

NON-BINDING ARBITRATION

before

JEFFREY C. FEREDAY, ARBITRATOR

Initiated Pursuant to the Final Settlement Stipulation

in

KANSAS v. NEBRASKA and COLORADO
No. 126 Original, U.S. Supreme Court
Decree of May 29, 2003, 538 U.S. 720

NEBRASKA's ALTERNATIVE WATER-SHORT YEAR PLAN

and

NEBRASKA's ROCK CREEK AUGMENTATION PLAN

ARBITRATOR's ORDER

November 25, 2013

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I. INTRODUCTION

This is the Arbitrator's Order ("Order") in a non-binding arbitration pursuant to the Final Settlement Stipulation in *Kansas v. Nebraska and Colorado*, No. 126 Original, U.S. Supreme Court (the "Arbitration").

The Arbitration concerns two plans Nebraska submitted to the Republican River Compact Administration ("RRCA"): the *Plan for Reduction of Computed Beneficial Consumptive Uses under Alternative Water-Short Year Administration* (July 30, 2012), which was developed pursuant to FSS Appendix M (the "Appendix M Plan"); and the *Rock Creek Augmentation Project Plan* (February 8, 2013), or "RCAP" (individually, a "Plan" and together the "Plans").

This matter originated as Nebraska's separate requests to arbitrate each Plan. The States' May 17, 2013 Arbitration Agreement in this matter ("Arbitration Agreement") provides that the Arbitrator will issue a separate decision on each Plan, but that findings or conclusions pertaining to one Plan may be used or applied to the other as the Arbitrator deems appropriate. Because the Plans were tried and briefed together, and because the Appendix M Plan's water-short year proposal is a proposal to implement the RCAP, this Order sets forth determinations on issues raised in the Arbitration concerning both Plans. This Order includes decisions on all issues related to both Plans, and each Plan receives a separate decision.

A. Background.

The Republican River Compact, Pub. L. No. 78-60, 57 Stat. 86 (1943) ("Compact") allocates the waters of the Republican River Basin ("Basin") among the States of Kansas, Nebraska and Colorado (each, a "State," and collectively, the "States"). Ex. J63.¹ Pursuant to the Compact, the States comprise the three voting members of the RRCA. Ex. J68, pp. 19-20.

As described by Special Master Vincent McKusick, "[t]he Compact supplies some specifics to guide its administration, but overall it has a broadly drawn structure that sets forth general principles and leaves administrative details to be filled in as a part of the process of Compact administration." Ex. J68, p. 17. The Compact allocates certain volumes of water to each State for its respective "beneficial consumptive use," which is defined as "that use by which the water supply of the Basin is consumed through the activities of man, [including] water consumed by evaporation from any reservoir, canal, ditch, or irrigated area." Ex. J63, p. 3. These allocations essentially divide among the States all of the Basin's "virgin water supply," which is defined by the Compact as "the water supply within the Basin undepleted by the

¹ Citations to documents in the record of this Arbitration follow the format and designations used in the *States' Final Joint Exhibit List* (September 6, 2013). In this Order, most documents in the record are cited as "Ex. ____." The FSS is Exhibit J64. However, because references to the FSS are ubiquitous, and for the sake of brevity, the FSS is usually cited without reference to its exhibit number. The Order simply refers to all parts of the FSS as a "Section" (or "§") even though the FSS itself and other documents sometimes use the term "Subsection." Pleadings in the record, such as the Arbitration Agreement and briefs, also have no exhibit numbers, and are referenced by title. Citations to the States' briefs are shortened to "Br."

activities of man.” *Id.* at 3. The Compact grants each State the right to put its allocation to beneficial consumptive use, but does not require that any State deliver water to another State.

In 1999, Kansas initiated an original action in the U.S. Supreme Court that resulted in a Special Master ruling that groundwater is included in Compact administration. *See* Ex. J68, p. 27. In 2002, the States entered into the Final Settlement Stipulation (“FSS”) to resolve the litigation. Ex. J68, p. 7. The FSS was approved by the Supreme Court on May 19, 2003. *See* Ex. N25005, p.1.

Among other things, the FSS imposes a moratorium on most new groundwater development in Nebraska, and it mandates the use of a groundwater model and certain accounting procedures to determine each State’s Computed Beneficial Consumptive Use (“CBCU”) of water and to evaluate the effect of any proposal to reduce or offset CBCU.

B. Course of Events – Appendix M Plan.

On July 30, 2012, Nebraska submitted its Appendix M Plan to the RRCA for approval. Joint Stipulation, p. 2 ¶ 1 and Ex. N25001. Joint Stipulation, p. 2 ¶ 2.² Appendix M of the FSS allows Nebraska to submit plans to comply with its Compact allocation by reducing its CBCU in water-short years. If approved, an Appendix M plan allows Nebraska to calculate its CBCU, and thus measure its compliance with the Compact, based on a three-year running average rather than the more onerous two-year average otherwise applicable in such years.

Nebraska’s Appendix M Plan indicates that its actions would “involve the implementation of Compact Call Year provisions for groundwater curtailments and surface water administration” in the Integrated Management Plans (“IMPs”) adopted in each of Nebraska’s three Natural Resources Districts (“NRDs”). Ex. N25001, p. 4.³ The Plan also proposes “alternative management actions” that Nebraska could use to reduce CBCU if they are determined to be “hydrologically equivalent” to groundwater curtailment and surface water administration; these “may include” the retirement of irrigated acreage, leasing of surface water

² On July 26, 2013, the States submitted a *Joint Stipulation of Uncontested Facts* (“Joint Stipulation”) setting forth facts not in dispute, although the States did not agree as to their relevance. This Order references those stipulated facts where necessary.

³ “Compact Call Year” is a term used by Nebraska in its IMPs to denote years in which it “will regulate and administer surface water in the basin as necessary to ensure Compact compliance.” Ex. N25001, p. 18; *see also id.* p. 39 and 68 (defining Compact Call Year as “[a] year in which the Department’s forecast procedures . . . indicate the potential for noncompliance if sufficient surface water and ground water controls and/or management actions are not taken.”). To determine whether a Compact Call Year exists, Nebraska asks: “Is the forecast projection for the coming year’s irrigation supply less than 119 kAF?” Ex. N25001, p. 25. This is the threshold set in the FSS for triggering Water-Short Year Administration. FSS § V.B.1.a (“Water-Short Year Administration will be in effect in those years in which the projected or actual irrigation supply is less than 119,000 acre feet of storage available for use from Harlan County Lake as determined by the Bureau of Reclamation . . .”). If the answer is “yes,” Nebraska then asks whether reservoir contents and Nebraska’s Compact Allocation balances above Guide Rock and Hardy Gage are sufficient to offset the forecasted “dry year balance.” Ex. N25001, p. 25. If this answer is “no,” a Compact Call Year exists. *Id.*

CBCU, allocations of groundwater pumping, and augmentation of streamflows.⁴ Ex. N25001, p. 4. The Appendix M Plan states that groundwater curtailment would be expected to reduce Nebraska's CBCU by up to 15,089 acre-feet. Ex. N25001, p. 5.

On October 3, 2012, the U.S. Bureau of Reclamation ("Bureau") informed the States that it projected the irrigation supply from Harlan County Lake for the 2013 irrigation season to be 97,200 acre-feet. Therefore, Water-Short Year Administration under the FSS is in effect for 2013. Ex. J1; Joint Stipulation, p. 3 ¶ 19.

In an October 4, 2012 letter, Kansas informed Nebraska that the Appendix M Plan was "unacceptable" and "cannot be approved" because it makes "[n]o commitment to any particular action" or the "amount of expected CBCU reduction." Joint Stipulation, p. 2 ¶ 3 and Ex. J2, pp. 2-3. The RRCA then held a working session to address the Plan, but that meeting apparently was not productive in resolving the concerns Kansas raised. Ex. N25000, p. 9, ll. 7-8.

On October 15-16, 2012, the RRCA held its Annual Meeting at which Nebraska presented a Resolution (Ex. N25005) to approve the Appendix M Plan.⁵ The Resolution was not approved, with Nebraska and Colorado voting in favor and Kansas voting against.

On February 8, 2013, Nebraska sent a letter to its fellow RRCA members notifying them that it was invoking non-binding arbitration pursuant to FSS §§ VII.B.1 and VII.C on the issue whether the Appendix M Plan "should be approved as consistent with Appendix M of the FSS." Joint Stipulation, p. 2 ¶ 5.⁶

On March 29, 2013, Nebraska notified its fellow RRCA members that Nebraska intended to implement its Appendix M Plan. Joint Stipulation, p. 3 ¶ 21 and Ex. N25004. Nebraska specified that "management actions under the Plan will include surface water administration and augmentation of streamflows" to yield at least 4,530 acre-feet of CBCU reductions in 2013. Ex. N25004, p.4.

C. Course of Events – RCAP.

On December 10, 2012, Nebraska presented its "Outline for Augmentation Plan to RRCA" to the RRCA. Joint Stipulation, p. 4 ¶ 23 and Ex. N20025.

By letter of January 14, 2013, Kansas commented on Nebraska's RCAP outline, criticizing it as a "general characterization of a generic proposal for an augmentation plan" and asserting, among other things, that "Kansas needs to see the specifics of each augmentation plan

⁴ Section III.B.1.k of the FSS (Ex. J64, p. 20) which concerns augmentation, refers to "stream flow." The States in their briefing and exhibits usually use the equivalent term "streamflow" (or "streamflows"). This Order uses the States' terminology unless it is quoting the FSS.

⁵ Ex. N25004, p. 1, states that the RRCA Annual Meeting was held October 23, 2012.

⁶ Nebraska's February 8, 2013 letter invoking non-binding arbitration is not in the record by itself as an exhibit, but a copy was included as Exhibit 2 to the May 17, 2013 Arbitration Agreement, which was submitted to the Arbitrator and included in the record as a pleading.

in order to ensure that it will not reduce the usability of Kansas' allocation under the Compact in quantity, timing, or location." Ex. N20026, pp. 1-2.

On February 8, 2013, Nebraska submitted its proposed RCAP to the RRCA, seeking action on the proposal under the "fast-track" provisions in FSS § VII.A.3. Joint Stipulation, p. 4 ¶ 24 and Ex. N20021. On March 1, 2013, the RRCA members held a work session to discuss the RCAP proposal. Joint Stipulation, p. 4 ¶ 25.

By letter of March 8, 2013, Kansas notified its fellow RRCA members that Kansas "cannot approve the [RCAP] Proposal in its current form" because it was "materially deficient for at least six reasons," including: (1) it allows for the expansion of use of existing wells, in contravention to the FSS requirement for augmentation wells, (2) it makes no provision for transit losses below the project's outlet, (3) it ignores the effect of augmentation flows on Compact accounting (particularly groundwater consumptive beneficial use), (4) it has no stated operational limits or other terms and conditions that would ensure that Kansas would not be injured by the operation of the Plan, (5) it makes no provision for periodic review and evaluation of the project, and (6) it suffers from a lack of specificity in many details of project operations. Joint Stipulation, p. 4 ¶ 26; Ex. J20, p. 3. Kansas also asserted that, as proposed, the RCAP would inflate the augmentation credit and underestimate Nebraska's water use, and that Nebraska had deprived Kansas and the RRCA of a meaningful opportunity to address these concerns. Joint Stipulation, p. 4 ¶ 26; Ex. J20, p. 3.

Also on March 8, 2013, after Kansas transmitted its letter, the RRCA held a special meeting at which Nebraska presented a Resolution to approve the RCAP. Ex. N20028. Nebraska and Colorado voted in favor of the Resolution, Kansas voted against it, and the Resolution was not approved. Joint Stipulation, p. 4 ¶ 27.

On March 21, 2013, Nebraska sent a letter to its fellow RRCA members notifying them that it was invoking non-binding arbitration pursuant to FSS §§ VII.B.1 and VII.C on the issue whether the RCAP "should be approved as consistent with the FSS." Joint Stipulation, p. 4 ¶ 28; Ex. J22.

Following discovery and other pre-trial matters, this Arbitration was tried August 25-27, 2013 in Denver, Colorado. A record of the proceedings was prepared and submitted to the States and to the Arbitrator. The States submitted post-trial briefs on September 30, 2013. The matter is fully submitted.

II. NATURE OF THESE ARBITRATIONS, ISSUES PRESENTED, AND SUMMARY OF DECISIONS

A. This Arbitration is non-binding.

Nebraska invoked non-binding arbitration on the Plans pursuant to FSS §§ VII.B.1 and VII.C. Joint Stipulation, pp. 2 ¶ 5 and 4 ¶ 28. The FSS provides that the arbitrator's decision "shall include a determination of the merits of the dispute and determination of a proposed remedy." FSS § VII.B.4. Following issuance of this decision, the States "shall give written

notice to the other States and the United States as to whether they will accept, accept and reject in part, or reject the arbitrator's decision." FSS § VII.B.6.

B. The issues presented and a summary of the decision as to each.

The States set forth preliminary statements of the issues in the Arbitration Agreement. On June 20, 2013, the States updated this with a *Joint Statement of Issues* ("Joint Statement of Issues"), in which they stipulated that the principal issue with each of the Plans is whether it "should be approved." Joint Statement of Issues at 1-2. By way of their expert reports, pre-filed testimony, and evidence at trial the States went beyond, or further elaborated, the points in the Joint Statement of Issues and raised additional questions, most of which are sub-issues within these. The following are the material questions at issue in this Arbitration, together with a summary of the Arbitrator's decision as to each.

1. Were the Plans "Addressed by the RRCA" as that term is defined in the FSS, was the projected water supply for 2013 less than 130,000 acre-feet, and did Nebraska meet all applicable deadlines for submitting the Plans?

Decision: Yes as to each of these issues. (see Section IV.A)

2. Did Kansas act reasonably and in good faith in withholding its approval of the Plans as a member of the RRCA?

Decision: This question need not be decided because the FSS directs the Arbitrator to issue a decision on the merits, regardless of the basis for a State's RRCA vote. (see Section IV.B)

3. Has Nebraska demonstrated that the RCAP will comport with FSS requirements?

Decision: Yes. (see Section V.C)

4. Does Nebraska's proposed method of calculating net depletions, new net depletion, and augmentation credit resulting from the RCAP, including its proposed changes to the Accounting Procedures, comport with the FSS?

Decision: Yes, although Nebraska's formulas and its changes to the Accounting Procedures should be amended for purposes of clarity. (see Section V.D)

5. Must Nebraska's pumping under the RCAP be limited to the historical consumptive use experienced by the wells being retired as part of the project?

Decision: No. (see Section V.E)

6. Is the RCAP limited to an annual maximum pumping volume?

Decision: Yes. (see Section V.F)

7. In calculating augmentation credit, is Nebraska required to account for any transit losses in either Rock Creek or the mainstem Republican River?

Decision: No. (see Section V.G)

8. Does Nebraska have a reporting obligation concerning the RCAP, and should the RCAP be subject to review by the RRCA twenty years after implementation?

Decision: Yes as to both. (see Section V.H)

9. Does the Appendix M Plan comport with the FSS?

Decision: Yes. (see Section VI)

III. APPLICABLE STANDARDS/RULES OF LAW

This Arbitration is governed by the Compact, the FSS, and the May 17, 2013 Arbitration Agreement between the States. Other binding authority includes the decisions of the Special Master and the U.S. Supreme Court.

IV. FINDINGS OF FACT AND CONCLUSIONS OF LAW: BOTH PLANS

- A. Both Plans have been “Addressed by the RRCA,” 2013 is a “Water-Short Year,” and Nebraska has complied with all applicable deadlines for submitting the Plans.**

1. The Plans were “Addressed by the RRCA.”

The FSS defines “Addressed by the RRCA” as follows:

A matter is deemed to be addressed by the RRCA when the RRCA has taken final action by vote on such request or failed to take action by vote on the request after a Reasonable Opportunity^[7] to investigate and act on the request.

FSS § II (emphasis added). There is no reason to decide whether the RRCA had a Reasonable Opportunity to investigate and act on Nebraska’s Plans because the RRCA took action by voting on them.

⁷ The RRCA is deemed to have had a “Reasonable Opportunity” to “investigate and act on a regular request when, at a minimum, the issue has been discussed at the next regularly scheduled annual meeting.” FSS § II. The RRCA is deemed to “have had a reasonable opportunity to investigate and act on a ‘fast-track’ request when the issue has been discussed at a meeting of the RRCA no later than 30 days after the ‘fast-track’ issue has been raised.” *Id.*

Nebraska presented the RRCA with a resolution seeking approval of its Appendix M Plan. Ex. N25005. Nebraska and Colorado voted in favor and Kansas voted against, and the resolution therefore was not approved. Joint Stipulation, p. 2 ¶ 4.

Nebraska presented the RRCA with a resolution seeking approval of its RCAP. Ex. N20028. Nebraska and Colorado voted in favor and Kansas voted against, and the Resolution therefore was not approved. Joint Stipulation, p. 4 ¶ 27.

Because the RRCA took final action by vote on each Plan, both were “Addressed by the RRCA.”

2. 2013 is a “Water-Short Year” as contemplated by Appendix M.

Appendix M of the FSS authorizes Nebraska to “implement a Plan for Reduction of Computed Beneficial Consumptive Uses” when the projected water supply is less than 130,000 acre-feet of storage available for use from Harlan County Lake. FSS App. M ¶ 1. The FSS defines “Water-Short Year Administration” as administration in a year when “the projected or actual irrigation water supply is less than 119,000 acre feet of storage available for use from Harlan County Lake as determined by the Bureau of Reclamation.” FSS § V.B.1.a. “The determination that Water-Short Year Administration is in effect, pursuant to Subsection V.B.1.a., will become final for that year as of June 30.” FSS § V.B.1.b.

Water Short-Year Administration was in effect in 2013 by virtue of the Bureau projecting the irrigation supply from Harlan County Lake for the 2013 irrigation season to be 97,200 acre-feet. Ex. J1. The record does not reflect whether the Bureau’s determination changed by June 30, 2013. Because the projected water supply was less than 130,000 acre-feet, Nebraska was entitled to pursue the option provided under Appendix M.

3. Nebraska has met all applicable deadlines.

Appendix M to the FSS authorizes Nebraska to submit a proposed plan to the RRCA “prior to August 1 for the RRCA’s consideration.” FSS App. M ¶ 3. The RRCA then is required to “take action on new Plans or modifications to existing plans prior to Nov. 1 of that same year.” *Id.*

Nebraska satisfied these deadlines. On July 30, 2012, Nebraska submitted its Appendix M Plan to the RRCA. Joint Stipulation, p. 2 ¶ 1 and Ex. N25001. The RRCA took action on the Appendix M Plan, during its Annual Meeting held October 15-16, 2012, by voting on Nebraska’s proposed Resolution to approve the Plan. Joint Stipulation, p. 2 ¶ 4 and Ex. N25005.

Appendix M also requires that Nebraska “provide notice to the RRCA by April 1 of its intention to implement a Plan for that year.” FSS App. M ¶ 4. Nebraska met this deadline when it notified its fellow RRCA members on March 29, 2013 that it intended to implement the Plan to obtain Appendix M’s three-year CBCU averaging benefits in 2013 (and potentially also in subsequent years) if the Plan is approved. Joint Stipulation, p. 3 ¶ 21 and Ex. N25004. Concerning the RCAP, Kansas Chief Engineer David Barfield confirmed that “Kansas does not

assert that Nebraska failed to meet the procedural requirements of the FSS prior to invoking dispute resolution.” Tr. Vol. II, p. 158, ll. 9-13.

In summary, the Plans were timely submitted to and addressed by the RRCA, and both are properly before the Arbitrator in this combined proceeding.

B. This Arbitration does not require deciding whether Kansas acted reasonably or in good faith when it withheld approval of the Plans.

In their post-hearing briefs, Nebraska and Colorado assert that Kansas cannot unreasonably withhold its approval of a proposal submitted to the RRCA. Nebraska Br., p. 9 (“Kansas owes the other States a duty to act reasonably when administering the FSS”); Colorado Br., p. 3 (“Kansas cannot unreasonably withhold approval of the Rock Creek Plan or the Water-Short Year Plan since both comply with the FSS.”). Kansas contends that its “no” votes were reasonable, but that “[e]ven assuming that Kansas’ rejection of the RCAP or the NAWSYA Plan could be characterized as unreasonable, the Compact and the FSS do not impose a reasonableness standard on the votes of the RRCA member states.” Kansas Br., p. 28.⁸

Article IX of the Compact provides that the RRCA members “may, by unanimous action, adopt rules and regulations consistent with the provisions of [the Compact].” Ex. J63, p. 9. The FSS requires unanimous RRCA approval of any matter concerning administration and enforcement of its provisions, including proposed augmentation or alternative water-short year plans. FSS § VII.A.1 (requiring submission of matters to RRCA); FSS § VII.A.2 (requiring RRCA unanimous approval); FSS § III.B.1.k (requiring RRCA approval of augmentation plans); and FSS App. M ¶ 3 (requiring RRCA approval of alternative water-short year plans).

The Compact contains no language imposing a reasonableness or good faith standard applicable to RRCA proceedings, and one cannot be implied. The U.S. Supreme Court has “never held that an interstate compact approved by Congress includes an implied duty of good faith and fair dealing.” *Alabama v. North Carolina*, 130 S.Ct. 2295, 2312 (2010). This is because “an interstate compact is not just a contract; it is a federal statute enacted by Congress,” and courts cannot “add provisions to a federal statute.” *Id.*

The FSS likewise contains no express language imposing a reasonableness or good faith standard applicable to RRCA votes on proposals such as those at issue here. Colorado argues that such a standard is implicit: “Kansas has a contractual duty arising under the FSS to not unreasonably withhold approval of the Rock Creek Plan and the Water-Short Year Plan” Colorado Br. at 4. In an earlier non-binding arbitration, Arbitrator Martha O. Pagel agreed with this position, ruling that “as members of the RRCA, the States are subject to general rules of contract law, including an implied duty of good faith and fair dealing,” and that “[w]hen a contract includes provisions for approval by the parties, such as Section IV.B.k [sic] of the FSS relating to augmentation plans, general principles of contract law require that the parties ‘must

⁸ The Appendix M Plan has been termed the Alternate Water-Short Year, or “AWSY” Plan, and by Kansas (somewhat more colorfully), the NAWSYA Plan. Kansas Br., p. 20. This Order will refer to it as the Appendix M Plan except when quoting text containing one of these other acronyms.

exercise discretion reasonably, and may not do so arbitrarily, capriciously, or in a manner inconsistent with the reasonable expectations of the parties.” Ex. K14, p. 5, quoting *Behara v. Baxter Health Care*, 956 F.2d 1436, 1443 (7th Cir. 1992).

There are credible arguments on both sides of this question,⁹ but it is not necessary to answer it here. An arbitrator’s role under the FSS is not to determine whether a State has reasonably declined to approve a proposed RRCA resolution. As Special Master McKusick observed, “to provide a means for the possible resolution of disputes short of litigation in the [U.S. Supreme] Court, the Final Settlement Stipulation creates a system for dispute resolution.” Ex. J68, pp. 74-75. This process is the requirement that, where “a dispute cannot be resolved by the RRCA” and a State desires to proceed, the matter “shall be submitted to non-binding arbitration” FSS § VII.A.7. The Special Master found that this is the “prescribed method for obtaining a ruling outside the Court.” Ex. J68, p. 76. In *Texas v. New Mexico*, 103 S.Ct. 2558, 2566 (1983), the U.S. Supreme Court countenanced just such an approach to “resolving paralyzing impasses” that might arise where a compacting state withholds its approval on a matter requiring unanimity.

Regardless of whether the Kansas decision to withhold approval could be deemed unreasonable—and this Order should not be read as suggesting that it was—the FSS requires an arbitrator to issue a decision that includes a “determination of the merits of the dispute and determination of a proposed remedy.” FSS § VII.B.4. Because the FSS authorizes the Arbitrator to issue a non-binding decision approving or disapproving the Plans in whole or in part, it is not necessary to decide whether a particular vote in the RRCA was reasonable or in good faith.

V. FINDINGS OF FACT AND CONCLUSIONS OF LAW: THE RCAP

A. The RCAP: A brief overview.

Nebraska’s RCAP involves removing irrigation from 3,261.6 certified groundwater-irrigated acres, retiring the twenty-three wells that served them, and drilling ten new wells in the same general area in southwest Nebraska’s Dundy County. Ex. N20021, pp. 4 and 23-24 (Figures 1-3). These new wells are proposed to pump up to 20,000 acre-feet of groundwater annually (a projected average of about 15,000 acre-feet) and deliver the water through a pipeline to Rock Creek about eleven miles upstream from the Parks gage to support Compact compliance efforts during so-called “Compact Operations Years.” Ex. N20021, p. 7.¹⁰ Assuming that rate of

⁹ Arbitrator Pagel gave sensible reasons for her conclusions on this point. Ex. K14, p. 5. But there also is an argument that reasonableness and good faith should not be read into the unanimity requirement. The *Alabama* Court ruled that courts cannot add implied terms to an interstate compact, and the FSS expressly does not “change the States’ respective rights and obligations under the Compact.” FSS § I.D. Moreover, the FSS omits a “good faith” provision with respect to the RRCA actions at issue here, even though it included it in connection with scheduling RRCA meetings, FSS § VII.A.5, and with picking an arbitrator. FSS § VII.B.2. The implication is that none was intended.

¹⁰ The RCAP facilities have been operating since early 2013, with measurements from the discharge occurring since March 2013. Tr. Vol. I, p. 41, ll. 18-25 and p. 42, ll. 1-5 (Fanning).

pumping during Compact Operations Years, the RCAP calls for pumping a minimum of 300 acre-feet into Rock Creek in other years (which Nebraska calls “Maintenance Operations Years”) with the aim of avoiding new net depletion that otherwise would occur in those years due to the effects of pumping in Compact Operations Years. Ex. N20021, pp. 6-9.

As originally submitted, the RCAP’s proposed method of determining Nebraska’s augmentation credit would modify the Accounting Procedures to allow Nebraska simply to subtract from its CBCU the amount of augmentation water discharged into Rock Creek. Ex. N20021, pp. 9-10. In response to criticisms by Kansas, Nebraska modified its RCAP by agreeing that the augmentation credit will be reduced by the amount of Model-calculated baseflow¹¹ depletions caused by the augmentation pumping itself. Tr. Vol. II, p. 7-8; Ex. N20022, p.4; Nebraska Br., p. 13.

B. The FSS’s augmentation provisions.

The FSS mentions “augmentation” in three places: Sections III.B.1.k, IV.A, and IV.H.

III.B.1.k. Wells acquired or constructed by a State for the sole purpose of offsetting stream depletions in order to comply with its Compact Allocations [are exempt from the Moratorium on New Wells]. Provided that, such Wells shall not cause any new net depletion to stream flow either annually or long-term. The determination of net depletions from these Wells will be computed by the RRCA Groundwater Model and included in the State’s Computed Beneficial Consumptive Use. Augmentation plans and related accounting procedures submitted under this Subsection III.B.1.k. shall be approved by the RRCA prior to implementation.

IV.A. The States will determine Virgin Water Supply, Computed Water Supply, Allocations, Imported Water Supply Credit, augmentation credit and Computed Beneficial Consumptive Use based on a methodology set forth in the RRCA Accounting Procedures, attached hereto as Appendix C.

IV.H. Augmentation credit, as further described in Subsection III.B.1.k., shall be calculated in accordance with the RRCA Accounting Procedures and by using the RRCA Groundwater Model.

Ex. J64, pp. 20, 22, and 30. Neither the RRCA Ground Water Model documentation (Ex. N20022-13) nor the RRCA Accounting Procedures (Ex. J65) mentions augmentation. Neither currently addresses how to determine augmentation credit, net depletions, or new net depletion.

¹¹ “Baseflow” is “the component of total streamflow that is contributed by ground water.” FSS App. C, Ex. J64, p. 142.

The issues Kansas raises in this Arbitration focus in large part on the requirement in Section III.B.1.k that “[w]ells acquired or constructed by a State for the sole purpose of offsetting stream depletions [i.e. augmentation] . . . shall not cause any new net depletion to stream flow either annually or long-term,” and the requirement in Section IV.H that “[a]ugmentation credit . . . shall be calculated in accordance with the RRCA Accounting Procedures and by using the RRCA Groundwater Model.” As detailed in the following subsections, I find that Nebraska’s RCAP satisfies FSS requirements.

C. Nebraska has demonstrated that augmentation pumping under the RCAP will satisfy FSS § III.B.1.k.

1. Nebraska’s method of calculating net depletions and new net depletion is consistent with the FSS.

The FSS does not explain how “net depletions” or “new net depletion” should be interpreted, or what the difference between them might be. None of the States squarely addressed this point at trial or in briefing. Because these two terms are ambiguous, spelling out the correct procedure for determining “net depletions” and “new net depletion” requires contract construction—a cardinal principle of which is “that a document should be read to give effect to all its provisions and to render them consistent with each other.” *Mastrobuono v. Shearson Lehman Hutton, Inc.*, 514 U.S. 52, 63, 115 S. Ct. 1212, 1219, 131 L. Ed. 2d 76 (1995) (citing, *inter alia*, Restatement (Second) of Contracts § 203(a) and Comment b; *id.*, § 202(5)).

With regard to “new net depletion,” determining “new” necessarily requires identifying the “old.” In the context of “[a]ugmentation plans” under Section III.B.1.k, the common sense of it is that the net effect of augmentation pumping and augmentation water delivery must be an increase in streamflow as compared to the situation that would exist had the Plan not been implemented, both annually and over some reasonably “long-term” number of years into the future. If the Plan achieves this, there is no new net depletion. Of course, the new depletion must include the depletions to baseflow resulting from a combination of the current year’s augmentation pumping and that of all prior years. In discussing the amount of water needed to ensure the RCAP does not result in new net depletion, Nebraska appears to recognize this requirement, stating that “the pumping volume that will occur in a Maintenance Operations Year will be based on the maximum new depletion observed from project operations over time.” Ex. N20021, p. 9.

Nebraska claims its RCAP will “not cause any new net depletion to stream flow either annually or long-term.” Ex. N20021, pp. 6-9; *see also id.*, pp. 18-19 (Table 6):

Any increase in groundwater CBCU, or new depletion, is compared to the augmentation deliveries to assess the net impact of the project operations on streamflows of the Republican River Basin. The new depletion is determined by comparing the groundwater CBCU under the baseline (i.e., groundwater pumping for irrigation in the Project area) simulation of the Model to the groundwater CBCU that results from a Model simulation with the Project operating under this augmentation plan. Finally, any new

depletion is compared to the AWS Credit^[12] in that same year to determine the net depletion to streamflow.

Ex. N20021, p. 6. Nebraska's term, "new depletion," does not appear in the FSS, but it is an appropriate way to describe the increased depletion to baseflow (i.e., streamflow) the Model attributes to augmentation pumping. The new depletion must be calculated as the first step in determining whether augmentation pumping will result in new net depletion.

Nebraska proposes to calculate the new depletion by comparing the modeled depletions to streamflow caused by augmentation pumping (the "new") to a baseline of depletions from "the historical pumping and certified irrigated acreage of the 23 wells which were retired and decommissioned when the land acquisition was made" for the RCAP (the "old"). Ex. N20021, pp. 5 and 11-12. Nebraska's RCAP properly accounts for the fact that augmentation pumping provides no return flows from irrigation, inducing the Model to calculate more CBCU (i.e., more depletion to baseflow) from augmentation pumping than from any equivalent amount of pumping from the replaced irrigation wells. The RCAP description explains that "the baseline recharge was modified to remove the additional recharge associated with Project irrigated lands for the entire simulation period." Ex. N20021, p. 7.

But the fact that augmentation pumping will cause new depletion (i.e., "net depletions" over the baseline) does not answer the question whether it will cause new net depletion to stream flow as prohibited by the FSS. This requires comparing the new depletion to the augmentation water supply discharged (i.e., the "AWS"). As noted, Nebraska compares the new depletion "to the AWS Credit in that same year to determine the net depletion to streamflow" resulting from the augmentation effort. Ex. N20021, p. 6. Although Nebraska's term, "AWS Credit" actually should be "AWS," this method of calculating new net depletion comports with the FSS.

Any increases in CBCU over the baseline due to augmentation pumping is one thing that is new with regard to depletions, whether the project involves replacement pumping for retired wells, completely new pumping having no relation to retired wells, or, as here, a combination. The other part that is new is the accretion side of the equation, the delivery of AWS to the stream. To determine whether there is a "new net depletion," a State (or the RRCA) must consider both.

2. Nebraska's Model projections demonstrate that the RCAP will cause no new net depletion annually or over the long-term.

Kansas contends the pumping under Nebraska's RCAP will cause depletions that "can be expected to reduce baseflows during dry periods when augmentation projects are running," Ex. K10, p. 53, ll. 13-14 (Barfield), and that "[a]ugmentation pumping will produce more water than

¹² This description misuses the word "credit." As discussed below in Section V.D.4, the "Augmentation Credit" is the augmentation water supply discharged into the stream (or "AWS") reduced by the modeled depletion to streamflow caused by the augmentation pumping (i.e. the "new depletion"). As noted, Nebraska has conceded this point. Accordingly, the RCAP text quoted here should have said that "any new depletion is compared to the AWS in that same year to determine the net depletion to streamflow." More on the matter of proper terminology below.

the stream depletion while pumping occurs.” Ex. K6, p. 12, ll. 10-11 (Kansas expert Dale Book). These statements are accurate. The RCAP augmentation pumping will reduce baseflows, and this new depletion at times will exceed the depletions experienced under the baseline. But the RCAP’s purpose is to provide augmentation deliveries that will increase streamflow over the baseline even accounting for the project’s own depletions. At issue is not whether the pumping will cause a new depletion, but whether the RCAP comports with Section III.B.1.k’s requirement that augmentation “shall not cause any new net depletion to stream flow either annually or long-term.”

Nebraska used the Model to project the RCAP’s depletions to Rock Creek in each year through 2069, based on the same sequence and number of Compact Operations Years and Maintenance Operations Years simulated under the condition from 1985 through 2010. Ex. N20021, pp. 6-9 and Tables 1 and 2, pp. 11-13. A State is entitled to rely on Model projections to justify a plan under either Appendix M or Section III.B.1.k of the FSS. As a practical matter, it is obligated to use the Model in this way; otherwise, the RRCA would be without a means to evaluate what a plan’s likely effects will be. Nebraska’s modeling results, based on past averages and necessarily only predictive as to the future,¹³ indicate the Plan can be operated so as to cause no new net depletion as compared to the baseline, either annually or long-term, so long as the deliveries to Rock Creek, including those derived from Maintenance Operations pumping, occur annually. Kansas has provided no modeling to refute Nebraska’s projections.

Tables 7 and 8 in Nebraska’s Rock Creek Augmentation Plan, Ex. 20021, pp. 20-21, demonstrate the RCAP’s effect had it operated in 2005 and 2006 and delivered 15,000 acre-feet, an amount whose benefit to streamflow is reduced by an assumed new depletion of 200 acre-feet. Nebraska’s Model runs for the years 2010 through 2069 project the new net depletion to be negative—meaning net accretions to the River—in every year of RCAP operation in that hypothetical example. Ex. 20021, Table 6, pp. 18-19.

The FSS gives no indication of what “long-term” might be in the context of the mandate to avoid a new net depletion. Nebraska has used the Model to demonstrate, based on assumed input values, that the RCAP will cause none between 2010 through 2069. This is a sufficiently long-term to satisfy this FSS requirement. Some municipal water supply planning horizons around the West are in the neighborhood of fifty years. *See, e.g., Pagosa Area Water and Sanitation Dist. v. Trout Unlimited*, 219 P.3d 774 (Colo. 2009) (recognizing a 50-year planning horizon). The sixty-year timeframe evaluated for the RCAP is reasonable in that context.

Nebraska has provided a sufficient basis on which to approve the RCAP, with the condition that the Model must be used annually, to project actual pumping depletions based on the actual amounts of augmentation pumping to be carried out in that year, together with projections for the period through 2069. The augmentation credit for each year, discussed in more detail below, then will be calculated accordingly.

¹³ Indeed, Table 6, Ex. N20021, pp. 18-9, projects only maintenance pumping in 2013, when Nebraska actually this year is pumping, or has pumped, much more than 300 acre-feet to meet a Compact Operations goal.

3. Nebraska's proposed pumping in Maintenance Operations Years does not violate the FSS.

The RCAP's future simulation shows that Nebraska will have to pump and discharge to Rock Creek up to 300 acre-feet during Maintenance Operations Years to ensure there is no new net depletion caused by augmentation pumping during Compact Operations Years. N20021, pp. 7-8. Nebraska deems 300 acre-feet "more than sufficient to offset any new depletions related to Compact Operations Years" (Ex. N20021, p. 7), based on Nebraska's Model runs. Ex. 20021, Table 6, pp. 18-19.

Kansas asserts that the RCAP's proposed pumping in Maintenance Operations Years violates the language in Section III.B.1.k excepting from the moratorium only those wells "acquired or constructed by a State for the sole purpose of offsetting stream depletions in order to comply with its Compact Allocations." The contention is that Maintenance Operations Years pumping is not required, or may not be required, to comply with Compact Allocations and therefore would occur outside this "sole purpose." Mr. Book also contends that if maintenance pumping is allowed, "there would be no limitation imposed by the FSS on the augmentation pumping." Ex. K5, p. 7.

These arguments are not persuasive. The Maintenance Operations Years pumping, whether it is 300 acre-feet annually or some other number calculated by the Model, is intended to offset streamflow depletions the Model predicts will show up in surface waters as a result of pumping during the RCAP's Compact Operations Years. *See* Tr. Vol. II pp. 8-9 (Dr. James Schneider, primary author of Nebraska's Plans). Offsetting stream depletions always reduces CBCU, and reducing CBCU always affects a State's compliance with Compact Allocations.

Any amount of a given year's Maintenance Operations pumping in excess of the amount needed to avoid a new net depletion associated with the RCAP is simply augmentation for that year, and an offset to Nebraska's CBCU, as Kansas has confirmed. Tr. Vol. II, p. 164 ll. 1-18 (Barfield). Nebraska is entitled to "deliver more augmentation water than would be required" to exactly cover its CBCU allocation in any given year, and any "overdelivery . . . gets wrapped into the longer-term compact compliance equation" and "is on the books for subsequent years." Tr. Vol. II, p. 166 ll. 20-25 and p. 167 ll. 1-12 (Barfield).¹⁴

D. Nebraska's proposed method of calculating the augmentation credit comports with the FSS.

FSS § IV.A states that the States "will determine . . . augmentation credit . . . based on a methodology set forth in the RRCA Accounting Procedures, attached hereto as Appendix C." However, the Accounting Procedures do not mention augmentation credits, much less spell out a methodology for calculating them. Ex. J65 and Ex. N20021, p. 4 ("[t]here presently are no

¹⁴ Nebraska's Table 6 suggests that the minimum amount of 300 acre-feet of Maintenance Operations pumping will provide the amount needed to avoid a new net depletion, plus a margin of error. This is reasonable; modeling involves scientific uncertainty and percentages of error in measurement techniques.

‘methodologies’ set forth in” the Accounting Procedures for figuring augmentation credit). Rather, the Accounting Procedures “describe[] the definitions, procedures, basic formulas, specific formulas, and data requirements and reporting formats to be used by the RRCA to compute the Virgin Water Supply, Computed Water Supply, Allocations, Imported Water Supply Credit and Computed Beneficial Consumptive Use.” Ex. J65, p. 5. The Accounting Procedures provide that Imported Water Supply (“IWS”) Credit “shall not be included in the Virgin Water Supply and shall be counted as a credit/offset” to that State’s CBCU, but do not mention augmentation deliveries or credits. Ex. J65, p. 7.

FSS § IV.H, titled “Augmentation credit,” declares: “Augmentation credit, as further described in Subsection III.B.1.k, shall be calculated in accordance with the RRCA Accounting Procedures and by using the RRCA Groundwater Model.” However, Section III.B.1.k does not mention “augmentation credit,” much less “further describe” it (although the Section’s use of the phrase “offsetting stream depletions” perhaps could be seen as a further description). The Ground Water Model documentation also does not address augmentation or augmentation credit. Ex. N20022-13.

Accordingly, the FSS suggests two potentially separate approaches to calculating augmentation credit, one (per Section IV.A) based on a method that has yet to be displayed in the Accounting Procedures and the other (per Section IV.H) that enlists both the Accounting Procedures and the Model. Despite these ambiguities, because Section IV.H expressly addresses the matter, I conclude that its language is controlling on the question of calculating augmentation credits: a State must use the Model in some appropriate way and must proceed in accordance with the Accounting Procedures. Exactly how each is to be employed is a subject of contract interpretation.

For the reasons stated below, I conclude that Nebraska’s proposed approach to amending the Accounting Procedures for calculating augmentation credit comports with the FSS. Some corrections to Nebraska’s terminology are recommended.

1. The RCAP comports with the requirement in FSS § IV.H that augmentation credit “be calculated in accordance with the RRCA Accounting Procedures and by using the RRCA Groundwater Model.”

Kansas acknowledges that in the RCAP Nebraska has “used the model to determine the effect of the augmentation pumping on the basin streamflow,” Tr. Vol. II, p. 169 ll. 3-4 (Barfield), and it does not dispute the modeling results. Tr. Vol. II, p. 169 ll. 8-12 (Barfield). However, Kansas contends that the RCAP “defies the FSS’ clear command to calculate augmentation credit using the Model,” Kansas Br., p. 18, and that the RCAP is contrary to the “clear dictate of § IV.H of the FSS” because it “only ‘utilizes the Model to the extent that the Model is necessary to determine the net effect of operating the project.’” Kansas Br., p. 14, quoting Dr. Schneider, Tr. Vol. 1, p. 100, ll. 8-10.

To determine augmentation credit, complying with the FSS is precisely about determining the “net effect of operating the project,” and using the Model as necessary to do it. Determining this net effect is the means to establish whether the project avoids “new net

depletion to stream flow either annually or long-term.” FSS § III.B.1.k. And that requires measuring augmentation deliveries. Mr. Book captured the entire concept when he stated that “it is appropriate to include augmentation supply, to the extent it adds to streamflow, as a credit in the compact accounting for the water supply of the basin, so long as the depletive pumping effects are also included as stream depletions charged against the compact allocation.” Ex. K6, p. 8, ll. 15-19.

The most harmonious reading of Section III.B.1.k, the Model documentation, the Accounting Procedures, and Section IV.H is that a State proposing an augmentation plan must combine the new depletion caused by augmentation pumping with the amount of the augmentation pipeline delivery (the AWS) to determine the augmentation credit. For purposes of this Order, and interpreting Section IV.H, “Augmentation credit” means the net reduction to Nebraska’s CBCU resulting from augmentation pumping and delivery under the RCAP. It can be expressed by either of the following formulas:

$$\text{Augmentation Credit} = \text{AWS} - \text{New Depletion (expressed as a positive)}^{15}$$

or

$$\text{Augmentation Credit} = \text{AWS} + \text{New Depletion (expressed as a negative)}^{16}$$

a. In calculating augmentation credits involving a surface water discharge, a State cannot rely solely on the Model.

The FSS and its appendices do not support the Kansas assertion that “[t]he Model was designed to calculate credits such as the augmentation credit,” Kansas Br., p. 14, at least if by this Kansas means that only the Model should be used. The Model documentation, Ex. 20022-13, does not mention augmentation credits; nor does it suggest the Model should be used, or is designed, to calculate surface flows or discharges that can be measured directly.

Consider, for example, the technique to be used in measuring the RCAP pipeline discharge to surface water. To accord with the Accounting Procedures, surface flows, including surface discharges from the RCAP pipeline, must be measured using meters or gages such as those the Accounting Procedures prescribe for surface waters—streams, canals, and outfalls. *See, e.g.,* Ex. J65, pp. 14, 43 and 70. It would not accord with the Accounting Procedures to attempt to calculate these using the Model.

On the other hand, for calculating interactions between groundwater and surface streams—namely, baseflow depletions from pumping and accretions from Imported Water Supply—only the Model will do. It would not accord with the Accounting Procedures to do

¹⁵ This equation is substantively identical to the one offered by Nebraska in its brief: “Augmentation Credit = Discharge – New Depletions.” Nebraska Br., p. 13.

¹⁶ As noted, Nebraska recognizes that it must account for depletions from the current and all prior years’ augmentation pumping. Ex. N20021, p. 9. Likewise, the Augmentation Credit must be calculated in light of new depletion accruing from project operations over time.

otherwise. By specifying both the Model and the Accounting Procedures, Section IV.H embodies a recognition of the interdependence of these calculation techniques, each for its appropriate purpose, in the context of augmentation. To interpret Section III.B.1.k to mean that the Model must do all the work in calculating augmentation credit would violate express language in Section IV.H, not accord with the Accounting Procedures, and stretch the Model beyond the uses described in its documentation. *See* Ex. 20022-13.

b. In calculating the RCAP augmentation credit, Nebraska has used the Model and has accorded with the Accounting Procedures.

Nebraska's RCAP description states that the Model "will be used to determine the extent of any net depletion and whether such net depletion is 'new.'" Ex. 20021, p. 5. This exhibit also contains Nebraska's description of the Model simulations it used to analyze the RCAP pumping's effects on streamflow. Ex. N20021, pp. 6-9. At trial, Dr. Schneider testified that:

it may be reasonable not to count the delivery necessary to cover the new depletion as a credit, and that we would concede that point. And so in that way, I think we're fairly directly utilizing the model to make sure that we're only counting the amount of water delivered in excess of any new depletion that may be caused by the project.

Tr. Vol. II, pp. 7, ll. 24-25 and 8, ll. 1-5. Dr. Schneider noted that "there could be a new depletion even in years when we're doing those larger deliveries for compact compliance. So in . . . any year there's a new depletion, we would see it as reasonable to limit the credit to just the portion of the water delivered over and above that new depletion." Tr. Vol. II, p. 8, ll. 11-18. Dr. Schneider confirmed that the "new depletion" due to augmentation pumping would be a "number generated by the model" and would be subtracted from the AWS. Tr. Vol. II, p. 7 ll. 11-25, p. 8, and p. 9 ll. 1-4.

In a 2010 non-binding arbitration, Arbitrator Pagel ruled that Colorado's proposed augmentation plan involving its Compact Compliance Pipeline ("CCP") violated the "using the Model" mandate in Section IV.H because, even though "Colorado proposes using the Groundwater Model to determine net depletion from the augmentation wells," it "does not propose to use the Model to calculate the augmentation credit." Ex. K14, p. 9. She agreed with Kansas "that the 'negative pumping impacts' associated with the CCP proposal will result in an undue benefit to Colorado to the detriment of Kansas if the Model is not used" in computing credits. Ex. K14, p. 10.

Arbitrator Pagel evidently faced a situation where Colorado was not proposing to deduct the new depletion from the discharge, an approach that would have overstated Colorado's net contribution to streamflow. That situation is not present here because Nebraska proposes to deduct the Model-generated depletion amount from the delivery to derive the credit. This satisfies the literal, and decidedly non-specific, language of FSS § IV.H.

2. Nebraska's Table 6 is a reasonable projection of the RCAP's effects upon which Augmentation credit calculations can be based.

The numbers simulated on Nebraska's Table 6, Ex. N20021, pp. 18-19, project the amount of RCAP augmentation credit that would be recognized in any given year through 2069. There almost certainly will be either more or fewer Compact Operations Years in the future than this table assumes, and the amounts delivered in those years likely will vary from the Table's annual average of 15,000 acre-feet; the same goes for pumping in Maintenance Operations Years (as noted above, 2013 is an example). Nonetheless, such a projection allows the RRCA to evaluate a plan's short and long-term effects, it is a reasonable approach, and it has not been contradicted in this record.

The Table's simulation illustrates that implementing the Plan may produce negative new depletions in some years—here, the first fifteen have that attribute. In such cases the amount of augmentation credit will exceed the amounts discharged from the RCAP pipeline. Recognizing that these differences between the discharge and the potential credit are not large in either direction under this simulation, it still is appropriate, under the FSS and the Accounting Procedures, to recognize them once they are supported by physical measurements and Model runs.

Nebraska is entitled implement and rely on the RCAP for 2013 and thereafter pursuant to this Order, so long as no new net depletion is shown. Because the next six decades are certain to have different dry and normal patterns than the last three, it is equally certain that the Model will produce numbers different from those in Table 6. Nebraska must model its RCAP pumping annually and may adjust the amount to meet the projected need, including “some reasonable cushion,” to use Mr. Barfield's phrase, to guard against failing to cover new depletion in Maintenance Operations Years. Tr. Vol. II, p. 167, ll. 21-22. Nebraska's annual augmentation credit will vary accordingly.

3. Nebraska is entitled to count augmentation as an offset to, or reduction of, its CBCU, and to use augmentation in water-short years.

Kansas states that it “is extremely important not to confuse augmentation offsets with reducing CBCU: § V.B.2.b of the FSS makes the distinction between the two clear.” Kansas Br., p. 20. However, there is no material distinction between augmentation offsets and reducing CBCU, much less a clear one, in Section V.B.2.b. That Section provides that during Water-Short Year Administration, “Nebraska may offset any [CBCU] in excess of its Allocation that is derived from sources above Guide Rock with Imported Water Supply Credit” and explains the circumstances under which Nebraska may receive credit for such offsets. Neither Section V.B.2.b nor any other part of Section V.B (which covers the subject of Water-Short Year Administration) mentions augmentation.

Meanwhile, FSS § III.B.1.k expressly allows a State to construct wells for the purpose of “offsetting stream depletions in order to comply with its Compact Allocations.” An offset to stream depletions to comply with Compact Allocations is by definition an offset to CBCU—which is “[t]he stream flow depletion resulting from the activities of man . . .” FSS § II. Thus, the FSS expressly authorizes a State to use augmentation to offset CBCU. Despite the above

argument raised in Kansas' brief, Mr. Barfield testified on behalf of Kansas that he "would envision the augmentation credit being applied in a way that would offset the CBCU." Tr. Vol. II, p. 184 ll. 9-11. He concurred with the statement that there is no "practical difference . . . between reducing CBCU and offsetting it." Tr. Vol. II, p. 184 ll. 3-5 and 11-14.

Nevertheless, Kansas contends that the RCAP is "not the sort of proposal that was envisioned or suggested by Nebraska when the FSS was negotiated, (*see* K12 8:5-10), especially regarding augmentation and § V.B.2.a of the FSS, regarding Nebraska's actions in water short years to limit CBCU." Kansas Br., p. 20. Section V.B.2.a lists various measures Nebraska may use to "limit its Computed Beneficial Consumptive Use above Guide Rock" during Water-Short Year Administration. And Section V.B.2.a.vi authorizes "any other measures that would help Nebraska limit" CBCU in a Water-Short Year, including those that "produce[] water above Harlan County Lake." Neither Section V.B nor any other part of the FSS declares augmentation ineligible as an offset to CBCU during Water-Short Year Administration, and the FSS contains no other indication that such a prohibition was intended.

4. Nebraska's terminology and formula descriptions, while fundamentally correct, should be amended to avoid confusion in calculating augmentation credit.

While its approach to figuring augmentation credit is correct, Nebraska's terminology on this point should be adjusted in three respects. First, it is not correct to suggest that the new depletion due to augmentation pumping is to be compared to the "AWS Credit." An AWS Credit would be the amount of CBCU offset the Plan ultimately achieves; it is the result of deducting the modeled New Depletion value from the amount of water the pipeline discharges to the stream. While Table 6 displays the calculations necessary to determine the augmentation credit, Nebraska should change the column headings to be more precise as to what it shows and to avoid confusion as to what actually is a credit. The "New Depletion" column in Table 6 is correctly labeled because it displays the net increase in CBCU from the augmentation pumping itself, as compared to the pumping experienced under the baseline situation. But the column labeled "AWS Credit" should be labeled "Augmentation Water Supply" because that number is the raw value of the discharge, which is not the amount of the credit.

The second issue with Table 6 is that the column labeled "Net Depletion" should be labeled either "New Net Depletion" or, even better, "AWS Credit" because it is the ultimate net number comparing the new to the old in terms of the RCAP's overall effect on CBCU.

A third, and related, issue concerns the formula in Table 6. This table is described as displaying "[s]imulated future new depletion under project operations groundwater pumping, AWS credit, and the net depletions of project operation on the stream," with its negative depletion values "indicat[ing] an accretion to streamflow." Ex. 20021, pp. 18-19. Table 6 offers this formula:

$$\text{Net Depletion} = \text{AWS Credit} + \text{New Depletion}$$

Ex. 20021, pp. 18-19, Table 6. "AWS" is the acronym Nebraska's Plan should add to the Accounting Procedures to signify "Augmentation Water Supply." Ex. 20021, p. 6. Adding the

AWS to the new depletion would be the correct method to determine whether there is a “new net depletion,” the result prohibited by Section III.B.1.k. For the reasons discussed above, the proper formula should be:

$$\text{AWS Credit (a/k/a Augmentation Credit)} = \text{AWS} + \text{New Depletion}$$

Using this formula will require the RRCA to amend the Accounting Procedures in a manner that varies from the changes Nebraska proposes in the RCAP. *See, e.g.*, Ex. N20021, pp. 37-39 (where Nebraska refers to AWS being the net credit). This criticism focuses on terminology, not substance. Table 6 still is useful because it displays Model results accounting for these critical numbers and allows the RRCA to reduce the AWS by the amount of the New Depletion to produce the AWS Credit. Nebraska should amend the headings in Table 6, and the RRCA should amend the Accounting Procedures, to show more clearly what number actually is the AWS Credit and to display a clear formula. Nebraska need not submit a new version of the RCAP with this amendment for RRCA approval; this Order provides that approval.

E. The FSS does not require that groundwater diversions for augmentation be limited by a historical consumptive use calculation.

Kansas argues that “the FSS clearly limits augmentation pumping to the consumptive use quantities of wells drilled or repurposed for augmentation.” Kansas Br. pp. 3-7. Kansas concedes that “there’s no reference in III.B.1.k to the concept of historic consumptive use,” and that “the only express limit in this regard is the no new net depletions standard.” Tr. Vol. II, p. 159, ll. 12-25 (Barfield). I find that a consumptive use limit also is not implied.

It is not appropriate to read a consumptive use limitation into the FSS’s augmentation provisions where none is included, and where, in other contexts, the FSS actually defines “Historic Consumptive Use,” FSS § II, and includes consumptive use limitations that do not affect augmentation plans.¹⁷ For example, Section III.B.1.g limits a Replacement Well to the “Historic Consumptive Use of water from the Well it is to replace.”¹⁸ Section III.B.1.i limits “[w]ells to which a right or permit is transferred . . . [to] no more water than the Historic Consumptive Use of water under the right or permit that is being transferred.” Like augmentation wells, these two well categories—replacement wells and wells receiving transfer approvals—are specifically listed exceptions to the moratorium on new wells in the Basin. But in contrast to these two categories of exceptions, the drafters did not include a Historic Consumptive Use limitation in Section III.B.1.k’s exception for augmentation wells. Similarly,

¹⁷ The FSS uses the term “historic” in this and similar contexts where the correct term probably is “historical.” “Historic” generally refers to something that is “well known or important in history,” while “historical” in this context refers more generally to past events. Webster’s Unabridged Dictionary, p. 907 (Random House 1998). The States use both terms, and of course accurately quote the FSS’s use of the term “historic.” For purposes of this Order the terms are interchangeable and mean “historical.”

¹⁸ The FSS defines “Replacement Well” as one which “replaces an existing Well” in circumstances where the existing well is either abandoned or used only for the de minimis purposes listed in FSS §§ III.B.1.c-f. FSS § II. The Accounting Procedures also contain this definition. Ex. J65, p. 7. There is no definition of “augmentation well” other than that provided by FSS § III.B.1.k (“Wells acquired or constructed by a State for the sole purpose of offsetting stream depletions in order to comply with its Compact Allocations.”).

Section III.B.2 expressly imposes a consumptive use limitation on the transfer of groundwater rights in Colorado and Northwest Kansas, but, even if it were germane here, this section does not include Nebraska wells, much less Nebraska augmentation wells authorized under a separate FSS provision. It would have been a simple matter for the FSS negotiators to include a historical consumptive use limitation on augmentation wells; the fact that they did not is a strong indication that none was intended.¹⁹

Contrary to Kansas' contention, the FSS prohibition of new net depletion does not imply that augmentation should be limited to historical consumptive use. Mr. Book astutely observed that the FSS structured the limit on augmentation plans in terms of "depletions instead of consumptive use." Ex. K6, p. 13, l. 7. He hypothesized that this structure was intended to accommodate relocating augmentation wells away from repurposed wells, and that doing so could (and almost certainly would) change the original wells' depletion factors. Ex. K6, p. 13, ll. 4-10.

However, Mr. Book then suggested that limiting augmentation pumping "to the historical pumping level is a simpler means to accomplish the same result." *Id.* ll. 10-11. Such a conclusion would not appear correct, since, for example, pumping the historical consumptive use—or even less—from a replacement well closer to the affected stream or in an area with different aquifer characteristics could increase annual stream depletions as compared to the historical experience. But in any case, consumptive use is not a limiting factor in this aspect of FSS accounting. Just as Mr. Book noted, the FSS focuses, for purposes of augmentation, on depletions (as calculated by the Model), not on historical consumptive use.²⁰

Former Kansas Chief Engineer David Pope, one of the FSS negotiators, expressed the belief that the negotiators did not think the agreement "would allow additional groundwater pumping, in addition to the amount of historical consumptive use that was occurring, for augmentation because of the clear restriction prohibiting any new stream depletion." Ex. K12, p. 10. Mr. Barfield contends he did not anticipate Nebraska "would seek to permanently pump so much of the Basin's groundwater into the stream as is currently being proposed," or "to rely on [augmentation pumping] so heavily as means [sic] to compliance." Ex. K10, p. 21, ll. 2-8. However, there is nothing in the FSS to prevent Nebraska from doing this, so long as the stipulation's requirements are met. Moreover, the FSS does not prohibit "any new stream depletion," as Mr. Pope describes it, but rather "any new net depletion" to stream flow.

¹⁹ Of course, had the drafters included such a limitation without otherwise altering the language of Section III.B.1.k, the concept of a well "constructed" for the sole purpose of offsetting stream depletions would have to be interpreted so as to exclude purely new wells that have no relation to retired wells. Given the contextual clues reviewed here, I interpret the term "Wells . . . constructed" for augmentation as including both wells that replace existing wells and purely new wells.

²⁰ The RCAP does eliminate consumptive use, assumed to be 80% of the volume pumped from the 23 irrigation wells being retired as part of the Plan. Ex. N20022-13, p. 20. These pumped an annual average of 4,154 acre-feet from 1985 to 2010, implying a consumptive use of 3,323 acre-feet. Ex. N20021, p. 12. Kansas points out that the ten-year average was 3,703 acre-feet per year. Ex. K5, p. 15. Thus, the RCAP annually involves an average of at least 2,962 acre-feet of consumptive use reduction over historical operations (80% of 3,703; 89% of 3,323).

The fact that a historical use limitation was adopted in the case of Colorado's CCP augmentation plan also does not mean it is required by the FSS or should be imposed here. Colorado State Engineer Dick Wolfe explained that his State imposed this limitation due to Colorado law, not an FSS requirement. Tr. Vol. II, p. 97, ll. 13-15; p. 105, ll. 16-21.

The conclusion that the FSS contains no requirement that augmentation pumping be limited to the historical consumptive use of the wells that have been replaced or repurposed is consistent with Special Master McCusick's observation (quoting then-Colorado State Engineer Hal Simpson) that:

the States have agreed that a State could acquire existing wells, eliminate the consumptive use of water by these wells, and pump groundwater from these wells, or even a new well, to a stream to be used as an offset to depletions caused by other consumptive uses or wells in the Basin.

Ex. J68 pp. 50-51, n. 92; *see also* Ex. J67, p. 81 (transcript of Simpson testimony to Special Master McKusick). This statement does not declare a consumptive use limitation on wells repurposed for augmentation, and its reference to "new wells," while not completely clear, can be interpreted as a recognition that no consumptive use limitation was intended.

Making a related point, Kansas argues that "the RCAP envisions augmentation pumping that exceeds the annual average net pumping of the repurposed irrigation wells by approximately 50%," and that this "would effectively increase the level of well development." Kansas Br. pp. 7 and 8, citing Ex. K5 p. 7 (Book expert report). Kansas claims the lack of a limit "is clearly contrary to both the explicit prohibition on Rock Creek, FSS § III.A.3 (J64), and on [sic] the limitation of augmentation pumping such that it cause no new net depletions." Kansas Br. p. 8.

However, the FSS also allows well development to increase for augmentation purposes. FSS § III.A.3 declares that "the States will not increase the level of development of Wells" in specified drainage basins, including Rock Creek, "subject to the exceptions set forth in Subsection III.B.1-2." That provision excepts augmentation wells; giving force to it necessarily means that an augmentation plan actually is entitled to "increase the level of development of [w]ells" constructed or repurposed for augmentation, provided there is no new net depletion. The FSS is not reasonably interpreted as limiting the permissible amount of augmentation pumping based on historical consumptive use or historical levels of well development.

F. The FSS imposes no limit on the quantity of groundwater diversions an augmentation plan might propose, but meaningful RRCA review requires each such plan to include a maximum amount; in any event, Nebraska has conceded one in the RCAP.

Nebraska's RCAP will increase the average annual pumping from this part of the URNRD beyond what the retired wells produced historically. *Compare* Table 1 with Table 3, Ex. 20021 pp. 11-12 and 14; and *see* Ex. N20020, p. 10, ll. 7-8 (Schneider). Mr. Book called this an "enlarged use," Ex. K6, p. 12, l. 5, perhaps to suggest it would violate the general rule in the western states disallowing this in ordinary water right transfers or changes. *See, e.g., Santa Fe*

Trail Ranches Prop. Owners Ass'n v. Simpson, 990 P.2d 46, 54 (Colo. 1999) (“The appropriator may transfer the water right to another use; but, a change in the ‘manner of use’ must be . . . ‘strictly limited to the extent of former actual usage.’ The appropriator of native water may not enlarge the appropriation.”).

But here the FSS controls, and it imposes no particular quantity limit on augmentation plans. Nevertheless, an augmentation plan must put forth a maximum pumping number; otherwise, it would be impossible for the RRCA to determine whether the proposal would have the prohibited effect of causing a new net depletion—perhaps particularly a long-term effect. Here, Nebraska has conceded that the RRCA is limited to 20,000 acre-feet annually:

[W]e only have a plan that covers 20,000 acre-feet per year. So that if they were going to expand it, we would either resubmit a plan, an expanded plan, an amended plan, or that any additional pumping that occurred due to that expansion would not be covered under the plan.

Tr. Vol. I, pp. 133, ll. 23-25 and 134, ll. 1-6 (Schneider); *see also* Tr. Vol. I, p. 194, ll. 6-12 (Schneider). I conclude that Nebraska’s RCAP is limited to an annual maximum of 20,000 acre-feet in pumping.

G. The RCAP comports with the FSS even though it does not calculate or account for transit losses in the River or in Rock Creek.

Kansas contends that the RCAP should account for and deduct from the AWS Credit any transit losses (i.e., losses of water from the stream) in the Rock Creek sub-basin and in the mainstem downstream to Swanson Reservoir. Kansas Br., pp. 10-13. Kansas concedes that stream transit losses “are not explicitly charged in the surface water accounting” under the FSS, but contends they should be. Ex. K10, p. 42 ll. 21-22, and p. 43, ll. 1-9 (Barfield). According to Kansas, a requirement to account for transit losses is implicit in FSS § IV.H’s requirement that “[a]ugmentation credits . . . be calculated ‘in accordance with the RRCA Accounting Procedures and by using the RRCA Groundwater Model.’” Kansas Br., p. 13. However, argues Kansas, the Accounting Procedures currently are not sufficient to deal with transit losses, and “[t]hat is why the RRCA Groundwater Model must be used” to account for them. Kansas Br., p. 12.

Nebraska counters that the transit losses “are not presently calculated or assigned to any State,” Nebraska Br. at 14, and the “effect of any losses are reflected directly in the streamflow gages throughout the Basin.” Nebraska Br., p. 16. Nebraska argues that calculating and assigning transit losses to determine Augmentation Credit “would have the effect of treating augmentation water unlike all the other streamflow in the system.” Nebraska Br., p. 14. According to Nebraska, the Accounting Procedures and Groundwater Model would have to be significantly modified to calculate and assign transit losses to particular stream reaches or States. Nebraska Br., p. 14 (“calculating and assigning transit losses to Nebraska would be contrary to the Accounting Procedures and would require those provisions to be rewritten wholesale”) and p. 16 (“The Model is not designed for that purpose.”).

The transit loss dispute might be described as a disagreement about where the AWS Credit should be measured—at the RCAP pipeline’s discharge point into Rock Creek or somewhere downstream. If it is the latter, then any transit losses between the point of discharge and the point of measurement would be counted against the Augmentation Credit. As Nebraska notes, this would be expressed by changing the Augmentation Credit formula set forth above to: “Augmentation Credit = AWS – New Depletions – *Transit Losses*.” Nebraska Br., p. 14.

In other words, reducing Augmentation Credit to account for transit losses would give Nebraska credit only for the quantity of augmentation discharge that actually is delivered to a chosen point downstream. There is no doubt that Kansas’ primary concern is the amount of water actually delivered for its use each year.²¹ But the Compact is not a delivery Compact—it does not require Nebraska to deliver a certain amount of water to Kansas.²² Rather, the Compact provides that the measure of Nebraska’s compliance is whether its beneficial consumptive use is within its allocation. Ex. J63, pp. 4-7 (Compact, Arts. III-IV).

The FSS does not alter this. FSS § I.D.²³ Nor do the Accounting Procedures or the Model documentation. See, e.g., Ex. J65, p. 14 (the standard calculation to determine Compact compliance referencing Annual Allocation, CBCU, and IWS Credit), and Ex. 20022-13. Nebraska’s Compact compliance under the FSS does not depend on whether, or when, water is delivered to Kansas, but rather whether Nebraska takes action to keep CBCU within its Allocation. Tr. Vol. II, p. 150 ll. 2-25 and p. 151 ll. 1-7 (Barfield).

CBCU is defined in relevant part as “[t]he stream flow depletion resulting from the activities of man.” FSS § II. Augmentation is for “the sole purpose of offsetting stream depletions in order to comply with its Compact Allocations.” FSS § III.B.1.k. In other words,

²¹ Kansas states that “transit losses [in Rock Creek] will reduce augmentation deliveries [to the Parks gage] accordingly,” and “losses [in the main stem] will diminish the portion of the augmentation water that reaches Swanson Reservoir.” Kansas Br., p. 11.

²² The hearing transcript (Tr. Vol. II, p. 150 ll. 12-25 and p. 151, ll. 1-4) includes these responses Mr. Barfield gave to questions by Nebraska’s counsel:

A. A delivery compact is one that prescribes specific amounts of water that are to be delivered on some sort of schedule at some location. And so my answer was that it is not, strictly speaking, that type of compact. Kansas obtains its share of allocation through the upper basin States’ use being constrained to their share as we regulate it through the basin’s storage.

Q. There’s no requirement that Nebraska deliver any particular amount of water at any particular place or time, is there?

A. Well, I think I said that. Kansas, there is a provisional [sic] [in the] compact that says we can take our 138,000 [at] Guide Rock. That was sort of the intended place for us to be able to use that water. But there isn’t a schedule. Again, Kansas gets its share through the upper basin States’ restricted use.

²³ FSS § I.D states, in relevant part: “The States agree that this Stipulation and the proposed Consent Judgment are not intended to, nor could they, change the States’ respective rights and obligations under the Compact.”

augmentation is for the purpose of offsetting CBCU. In that respect it is identical to any other offset or reduction to CBCU, and it should not be treated differently.

One way to reduce CBCU is to decrease surface water diversions. Ex. J65, p. 14 (“[CBCU] of surface water for irrigation and non-irrigation uses shall be computed by taking the diversions from the river and subtracting the return flows to the river resulting from those diversions, as described in Subsections IV.A.2.a.-d”). Nebraska receives full credit (i.e., without being discounted for transit losses) for this type of CBCU reduction under the Accounting Procedures even if the action occurs upstream of a losing reach. Although a loss may be reflected in a gage measurement, the Accounting Procedures contain no mechanism for discounting CBCU reduction to account for it.²⁴

All surface streamflows are measured by gages under the Accounting Procedures, whether the water is in the stream naturally, by augmentation delivery, by modeled accretions due to Imported Water Supply, or by reductions in pumping.²⁵ If a stream loses water in a reach—through pumping depletions, stream diversions, uptake by phreatophytes, seepage, or evaporation—the loss will be reflected in a gage measurement. Likewise, stream gains. Those stream losses (or depletions) that are tallied as CBCU are counted separately and are not re-counted in terms of how they affect a gage reading. AWS water is counted as an offset to CBCU once it is delivered, discounted by the amount of the depletion involved in producing it. Once it is in the stream, it is treated as any other water and is not subject to transit loss accounting.

Kansas agrees that the Accounting Procedures are insufficient to deal with transit losses, but contends that the Model is capable of it. Kansas Br., p. 15 (“the Model also accounts for transit losses”). Nebraska does not dispute that the Accounting Procedures and the Model, which currently do not address transit losses, could be modified to do so. Tr. Vol. I, p. 106 ll. 8-10 (Schneider) (“It’s a fairly complex issue because of all the dynamics of the system between the subbasin gauges and the outlet” and “we haven’t taken that step”). In any case, Kansas seems to argue that now is the time to use, and alter, the Accounting Procedures and Model to account for stream transit losses, at least with respect to Augmentation Credit. However, there is no justification evident in the FSS for treating augmentation water differently from any other water,

²⁴ The Accounting Procedures do require transit loss accounting for irrigation canals by set percentages of “canal loss” calculated primarily as measured headgate diversions less measured field deliveries. Ex. J65, p. 21 (referencing canal losses from federal canals), p. 70 (describing the method of calculating return flows, including a percentage of canal losses, from Bureau canals by relying on measurements and assumed weighted averages of application efficiency), pp. 33-37 (referencing Courtland Canal losses), and pp. 42-43 (RRCA accounting inputs include diversion data and “[w]asteway measurements”). A portion of these canal losses are assumed to be return flows that reach the stream. Ex. J65, pp. 20-21. In other words, these canal losses reduce the amount of CBCU that otherwise would be attributable to stream diversions. The return flows assumed to reach the stream are not further reduced to account for stream losses. The fact that the Accounting Procedures do not mandate transit loss accounting for augmentation deliveries or natural stream flows indicates none was intended.

²⁵ Dr. Schneider testified that augmentation water, once put into the stream, “certainly looks the same as all of the rest of the water” there. Tr. Vol. I, p. 114, ll. 4-6. In response, Kansas’ counsel asked, “But that water is placed into the stream not by natural hydrological processes and the processes that the model was designed to evaluate, but by physically pumping water and then discharging that into the stream, correct?” To which Dr. Schneider replied, “That’s true.” Tr. Vol. I, p. 114, ll. 7-12. This seems to be the point.

and thus no justification for amending the Accounting Procedures to single out augmentation in this way.

Contrary to Kansas' argument, FSS § IV.H also does not require that the Model be used to assess transit losses. As Special Master McKusick stated, "[f]or the purpose of determining future Compact compliance, the Final Settlement Stipulation provides that the Groundwater Model is the means by which the States will account for consumption of groundwater to the extent the consumption depletes stream flow in the Basin." Ex. J68, p. 33. As discussed above, the Groundwater Model is used to determine new baseflow depletion as part of the credit calculation.

I am not persuaded by Kansas' arguments that transit losses should be counted in determining Augmentation Credit. Under the FSS, augmentation deliveries less new depletions are credited against a State's CBCU once they are delivered, regardless of whether they show up at a particular stream gage.

H. Nebraska is obligated to report certain RCAP data annually to the RRCA, and the Plan is subject to review by the RRCA twenty years after implementation.

Kansas raises a legitimate concern about "the sustainability of an augmentation plan that consists mostly of pumping groundwater in the basin, which causes delayed depletions of its own." Ex. K10, p. 53 ll. 15-17 (Barfield). However, no evidence in this record answers the question when, if ever, RCAP pumping might result in new net depletion. Dr. Schneider testified that the Plan relies on pumping aquifer storage, that each State has "removed significant quantities of water from aquifer storage," and that "the Compact does not control any States' [sic] use of their aquifer, except to the limited extent that the groundwater pumping results in depletions to streamflow." Ex. N20022, p. 6. The FSS also does not impose such controls. It simply authorizes "[a]ugmentation plans" with no guidance other than the brief admonitions of Sections III.B.1.k and IV.H.

Nebraska initially proposed the RCAP as "permanent," Tr. Vol. I, pp. 117, ll. 24-25 and 118, l. 1. But in response to Kansas' suggestion of "periodic review of the Nebraska [RCAP] by the RRCA twenty years after the plan's implementation," Ex. K8, p. 13, Nebraska agreed that it should be subject to a "20-year review such that the RRCA would be able to discuss potential modifications to the Plan at that time." Ex. N20022, p. 4. *See also* Tr. Vol. I, p. 119, ll. 21-25 (the 20-year review condition is something Nebraska "would be willing to do").

The States' agreement on this point is consistent with the Arbitrator's view. The RCAP should be subject to a review by the RRCA at some point, and 20 years is acceptable.²⁶ However, this Order should not be read as immunizing the RCAP from RRCA review at any other time as appropriate. Augmentation under FSS § III.B.1.k is a new phenomenon; only this Plan and the CCP have been proposed, and both are only recently implemented, or are about to be. There is no guidance in the FSS as to a plan's duration or the considerations that might be

²⁶ A 20-year review period is consistent with Arbitrator Pagel's determination that 20 years is an "appropriate" schedule for the RRCA's periodic review of Colorado's CCP Proposal. Ex. K14, p. 18.

involved in such a review. However, under the Plan's own terms, and consistent with the FSS and its Accounting Procedures, Nebraska must, and on annual basis, evaluate how the RCAP performed in the previous year and determine its requirements for the year ahead. The results of this analysis must be shared with the other States. *See, e.g.* Accounting Procedures, Ex. J65, pp. 37-42. Although this Order approves the RCAP and establishes a 20-year review period, the Plan could not continue if at any time it was shown to be causing a new net depletion.

Nebraska's RCAP description confirms that the Plan will be evaluated each year to determine its CBCU (i.e., its new depletion) and its credit amount. Ex. N20021, p. 6. Nebraska must be held to its pledge to "annually track net depletions of the Project [to] ensure the standard of no new net depletions is met each and every year now and into the future." Ex. N20021, pp. 7-8. Nebraska will notify the other States before the start of RCAP operations each year, and will report modeling results annually through the States' data exchange. Ex. N20021, p. 9. In addition, Dr. Schneider explained that,

The accounting is approved annually by the compact administration. And that provides the administration the ability to raise issues about the way in which things are accounted for on an annual basis, and really the ability not to approve that accounting unless they're satisfied that the current accounting procedures or the accounting procedures as they may be modified under this plan are modified, if they feel they should be.

Tr. Vol. I, p. 118, ll. 13-21. This process will provide data upon which to base a request to the RRCA for any needed modifications to the RCAP, the Accounting Procedures, or the Model. FSS §§ I.F (changes to Accounting Procedures) and IV.C.8 (changes to Model).²⁷

In any event, because an Appendix M plan expires "three years from the January 1 following the Plan's approval" but may be re-submitted for RRCA approval, FSS App. M ¶ 3, the RCAP also will be subject to review on this schedule if Nebraska continues to include it as a CBCU-reducing action for purposes of obtaining Appendix M's three-year averaging. Nebraska's Appendix M Plan and RCAP were submitted to the RRCA as distinct Plans, but they are inextricably linked. In 2013, Nebraska has relied principally on the RCAP as the action it elected to implement to reduce CBCU under its Appendix M Plan. Ex. N25004, p. 4. Therefore, the RCAP's continued ability to offset Nebraska's CBCU for purposes of Alternative Water-Short Year Administration under Appendix M must be reviewed by the RRCA every three years in connection with the expiration of the Appendix M Plan.

²⁷ It is unclear how the RCAP would be terminated, should that ever become necessary based on such a review or otherwise. Presumably it would have to be phased out by continuing some amount of maintenance pumping—or by providing another source of CBCU reduction—for some Model-calculated period. But this question is properly put to the RRCA in the first instance and is beyond the scope of this Arbitration.

VI. FINDINGS OF FACT AND CONCLUSIONS OF LAW: NEBRASKA'S APPENDIX M PLAN

A. Nebraska's Appendix M Plan meets the literal, and minimal, requirements of the FSS.

Kansas contends that Nebraska's Appendix M Plan does not contain the "firm, proactive commitments" to "a definite list of actions" that Kansas believes are required by Appendix M. Kansas Br., pp. 21-26. Kansas also maintains that Nebraska has not complied with Appendix M because it "fail[ed] to indicate any estimate of CBCU reduction." Kansas Br., p. 23.²⁸

The States offer no prior interpretations of Appendix M. According to Mr. Barfield, Nebraska's Appendix M Plan "is the first such proposal under Appendix M that has been submitted to the RRCA for consideration . . ." Ex. J13, p. 1. Mr. Barfield also noted that before Nebraska's current submission, "the RRCA ha[d] never discussed Appendix M and its substantive technical requirements." Ex. J13, p. 1.

Appendix M contains only one sentence describing the substantive contents required in an Alternative Water-Short Year Plan: "Each Plan shall indicate [1] the actions which Nebraska would undertake to reduce its Computed Beneficial Consumptive Uses from the base condition and [2] the amount of reduction expected from those actions." FSS App. M ¶ 2.

The actions Nebraska indicates it would undertake under its Appendix M Plan "involve the implementation of Compact Call Year provisions for groundwater curtailments and surface water administration" in the IMPs adopted in each of Nebraska's Natural Resources Districts. Ex. N25001, p. 4. Nebraska's Plan also proposes "alternative management actions" determined to be "hydrologically equivalent" to groundwater curtailment and surface water administration. *Id.* Such alternative management actions "may include" the retirement of irrigated acreage, leasing of surface water CBCU, allocations of groundwater pumping, and "[a]ugmentation of streamflows." Ex. N25001, p. 4.

Although a State understandably might prefer more detail, Appendix M requires only an indication of "the actions which Nebraska would undertake to reduce its [CBCU] from the base condition." Nebraska's Appendix M Plan satisfies this requirement by indicating actions—groundwater curtailment, surface water administration, and the listed "alternative management actions"—that it would undertake to reduce its CBCU.

Nebraska's Plan also indicates "the amount of reduction expected from those actions." The Plan states that groundwater curtailment, should that option be implemented, would be expected to reduce CBCU by up to 15,089 acre-feet per year,²⁹ and it limits the potential use of

²⁸ Kansas raised these concerns in its initial response to Nebraska's Appendix M Plan (Ex. J2), and apparently also during subsequent communications with its fellow RRCA members. Ex. J13, p. 1.

²⁹ The Appendix M Plan's proposed groundwater curtailment would occur in an area Nebraska calls the "Rapid Response Region." Ex. N25000, p. 6, ll. 1-3. This region is not expressly mentioned in the Appendix M Plan itself, but each of the IMPs attached to it do provide for potential groundwater curtailment in areas called Rapid Response Regions. See N25001, pp. 16, 44, and 72. The Appendix M Plan identifies the 15,089 acre-foot figure as coming from Nebraska's March 15, 2012 expert report prepared in a different matter, Ex. N25001, p. 5 n.2, but the

“alternative management actions” to those that “are determined to be hydrologically equivalent” to such reductions. Ex. N25001, p. 5. The Appendix M requirements are minimal, and Nebraska’s Plan has met them.

While Appendix M does not obligate Nebraska to include any more information in a proposed plan for reduction of CBCU, it would seem unwise for Nebraska to submit nothing more in future proposals. The FSS does not obligate Kansas to approve any proposed plan, much less a plan that does not contain the “commitments” to “defined actions” that Kansas desires. The States may well avoid disputes such as this in the future if they work cooperatively to propose and approve plans that are satisfactory to all.

B. The FSS does not prohibit an Appendix M plan that proposes actions for reducing CBCU that have not yet been approved by the RRCA.

In the Joint Statement of Issues, the States framed one of the sub-issues related to the Appendix M Plan as “Can Nebraska rely on Nebraska’s Rock Creek Augmentation Plan as part of its AWSY Plan when the Rock Creek Augmentation Plan has not yet been approved by the RRCA?” Joint Statement of Issues, p. 1. The answer is yes.

As noted, Appendix M requires a proposed plan to indicate only “the actions which Nebraska would undertake to reduce its [CBCU] from the base condition.” It contains no requirement that Plans include only proposed actions that have obtained RRCA approvals. It may be desirable for proposed actions to have any necessary approvals in hand. Pre-approval would avoid the need for “fast-track” procedures Nebraska invoked with regard to the RCAP, and also would avoid the risk of disapproval or delayed approval.

Here, Nebraska has hedged against the risk that it would not receive RCAP approval for 2013 implementation. Its Appendix M Plan lists several proposed actions in addition to augmentation, including potential groundwater curtailment and surface water administration. In its notice of Appendix M Plan implementation, instead of relying solely on the RCAP to reduce CBCU by the projected requirement of 4,530 acre-feet, Nebraska also elected to reduce CBCU by “surface water administration” aimed at achieving the full CBCU reduction required in 2013. Ex. N25004, p.4 (“The surface water administration conducted by the Department will ensure that an additional . . . 4,530 acre-feet of water will be provided to Kansas in 2013 as a direct result of the [Appendix M] Plan.”).

In addition to these other actions, however, Nebraska also is entitled to rely upon the RCAP as an action implemented in 2013 to reduce CBCU under Appendix M. As evaluated herein, the Appendix M Plan and RCAP presented by Nebraska are consistent with the FSS, the Accounting Procedures, and the Groundwater Model.

portion of that report (apparently a spreadsheet) containing that figure is not included in the record. See Ex. N20022-15. Kansas has not argued that Nebraska has misstated the 15,089 acre-foot figure from that report.

VII. CONCLUSION

I approve Nebraska's Appendix M Plan and its Rock Creek Augmentation Plan pursuant to the terms of this Order.

DATED this 25th day of November, 2013.



Jeffrey C. Fereday, Arbitrator

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 25th day of November, 2013, I caused a true and correct copy of the foregoing Arbitrator's Order to be served by the method indicated below, and addressed to the following:

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