulations for changing in water level with time and distance. So, throughout the process, that active management's in place.<sup>118</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>119</sup>

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

The adaptive management program appears to be a recognized tool in the field of natural resources management.<sup>120</sup> However, it is not a one-size-fits-all solution. It only works in carefully tailored situations.

Mr. Marshall explained to Mr. Taggart that the adaptive management program was derived from SNWA Ex. 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>121</sup>

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<sup>118</sup> Transcript, Vol. 2, pp. 345:16-346:12 (Priour) (Sept. 26, 2017). This is consistent with Mr. Priour's 2011 testimony in which he said:

So this adaptive management is a critical element of the management program in terms of using monitoring data to improve and refine predictive tools; using that to then refine the operations plan accordingly.

Transcript, Vol. 11, p. 2381:10-13 (Priour) (Oct. 10, 2011).

<sup>119</sup> Transcript, Vol. 2, p. 376:5-16 (Marshall) (Sept. 26, 2017).

<sup>120</sup> SNWA Ex 149.

<sup>121</sup> Transcript, Vol. 2, p. 381:13-18 (Marshall) (Sept. 26, 2017) (emphasis added).

This key element and foundation of the 3M Plan was not followed in a very critical aspect. At page 4 of SNWA Ex. 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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[If] *No – without active stakeholder involvement an adaptive management process is unlikely to be effective.*

In other words, failure to engage the various shareholders dooms adaptive management and, therefore, the 3M Plan.

Mr. Marshall admitted that SNWA *failed to engage any of the stakeholders* in drafting the 3M Plan. 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 not going to be effective.

The failure to engage the other stakeholders was a significant oversight. The record discloses that, if SNWA had engaged with the Tribes, SNWA 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 led 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>122</sup> Whereas, to the Tribes, the loss of one swamp cedar, with its association to the massacres, is wholly unacceptable. Had SNWA 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.

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<sup>122</sup> Exhibit SNWA\_592 p.3, Transcript, Vol. 4, pp. 881:15-22, 890:9-14 (Marshall) (Sept. 28, 2017).

If SNWA 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 SNWA 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 SNWA 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.

Adaptive management is the key element of the 3M Plan. The critical Bible to guide the adaptive management program is SNWA Ex. 541. The failure to follow the dictate of Ex. 541 renders the adaptive management program ineffective which, in turn, undercuts the purported validity of the 3M Plan.

### CONCLUSION

It is Nevada's public policy that the State Engineer "consider the best available science in rendering decisions concerning the available surface and underground sources of water in Nevada."<sup>123</sup> During the remand hearing, SNWA made no effort to submit *any* science to satisfy the directives of the Remand Decision. SNWA presented no evidence of ET capture and no evidence that the system would ever reach equilibrium. Instead, SNWA chose to abandon the groundwater project it has applied for and submit evidence for a project that is not before the State Engineer. In contrast, CPB submitted undisputed evidence that SNWA's project would leave substantial amounts of ET uncaptured and would never achieve steady state conditions, resulting in drastic drawdowns and conflicts with existing rights.

These applications suffer from the self-inflicted flaws that flow from stubbornly sticking to a 30-year old well field design that was never intended to salvage natural discharge or to reach

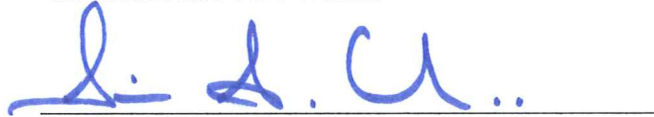
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<sup>123</sup> NRS 533.024(1)(c).

equilibrium. Those flaws foreordained the failure of these applications. There is water available for appropriation but not through these flawed applications. SNWA needs to submit new applications and needs to get it right next time. For now, SNWA leaves the State Engineer no choice but to deny the remaining Applications.

Dated this 19<sup>th</sup> day of January, 2018.

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Corporation of the Presiding Bishop of The Church  
of Jesus Christ of Latter-day Saints, a Utah  
corporation on behalf of the Cleveland Ranch**

**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 **CLOSING BRIEF OF 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 service via email, addressed to the following:

Paul G. Taggart, Esq.  
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