
REPUBLICAN RIVER COMPACT ARBITRATION

**Pursuant to Section VII,
Final Settlement Stipulation**

NEBRASKA'S N-CORPE AUGMENTATION PLAN

BEFORE JEFFREY C. FEREDAY, ARBITRATOR

ARBITRATOR's ORDER

May 19, 2014

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I. INTRODUCTION

This is the Arbitrator's Order ("Order") in a non-binding arbitration between the States of Colorado, Kansas and Nebraska pursuant to the December 15, 2002 Final Settlement Stipulation ("FSS") in *Kansas v. Nebraska and Colorado*, No. 126 Original, U.S. Supreme Court (the "Arbitration").

This Arbitration concerns Nebraska's Cooperative Republican Platte Enhancement Augmentation Project proposal, or "N-CORPE," which Nebraska submitted to the Republican River Compact Administration ("RRCA") on June 10, 2013. Ex. N30021, p. 4.¹ The N-CORPE is an augmentation plan proposing to pump groundwater in Nebraska and discharge that water into Medicine Creek, a tributary of the Republican River, to offset Nebraska's stream depletions in the Republican River basin. *Id.*, p. 6. The RRCA has not approved N-CORPE because the three States' RRCA representatives were unable to reach unanimous agreement; Nebraska and Colorado voted in favor, Kansas against. *Id.*, p. 1. Nebraska has submitted the matter to this non-binding arbitration pursuant to Sections VII.B.1 and VII.C of the FSS. Ex. N30021, pp. 1-2.

The States' November 21, 2013 Arbitration Agreement ("Arbitration Agreement") provides, among other things, that this Arbitration "is for the purpose of, and shall result in, a determination by the Arbitrator of the merits of the dispute, which Nebraska asserts includes whether the N-CORPE Plan is consistent with the FSS and the Republican River Compact." Arbitration Agreement, p. 2 ¶ A.5; *see also* Ex. N30021, p. 1 (Nebraska's letter invoking non-binding arbitration). The States subsequently raised additional issues. However, as discussed in Section II.B, some of these already have been decided in an earlier arbitration, and some others need not be determined to rule on the merits of this case.

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. Ex. J63. Pursuant to the Compact, the States comprise the three voting members of the RRCA. Ex. J68, pp. 19-20.

The Compact's "major purposes" include, among other things, providing for "the most efficient use of the waters" of the Basin to achieve "an equitable division" of these waters among

¹ Citations to documents in the record of this Arbitration follow the format and designations used in the States' *Final Joint Exhibit List* submitted in this Arbitration on March 13, 2014, and in the States' *Final Joint Exhibit List* submitted on September 6, 2013 in the States' prior arbitration concerning Nebraska's *Plan for Reduction of Computed Beneficial Consumptive Uses under Alternative Water-Short Year Administration and Rock Creek Augmentation Project Plan* (the "RCAP Arbitration"). The State's exhibits in this Arbitration include all of the exhibits and hearing transcripts from the RCAP Arbitration. Most documents in the record are cited as "Ex. _" in accordance with the exhibit lists, and citations to page numbers reflect the Bates stamped page number (which in some cases differs from the original document's page numbering). The FSS is Exhibit J64. However, because references to the FSS are ubiquitous, the FSS is usually cited without reference to its exhibit number. This 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 the States' briefs, also have no exhibit numbers and are referenced by title. Citations to the States' briefs are shortened to "Br."

the States, declaring “that the most efficient utilization of the waters within the Basin is for beneficial consumptive use.” Ex. J63, p. 2. The Compact defines Beneficial Consumptive Use as “that use by which the water supply of the Basin is consumed through the activities of man, and shall include water consumed by evaporation from any reservoir, canal, ditch, or irrigated area.” Ex. J63, p. 3. The Basin’s Virgin Water Supply (“VWS”) is defined as “the water supply within the Basin undepleted by the activities of man.” *Id.* 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.

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 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. The Compact does not mention augmentation; that concept was introduced by a few brief references in the FSS.

The Compact grants each State the right to put its allocation to Beneficial Consumptive Use, but does not require that one State deliver water to another. Ex. J104, p. 137 (Special Master Kayatta concluding that “Kansas points to no provision in the Compact requiring Nebraska to make available to Kansas water only when and where Kansas needs it. Rather, the Compact mostly allocates the water supply in the Basin for beneficial consumptive use, thereby constraining consumption.”); Ex. J103, p. 27 n.22 (RCAP Order quoting Kansas Chief Engineer David Barfield confirming that the Compact is not a “delivery compact.”) Some interstate compacts require the upstream state to provide specified flows or annual volumes of water, or percentages of annual stream volume, to the downstream state. *See, e.g.,* La Plata River Compact, Art. II (“the state of Colorado shall deliver at the Interstate station a quantity of water”); South Platte River Compact (“Nebraska shall not be entitled to receive and Colorado shall not be required to deliver” any flow “not then necessary” for use within Nebraska). The Republican River Compact is not such a “delivery compact.” Instead, it allocates to each State the entitlement to engage in specified, annually-calculated amounts of Beneficial Consumptive Use. Ex. J63, p. 4 (“Beneficial consumptive use is the basis and principle upon which the allocations of water hereinafter made are predicated.”).

The Compact allocates a total of 478,900 acre-feet between the States for Beneficial Consumptive Use: 54,100 to Colorado; 190,300 to Kansas; and 234,500 to Nebraska. Ex. J63, pp. 5-7.² These total allocations include specific drainage basin (or “sub-basin”) allocation volumes assigned to each State, plus portions of main stem and “otherwise unallocated” waters assigned to Kansas and Nebraska (51.1% to Kansas; 48.9% to Nebraska). *Id.*, p. 6-7.³ The

² “The aggregate virgin water supply was determined from measurements in state and federal records of historic stream flows for each sub-basin.” Ex. J68, p. 18 n. 30.

³ The Compact provides that “should the future computed virgin water supply of any source vary more than ten (10) per cent from the virgin water supply as hereinabove set forth, the allocations . . . shall be increased or decreased in the relative proportion that the future computed virgin water supply of such source bears to the computed virgin water supply used herein.” Ex. J63, p. 5. Nevertheless, Special Master McKusick determined that

Compact reports 50,800 acre-feet of average annual VWS in the Medicine Creek sub-basin, and allocates 4,600 acre-feet of this to Nebraska. Ex. J63, p. 4. All other water from Medicine Creek is “otherwise unallocated” and, therefore, is allocated to Kansas and Nebraska according to these percentages.⁴

The N-CORPE augmentation project is proposed to be carried out by an “inter-local agency” (also called N-CORPE) consisting of four Nebraska Natural Resources Districts. Ex. N30000, p. 2 (Fanning). The project involves the retirement of about 15,800 irrigated acres and associated irrigation wells in Lincoln County, Nebraska; the installation of some thirty new wells; and the annual delivery to Medicine Creek (at least during “Compact Operation Years”) of up to 60,000 acre-feet of groundwater from these new wells “for compact compliance purposes in the Republican River Basin.” *Id.* at 2-3; Ex. N30021, pp. 6-8.

Nebraska points out that because the augmentation wells are outside of the moratorium area established by FSS §§ III.B.1.a.ii and III.B.1.b (the area in Nebraska the FSS declares off-limits to most new wells), the N-CORPE “is not subject to the additional requirements in Section III.B.1.k” prohibiting “new net depletions.” Ex. N30021, p. 7. Nebraska recognizes that the depletions to baseflows from augmentation pumping must be calculated, using the Model, and that this must be charged to Nebraska as Computed Beneficial Consumptive Use (“CBCU”) in determining the amount of the augmentation credit. Ex. N30021, p. 8. And, despite the augmentation wells’ locations, Nebraska also proposes to pump some amount of water “outside of Compact Operation Years designed to accomplish State-based objectives,” namely “offsetting any new depletions that occur outside of Compact Operation Years.” Ex. N30021, p. 12. In these respects, the N-CORPE is similar to the RCAP Project.

The N-CORPE’s augmentation delivery point is on Medicine Creek about 70 miles upstream from the dam on Medicine Creek that forms Harry Strunk Lake. Ex. K103, p. 7 (Book). Harry Strunk Dam is a federal facility located about twelve miles above Medicine Creek’s confluence with the Republican River. The stream gage by which the flows of the Medicine Creek sub-basin are measured under the RRCA Accounting Procedures is located on the Creek just below Harry Strunk Dam, some 76 miles from the N-CORPE augmentation discharge point. Ex. J65, p. 42; Ex. K 103, p. 10 (Book); Ex. K102, p. 6 (Larson Report).

B. Course of Events – the N-CORPE Hearing.

Following discovery and other pre-trial matters, the Arbitrator conducted a hearing on this matter in Lincoln, Nebraska on March 5 and 6, 2014. A record of that proceeding was submitted to the States and to the Arbitrator. The States submitted post-trial briefs on April 4,

the Compact implicitly allows the States to adjust allocations in years where there is less than a 10% variance from the average amount originally set in the Compact. Ex. J68, p. 19.

⁴ The Compact allocates Colorado no Medicine Creek waters, and no main stem or “unallocated waters.” Ex. J63, p. 5 (allocating Colorado waters from the drainages of the North and South Forks of the Republican River, the Arikaree River, and Beaver Creek). However, Colorado has a direct interest in this matter because, among other things, it is a member of the RRCA and it will be affected by any decision regarding augmentation plans within the Basin.

2014. On April 7, 2014, the Arbitrator issued his *Amendment to Scheduling Order: Additional Briefing* (“Amended Scheduling Order”), requesting supplemental briefing “on the question whether the Final Settlement Stipulation and the Republican River Compact should be interpreted as placing a restriction on the calculation of an augmentation credit based on its effect on Virgin Water Supply, and thus on a State’s allocation, due to transit losses.” Amended Scheduling Order, p. 1. Additional briefing was deemed necessary because this issue “was not squarely addressed in the RCAP Arbitration or framed in this Arbitration.” *Id.* Colorado and Nebraska submitted supplemental briefs on April 18, Kansas on April 25, 2014.

C. Course of Events – the RCAP and CCP Proceedings.

The N-CORPE is the third augmentation plan the RRCA has considered. Colorado’s Compact Compliance Pipeline (“CCP”) and Nebraska’s Rock Creek Augmentation Project (“RCAP”) are the two previous proposals. The controversy about whether an augmentation credit should be reduced by the amount of stream transit loss attributable to the augmentation also was addressed in the CCP and RCAP arbitrations, but on different grounds.

In the CCP arbitration, Arbitrator Martha O. Pagel addressed, among other things, an issue raised by Kansas “regarding the treatment of transit losses between the point of discharge and Swanson Reservoir for purposes of determining augmentation credit.” Ex. K14, p. 11. On that question, Arbitrator Pagel ruled that “[i]t is reasonable for Kansas to insist that such impacts be considered in calculating the amount of augmentation credit, whether by use of the Model, or through some other approach agreed to by the States and incorporated into the FSS through stipulated agreement.” *Id.*

The arbitration involving Nebraska’s RCAP was concluded with this Arbitrator’s November 25, 2013 Arbitrator’s Order (“RCAP Order”) approving that plan. Ex. J103. Of relevance here is the RCAP Order’s conclusion that no provision of the Compact, the FSS, or the Accounting Procedures requires a State to account for stream transit losses⁵ in either a tributary receiving augmentation water or in the mainstem Republican River. Ex. J103, p. 26. This Arbitrator also found that even if stream transit losses were to be considered in the augmentation context, the RRCA Groundwater Model (the “Model”) is not designed or intended to make those measurements. Ex. J103, pp. 28-29.

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

A. This Arbitration is non-binding.

Nebraska invoked non-binding arbitration on the N-CORPE pursuant to FSS §§ VII.B.1 and VII.C. The FSS provides that an arbitrator’s decision “shall include a determination of the merits of the dispute and determination of a proposed remedy.” FSS § VII.B.4. The States then “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.

⁵ Because of the language of the Compact and the FSS (including the Accounting Procedures), this Order distinguishes transit losses in natural streams from those occurring in canals or ditches, and from evaporation or other losses occurring in reservoirs.

B. The issues presented.

Nebraska invoked this Arbitration to determine “whether Nebraska’s proposed N-CORPE Augmentation Plan (Plan) should be approved as consistent with the FSS.” Ex. N30021, p. 1; *see also* Arbitration Agreement, p. 2 ¶ A.5 (“[t]he Arbitration is for the purpose of, and shall result in, a determination by the Arbitrator of the merits of the dispute, which Nebraska asserts includes whether the N-CORPE Plan is consistent with the FSS and the Republican River Compact.”). The States filed a *Joint Statement of Issues* on January 24, 2014, listing several mutually agreed “sub-issues,” and several that Kansas alone contended should be resolved. However, the case was tried on much narrower grounds, with the primary point of contention being the question of stream transit loss accounting. The two controlling issues are:

- 1. Does the Compact or the FSS require Nebraska to account for any stream transit losses that may accrue to deliveries of N-CORPE augmentation water?**

The central issue Kansas raises, and which the States addressed primarily through supplemental briefing, is whether the Compact and the FSS must be interpreted as requiring the credit for any N-CORPE augmentation discharge to be reduced by the amount of any losses that might accrue to it in the natural stream channel between the point of discharge and the Medicine Creek sub-basin’s accounting gage. Any such losses would reduce the amount of the discharge reaching the gage.⁶ If transit losses actually occur but are not deducted from Nebraska’s augmentation credit against CBCU, the result would be a reduction in VWS by the amount of the transit loss. This in turn would reduce the amount of water usage allowed by both Nebraska and Kansas under their respective percentage allocations of “otherwise unallocated” waters.⁷ The issue Kansas raises, which is whether this effect on allocations would violate the Compact or the FSS, was not expressly raised, and was not decided, in the RCAP or CCP arbitrations.

- 2. Has Nebraska proposed appropriate changes to the Accounting Procedures to implement the N-CORPE Project?**

The issue described above is closely associated with this second question: whether Nebraska’s proposed changes to the Accounting Procedures for augmentation credits under the N-CORPE comport with the Compact and the FSS.

⁶ In this Order the term “augmentation discharge,” “discharge,” or “delivery” means the volume of augmentation water discharged from the N-CORPE pipeline to Medicine Creek less the amount of stream flow depletion calculated by the Model caused that year by the groundwater pumping necessary to produce that volume.

⁷ When Kansas argues that failing to consider transit losses reduces its allocation, I interpret this to mean that it reduces the VWS to which the State’s percentage share applies, and not that it reduces any State’s percentage allocation set forth in the Compact. In this sense, a claim of “reduction in allocation” means a reduction in VWS with the result that a State will have the opportunity to engage in less consumptive beneficial use.

3. Other issues that can be disposed of summarily.

The States identified several other issues in their Joint Statement of Issues, correspondence, expert reports, pre-filed testimony, and their evidence at hearing. However, I have concluded that these require only summary attention in this Order, as follows:

a. Nebraska's reporting obligations for N-CORPE operations.

The extent, scope, and form of Nebraska's reporting obligations applicable to an augmentation plan, Joint Statement of Issues, p. 2, was determined in the RCAP Arbitration. Ex. J103, pp. 29-30. The N-CORPE record contains no basis for a different decision. The contents of Nebraska's annual reports will include some elements, such as any reservoir evaporation or augmentation water, that will differ from those required in the RCAP. But there was no evidence in this record to suggest that Nebraska intends to follow a procedure other than one substantially conforming to that described in the RCAP Order. Nebraska also has agreed to "a built-in review of the N-CORPE Plan after 20 years" to give the RCAP an opportunity to determine whether revisions are appropriate. Ex. N30020, p. 11 (Schneider).

b. Sustainability.

The issue proposed by Kansas as to whether "the Plan [is] sustainable" (Joint Statement of Issues, p. 2; *see also* Arbitration Agreement, Ex. 3 (Kansas' letter dated July 24, 2013)), was determined in the RCAP Arbitration, Ex. J103, p. 29. There is no additional evidence concerning it in the N-CORPE record upon which to base a different conclusion.

c. Platte River Basin issues.

Another issue not addressed here concerns whether the N-CORPE Plan complies with all federal, state, and interstate laws concerning the Platte River Basin. Joint Statement of Issues, p. 2. Despite the scope of the N-CORPE proposal, which indicates an intent to deliver groundwater to the Platte River Basin in the future, Nebraska has indicated that there is no near-term plan to do so. Tr. 19-20 (Dr. Fanning testimony that "construction has not begun on the Platte portion"). The States have presented no evidence on this issue, and this Order does not address it.

d. Whether the N-CORPE was "addressed by the RRCA."

Kansas again has raised, as it did in the RCAP Arbitration, whether the N-CORPE plan was "Addressed by the RRCA" as that phrase is defined in the FSS § II. On this issue, the record here is substantially similar to the record in the RCAP Arbitration and the outcome is the same: because the RRCA took final action on the N-CORPE by vote as required by FSS § II, and because Kansas has provided no facts to support an argument to the contrary, the N-CORPE was "Addressed by the RRCA."

e. Administration of augmentation water and operation of reservoirs.

Kansas raises the question whether Nebraska's "administration of water produced by the N-CORPE project, including but not limited to regulation of Medicine Creek Dam and Harlan

County Dam, [will] be sufficient to prevent injury to Kansas.” Joint Statement of Issues, p. 2. *See also* Kansas Br., pp. 38-41. The record contains several letters and emails between Kansas and Nebraska pertaining to Harlan County Lake, such as how and when various blocks of water will be stored in or released from the reservoir, sharing of evaporation, the carryover of storage, and the effects of these actions on Kansas irrigators. *See, e.g.*, Exs. 31001-31019; Ex. N30020, pp. 16-17 (Schneider Direct). With one exception, none of these questions appears to bear on the issue here, which is whether the N-CORPE should be approved, and if so, upon what conditions. The one exception is the circumstance where N-CORPE augmentation deliveries might be stored in Harlan County Lake (or in Harry Strunk Lake), and this is discussed below. As to other controversies pertaining to either reservoir, the RRCA should discuss and vote on these issues before a State submits them for arbitration. They are not deemed germane to the decision in the present case.⁸

f. The amount of transit losses in Medicine Creek.

The rulings above make it unnecessary to determine two additional issues raised by the States: whether the actual amount of transit losses in Medicine Creek would be substantial (as argued by Kansas) or de minimis (as argued by Nebraska); and whether the RRCA Groundwater Model should be used to quantify transit losses in Medicine Creek.⁹

g. Other issues raised by Kansas.

Kansas also raised the issue “whether the FSS requires that an augmentation proposal . . . address the elements identified by Kansas in its letter to the RRCA dated January 14, 2013.” Arbitration Agreement, Ex. 3. These include six topics of concern, including: (1) the location and extent of stream depletions the project is intended to offset; (2) historical use information about the augmentation wells; (3) seasonal operating plans, considerations for water short and normal years, flow rates, and discharge locations; (4) periodic review requirements; (5) consumptive use of the augmentation water and how it will be modeled; and (6) proposed operational limits to “ensure that the usability to Kansas will not be impaired....” Items 1-5 were either addressed in the RCAP Order or received little attention at the N-CORPE hearing. In any case, there is no evidence that conclusions different from those reached in the RCAP Order should be made here. Item 6 appears to raise the central issue in this case: what the Compact and the FSS require with respect to the N-CORPE’s effect on any State’s allocation based on the computation of Medicine Creek’s Virgin Water Supply. Kansas also has asserted an issue to be

⁸ One of Nebraska’s experts stated that “[i]f less than the full amount of the AWS Credit is recorded at the Medicine Creek gage,” this would reduce allocations to both Nebraska and Kansas but this “is not a problem” because “[w]hen Nebraska is providing augmentation water to make up a forecasted shortfall, Nebraska *must* ensure that a volume of water equal to the AWS Credit will reach the State line to fully make up the shortfall. If we fail to do so, Nebraska will likely violate the Compact.” Ex. N30020, p. 10 (Schneider). Regardless of how this assurance is interpreted, it does not appear to resolve the concern Kansas articulates about calculating augmentation credits without accounting for stream transit losses; that concern focuses on reduction in the States’ allocations based on VWS in the Medicine Creek Basin.

⁹ Even if transit losses accounting were to be required, determining their amounts using Model simulations would seem to be inferior to obtaining actual stream measurements.

whether the N-CORPE prevents injury to that State; this Order addresses this issue by addressing the transit loss question.

C. Dispositive issues and rulings.

The following are the material questions determined in this Order, together with a summary of the decision as to each.

- (1) Can the N-CORPE be approved even though it would not account for any reductions that may accrue to augmentation deliveries through transit losses in Medicine Creek, which in turn would reduce the Virgin Water Supply and the States' respective allocations of the sub-basin's water supplies?

Yes, because nothing in the Compact or the FSS requires transit loss accounting in streams, regardless of the effect on Virgin Water Supply or allocations.

- (2) Has Nebraska proposed proper changes to the Accounting Procedures to calculate the augmentation credit associated with the N-CORPE Plan?

No, because the Compact and the FSS require accounting for reservoir evaporation and Nebraska's N-CORPE proposes no procedures to account for evaporation loss to any augmentation water that may be stored in Harry Strunk Lake.

III. APPLICABLE STANDARDS/RULES OF LAW

This Arbitration is governed by the Compact, the FSS, and the November 21, 2013 Arbitration Agreement between the States. Other binding authority includes the decisions of the U.S. Supreme Court. The Special Master's reports and recommended orders are persuasive authority.

IV. FINDINGS OF FACT AND CONCLUSIONS OF LAW

A. In calculating the augmentation credit, Nebraska is not required to account for stream transit losses, regardless of the effect on Virgin Water Supply.

Nebraska proposes changing the Accounting Procedures to incorporate augmentation credit in determining Virgin Water Supply. Ex. N30021, pp. 36-108. The current VWS equation and relevant abbreviation definitions are as follows:

$$\text{Sub-basin VWS} = \text{Gage} + \text{All CBCU} + \Delta S - \text{IWS}^{10}$$

¹⁰ As explained in the N-CORPE Plan, "The Main Stem accounting procedures would remain unchanged as the necessary modifications are reflected in the Designated Drainage Basin where the Augmentation Plan is being implemented." Ex. N30021, p. 12 (footnote omitted).

CBCU = Computed Beneficial Consumptive Use
 Gage = Gaged Flow
 IWS = Imported Water Supply Credit
 VWS = Virgin Water Supply
 ΔS = Change in Federal Reservoir Storage

Ex. J65, pp. 10-11. Nebraska proposes to change this equation to address augmentation credit as follows (with proposed additions underlined):

$$\text{Sub-basin VWS} = \text{Gage} + \text{All CBCU} + \Delta S - \text{IWS} - \text{AWS}$$

$$\text{AWS} = \text{Augmentation Water Supply Credit}^{11}$$

Ex. N30021, pp. 45-46. Nebraska's proposed definition of Augmentation Water Supply Credit is:

Augmentation Water Supply Credit: The amount of water measured and discharged under an approved Augmentation Plan to a Designated Drainage Basin for the purpose of offsetting stream depletions to comply with a States' Compact allocation. The Augmentation Water Supply Credit of a State shall not be included in the Virgin Water Supply in the aforementioned Designated Drainage Basin and shall be counted as a credit/offset against the Computed Beneficial Consumptive Use of water allocated to that State[.]

Id., p. 40. Nebraska's proposed changes would exclude the entire amount of water discharged for augmentation from the VWS, while including as CBCU the annual depletions to stream flow the augmentation pumping is projected to cause, as calculated by the RRCA Groundwater Model. Ex. N30021, p. 11.

Kansas objects, due to the reduction in VWS and in both States' allocation amounts, that will occur if Nebraska is not compelled to account for any transit loss that may accrue to the augmentation water between the point of augmentation discharge and the Medicine Creek accounting gage downstream from Harry Strunk Lake. Ex. K104, pp. 5-7 (Book Report); Ex. K102, pp. 3-4 (Larson Report); Kansas Supp. Br., p. 1. For the reasons described below,

¹¹ Nebraska's terminology in the N-CORPE should be revised as suggested in the RCAP Order, Ex. J103, pp. 22-23. An Augmentation Water Supply Credit would be the amount of CBCU offset the Plan ultimately achieves. In the RCAP Order, I determined that the credit would be the result of deducting the annual amount of modeled new depletion (caused by the augmentation pumping) from the amount of water the pipeline discharges to the stream. This is the same figure as the N-CORPE's "Accretion Benefit." See, e.g. Ex. N30021, pp. 28-29 (Table 11). "AWS" is the acronym that should be used to signify the amount of augmentation water discharged, so the columns the N-CORPE Tables labeled "AWS Credit" should be labeled "Augmentation Water Supply" or "AWS" because that number is the raw value of the discharge, which is not the amount of the credit. Similarly, the references to Augmentation Water Supply Credit in Nebraska's proposed Accounting Procedures should not include the word "Credit." However, Nebraska's method, which adds augmentation pumping depletion to CBCU, results in an equivalent calculation and is consistent with FSS Section III.B.1.k's requirement that "[t]he determination of net depletions from these [augmentation] Wells will be . . . included in the State's Computed Beneficial Consumptive Use."

Nebraska must account only for evaporation losses to any augmentation water that is stored in Harry Strunk Lake.

1. The Accounting Procedures currently do not call for transit loss accounting in natural streams, and neither the Compact nor the FSS requires it.

The Compact defines Beneficial Consumptive Use as “that use by which the water supply of the Basin is consumed through the activities of man, and shall include water consumed by evaporation from any reservoir, canal, ditch, or irrigated area.” Ex. J63, p. 3. Water evaporating from any reservoir, canal, or ditch is water lost in transit (or lost as it is held in storage) from its diversion point to where it is used for irrigation or other purposes. However, water evaporating, leaking, or otherwise lost from a natural stream is not an element the Compact requires the States to consider in computing Beneficial Consumptive Use.

The Accounting Procedures likewise do not currently require stream transit loss accounting in every potential instance where, in the real world, such losses may affect CBCU accounting. For example, the Accounting Procedures require the States to report “[w]asteway measurements” for accounting purposes, without any requirement that such return flows be analyzed for transit losses once they reach the natural stream. Ex. J65, p. 43.¹² The FSS and the Accounting Procedures also do not adjust CBCU attributable to surface water diversions depending on whether the diversion is located above a losing reach. For the same reasons that Kansas argues Nebraska should receive no credit for augmentation water that is lost between the point of discharge and the Compact accounting gage, Nebraska could argue that surface water diversions above losing reaches should not be fully charged as CBCU because such water would not have made it to a gage if it had been left in the natural stream.

While the States have pledged that the FSS does not “change the States’ respective rights and obligations under the Compact,” FSS § I.D, there is nothing in the Compact or the FSS to prohibit them from changing their Accounting Procedures to include consideration of stream transit losses in the accounting of CBCU. Indeed, the States have agreed that “[t]he RRCA may modify the RRCA Accounting Procedures, or any portion thereof, in any manner consistent with the Compact and this Stipulation.” FSS § I.F. In the RCAP proceeding, Kansas pointed out that the States could modify the Accounting Procedures to include stream transit losses in augmentation accounting. Ex. J103, p. 28. A Nebraska expert witness did not deny that such a modification could be made, but noted transit loss accounting is “a fairly complex issue because

¹² As to releases of storage for downstream use, the FSS provisions relative to Harlan County Lake simply refer to the “Maximum Irrigation Water Available” after reservoir evaporation is subtracted, without comment as to whether, or to what degree, stream losses between Harlan and the Superior-Courtland diversion might reduce the amount available. Ex. J65, p. 61. The Accounting Procedures likewise require daily accounting of “reservoir release information,” but require no tracking of these releases downstream. *Id.*, p. 42. While the States must account for evaporation from water stored in a reservoir, they are under no similar requirement applicable to that stored water once it is in the natural stream. Likewise wasteway releases, which presumably are deliveries from a canal back to the stream, another human-caused increase to streamflow at a particular point and a deduction from the canal’s CBCU. *Id.*, p. 43.

of all the dynamics of the system between the subbasin gauges and the outlet” and, in any event, the States “haven’t taken that step.” J101, pp. 106-07 (Schneider).

The Accounting Procedures include evaporation from Non-federal and Federal reservoirs in their definition of CBCU to be accounted in the Basin. Ex. J65, p. 6. But the Accounting Procedures’ treatment of the Compact’s “evaporation” mandate relative to canals and ditches extends beyond the Compact’s language on this point, requiring a reduction in a State’s CBCU by a percentage of “canal losses,” a term I interpret to include all forms of transit loss in these facilities, such as leakage and ET, not just the evaporation listed in the Compact. *Id.*, p. 21. Moreover, in calculating a State’s CBCU, only a portion of the canal losses assumed to occur in canals is considered CBCU, while the rest is considered return flow. *Id.* The States are entitled to adjust the Accounting Procedures to calculate CBCU in ways that go beyond the minimum requirements set forth in the Compact.

The Compact requires the States to include in CBCU evaporation from reservoirs, canals, ditches, and irrigated areas, and neither prohibits nor requires a broader consideration of transit losses. While the States could change the Accounting Procedures to include stream transit loss in calculating CBCU relative to augmentation credits, the question here is whether the Compact bestows on Kansas the right to such a change. I conclude it does not.

2. Neither the Compact nor the FSS forbids the situation where an augmentation plan, due to stream transit losses, has the effect of reducing VWS and thus the amount of the States’ allocations.

Kansas asserts that “Nebraska’s plan is unreasonable” because, if stream transit losses accrue to N-CORPE deliveries, the Project would “alter[] the calculation of the Virgin Water Supply in a way that will reduce Kansas allocation.” Kansas Br., p. 1. Kansas also asserts that such a reduction unfairly benefits Nebraska, which would gain more in the enhanced ability to consume water through its augmentation program than it gives up in its percentage share of VWS reduction resulting from such losses. Ex. K103, p. 12 (Book). While the Compact entitles each State to its full percentage allocation of Virgin Water Supply, expressed in allowable CBCU, the question here is whether the Virgin Water Supply must be calculated in the augmentation context to consider stream transit losses.

The Compact contains nothing on the subject of augmentation, but it does recognize that the amount of water available under the States’ allocations will vary proportionately, depending on the calculations affecting the Virgin Water Supply. Ex. J63, p. 5.

The Accounting Procedures’ VWS formula requires measurement of all water arriving at an accounting gage—in this case the Medicine Creek gage below Harry Strunk Lake. These gage measurements are added to changes in storage and CBCU (from which IWS is subtracted) to derive VWS. J65, pp. 10-11. Actual transit losses occurring in the natural stream between reservoirs or surface water diversions obviously would reduce the amount of water that will arrive at the gage. But, as noted, the current Accounting Procedures do not direct any State to account for such losses. The implicit assumption is that water would arrive at a gage if not diverted for CBCU or stored. In other words, the Accounting Procedures ignore the potential existence of transit losses below reservoirs and surface water diversions.

The FSS and the Accounting Procedures also are silent about whether, in calculating the augmentation credit, a State must evaluate either the augmentation delivery's effect on the Basin's stream gages or the augmentation credit's effect on the amount of water a State will be entitled to use under its allocation. The FSS simply authorizes each State to construct and operate wells "for the sole purpose of offsetting stream depletions in order to comply with its Compact Allocations," provided that "such Wells shall not cause any new net depletion to stream flow either annually or long-term." FSS III.B.1.k.¹³ The provision does not mention any other State's allocation, inferring an intent that augmentation is to assist the proponent State in complying with its own allocation. An offset to streamflow depletions (i.e., an offset to CBCU) would aid a State in doing that.

The Accounting Procedures and the FSS are structured so that the output from modeling either groundwater CBCU or IWS affects VWS. But no State has pointed to any language in the Model documentation, the Accounting Procedures, or the FSS indicating that the Model's groundwater CBCU or IWS computations correlate with amounts that would actually arrive at a gage, or that the Model predicts the effect on a gage of the modeled hydrologic stress. The Model predicts baseflows in "selected stream cells," which apparently may or may not include a relevant gage. Ex. J65, p. 13.

Similarly, instead of addressing the effect on VWS—or the effect on a relevant gage reading or the amount of water subject to allocation—FSS § III.B.1.k focuses on the augmenting State's CBCU, on the pumping effects "from these Wells" by which the State will produce the augmentation water, and on the requirement that the State's augmentation pumping cause no short- or long-term "new net depletion to stream flow." It does not mandate that the offset to stream depletions should be calculated so as to guarantee no change in a gage reading or reduction in VWS, although it would have been a simple task to include such guarantees.

As is the case with the Accounting Procedures, Section III.B.1.k does not identify where an augmentation well's stream depletions must be measured. The only effect on streams from augmentation pumping the States expressly require to be considered is the stream depletion that can be measured in selected stream reaches by the Model based on the pumping of groundwater for augmentation at a particular location. Ex. J65, p. 13 ("An output of the Model is baseflows at selected stream cells."). If the negotiators intended consideration of more, they easily could have identified it. The fact that they did not is telling. And if the negotiators had intended to require transit loss accounting in any context, they presumably would have provided guidance as to where or how such losses would be measured. The FSS is silent on the point, except, as noted, in its attention to transit losses in canals and ditches and evaporation from reservoirs.

¹³ Because its provisions address augmentation wells in the Moratorium area, it is not clear how Section III.B.1.k applies in this case, which involves wells outside that area. Kansas does not contend that the FSS's augmentation provisions are unavailable to Nebraska because the wells involved are not subject to the exemption in Section III.B.1.k. In any event, Section III.B.1.k contains the most significant explication of the augmentation concept, and Nebraska has indicated it will conform to this passage's prohibition of any "new net depletion" of stream flows, including the depletions caused in pumping the augmentation water. *See* Ex. N30020, p. 11 (Schneider Direct).

One could argue that because augmentation water is placed in the stream through human activity, any subsequent loss of it in the natural stream should be accounted as a part of that same activity. *See* Nebraska Supp. Br., p. 5 n. 3; Kansas Supp. Br., p. 9. But given the Compact's express attention to transit losses within man-made diversions, and its silence on the subject with regard to water in natural streams—including water measured and delivered to streams as reservoir releases or wasteway flows—rules of construction dictate a conclusion that there is no intent to require evaluation of transit losses to augmentation deliveries in the Republican River or its tributaries. *Hillman v. Maretta*, 133 S. Ct. 1943, 1953 (2013) (“[w]here Congress explicitly enumerates certain exceptions to a general prohibition, additional exceptions are not to be implied, in the absence of evidence of a contrary legislative intent.” (internal quotation marks and citations omitted)).

“[A] compact when approved by Congress becomes a law of the United States, . . . but a Compact is, after all, a contract.” *Texas v. New Mexico*, 482 U.S. 124, 128 (1987) (internal citations and quotation marks omitted). In interpreting a statute, “it is not [a court’s] task to assess the consequences of [competing] approach[es] and adopt the one that produces the least mischief,” but it rather is “to give effect to the law Congress enacted.” *Lewis v. City of Chicago, Ill.*, 560 U.S. 205, 217 (2010). In construing a contract, “the 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 (1995) (citing, *inter alia*, Restatement (Second) of Contracts § 203(a) and Comment b; *id.*, § 202(5)). In interpreting a stipulation such as the FSS, “courts should consider its plain language and the circumstances surrounding the formation of the stipulation which may explain its meaning.” *Waldorf v. Shuta*, 142 F.3d 601, 612 (3d Cir. 1998) (internal quotation marks and citations omitted).

“[S]tatutory language is to be enforced according to its terms,” but not in a way “which might defeat its purpose and text.” *Arkansas v. Farm Credit Servs. of Cent. Arkansas*, 520 U.S. 821, 827 (1997). It is not appropriate to interpret text or make inferences that would impair or defeat a statute’s goal. *U. S. v. New Mexico*, 438 U.S. 696, 711-13, 98 S. Ct. 3012, 3020 (1978); *Winters v. U.S.*, 207 U.S. 564, 576-77 (1908). “[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.” *Sebelius v. Cloer*, 133 S. Ct. 1886, 1894 (2013) (quoting *Bates v. United States*, 522 U.S. 23, 29-30 (1997)) (internal quotation marks omitted).

To adopt Kansas’ position would require a ruling that a central purpose of the Compact or the FSS would be thwarted unless it can be inferred that the drafters intended such accounting. Such a ruling is not justified here.

Perhaps the States did not address stream transit losses because they were an area of data collection the States decided to forego to reach compromise. This would be consistent with Special Master Kayatta’s findings about the Model and the Accounting Procedures. Ex. J104 p. 32 (“Both the Groundwater Model and the Accounting Procedures are the product of judgment and compromise in the context of imperfect knowledge”), and p. 39 (“as a general matter, the parties made bargains and compromises in the course of negotiating the FSS, the Accounting Procedures, and the Groundwater Model . . .”). Whatever the reason, this potential effect on

Basin streamflows currently is absent as a required element. This omission does not defeat the purpose, or conflict with the text, of either the Compact or the FSS.

Kansas also argues that the requirement of “RRCA approval of augmentation plans ensures that the historical and reasonable augmentation concepts of no injury to downstream users can be included.” Kansas Br., p. 1. It is not questioned that these concepts may be reasonable and well-established in the States’ laws, or that they could be adopted by the RRCA. Under the water law of the western states (e.g., Colorado), transfers, changes, and augmentation plans ordinarily entail measuring all relevant factors—ET, channel losses, timing of delivery, and so forth—that will reduce or interrupt a given flow on its way to target stream reaches or aquifers. See Kansas Supp. Br., p. 14 citing *In re Water Rights of the City of Central*, 125 P.3d 425, 442 (Colo. 2005). But the FSS and the Compact do not purport to encompass all such principles and provide no authority to resort to any State’s water law for guidance.

In summary, neither the Compact nor the FSS requires a State to account for transit losses accruing to surface water flows other than in ditches, canals and (at least to the extent of evaporation) reservoirs. The drafters dealt with transit losses in these man-made structures, and the subject’s omission relative to natural streams cannot be described as an oversight. They did not intend it as a requirement. Because the Compact “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 RRCA could modify the Accounting Procedures to account for any stream transit loss that may accrue to augmentation deliveries, and doing so would not conflict with any mandate in the Compact. But the question here is whether the Compact or the FSS requires the RRCA to do this relative to the N-CORPE. With the exception of the evaporation of any augmentation water stored in Harry Strunk Lake (or other reservoirs), a subject discussed below, neither imposes such a requirement.

B. The Compact and the FSS require evaporation loss accounting for augmentation water that is stored in (rather than bypassed through) a reservoir before reaching a Compact accounting gage.

1. Nebraska must account for any evaporation of N-CORPE augmentation water that may be stored in Harry Strunk Lake.

While the Compact and the FSS omit loss accounting for water in a natural stream, they expressly require it for “evaporation from any reservoir” when computing Beneficial Consumptive Use. Ex. J63, p. 3; FSS § II. This matters because Harry Strunk Lake, a federal reservoir, is located on Medicine Creek above the sub-basin’s accounting gage. Ex. J65, p. 42 (the Medicine Creek surface water gage is “below Harry Strunk Lake, Nebraska”). This also distinguishes the N-CORPE from the RCAP, a project located on a tributary having no reservoir.¹⁴

¹⁴ In the RCAP Arbitration, it did not matter that reservoirs exist on the main stem below the Rock Creek accounting gage at Parks, Nebraska. The Compact and the FSS require accounting sub-basin water supplies separately from those of the main stem. Ex. J63, pp. 4-5; FSS § IV.A (which incorporates by reference the Accounting Procedures, which in turn set out a separate VWS calculation for each sub-basin, Ex. J65, pp. 25-37).

To the extent the presence of augmentation water in Harry Strunk Lake increases the amount of evaporation from the reservoir, that evaporative loss cannot be considered as augmentation that offsets CBCU in the Medicine Creek sub-basin. By the express terms of the Compact, such an evaporative loss is Beneficial Consumptive Use and therefore cannot be an offset to CBCU. Consequently, any such loss to an augmentation delivery must be subtracted from the augmentation discharge to calculate the augmentation credit. It bears emphasis that the augmentation credit is required to be reduced only by the evaporative losses attributable to the presence of augmentation water—that is, evaporation over and above the reservoir evaporation that would have occurred in its absence. If all augmentation water is by-passed through a reservoir—for example, if augmentation causes no change to the reservoir’s surface area—the water presumably will not increase the amount of reservoir evaporative losses. *See* Ex. K104, p. 8 (Book).

Nebraska’s proposed changes to the Accounting Procedures to accommodate the N-CORPE Plan do not address reservoir evaporation of augmentation water above the Medicine Creek gage. Nor was this discussed in any of the States’ briefs. However, to comport with the FSS and the Compact, Nebraska’s N-CORPE must include, as a proposed change to the Accounting Procedures, a method to calculate and deduct from the augmentation credit the amount of evaporation accruing to any N-CORPE augmentation water that is stored in Harry Strunk Lake.¹⁵

There is no record upon which this Order might fashion such a method. However, it seems evident that Nebraska will need to determine how much augmentation water enters and is released from Harry Strunk Lake over the appropriate time period to ascertain how much, if any, of it is stored. Nebraska presumably could do this by installing any gages on Medicine Creek necessary to measure the amount of augmentation water entering the reservoir and compare that to the amount being released. Or, the States might agree to assume that all of the discharged augmentation water enters Harry Strunk Lake and compare that amount to the reservoir releases.

In any event, the exact method of accounting for reservoir evaporation of N-CORPE water should be determined in the first instance by the RRCA. Nebraska should propose to the RRCA an amendment to the Accounting Procedures necessary to implement this requirement.

2. Any storage of N-CORPE augmentation water in Basin reservoirs for future release or credit also would require evaporation accounting.

The record contains an additional reference relevant to the potential storage of some or all of an augmentation delivery. Nebraska witness Dr. Jasper Fanning mentioned the possibility that the N-CORPE Project “could be operated in a non-Compact Call Year” under a scenario in which the augmentation water “would be stored in a downstream reservoir for release in a

¹⁵ The Accounting Procedures provision describing the formula for computing CBCU and VWS on Medicine Creek contains this note: “Harry Strunk Lake Ev[aporation] charged to Nebraska’s CBCU in the Main Stem.” Ex. J65, p. 30. The effect of this on N-CORPE accounting is not clear. The record contains no evidence on this topic. It should be taken up with the RRCA as it considers any changes to the Accounting Procedures Nebraska might propose, in response to this Order, to account for any augmentation storage, and storage loss, in Harry Strunk Lake.

Compact Call Year . . . and as necessary during ‘State Based Operation’ Years as described in the N-CORPE Plan to avoid new net depletions.” Ex. N30000, p. 6 (Fanning Direct). During cross examination, Dr. Fanning confirmed the possibility, “in the future,” that “during noncompact call years” N-CORPE Project water “could be pumped and stored in a downstream reservoir” and then “released in a later year, that is a compact call year.” Tr. p. 21, lines 5-13 and 18-24. Dr. Fanning testified that this water then would be “available to release to Kansas earlier in the year than if we waited for the compact call year to pump the water.” *Id.*, lines 21-24.

Thus, Nebraska introduced the idea that a volume of N-CORPE water could be pumped and discharged to Medicine Creek and delivered downstream to a reservoir (Harlan County Lake is an obvious example) for release in a future year.

Kansas noted that the N-CORPE Project description, Ex. N30021, Ex. A, does not mention this idea. Kansas Br., pp. 41-42. Nothing in the record explains how the concept described by Dr. Fanning would operate or be accounted, but at least these questions come to mind: How would the augmentation delivery be measured into storage? How would it be credited (if at all) in the year it is pumped and discharged to Medicine Creek? If it were to be delivered for storage in Harlan County Lake, how would the delivery’s effect on the Medicine Creek gage be treated in terms of VWS and allocations in the year of delivery? How would the States calculate any credits Nebraska presumably would claim for the water’s release from storage in the future year? The States have provided no evidence on these questions or attempted in briefing to explain how this idea would play out in the Basin’s accounting—or even whether it would be permissible under the governing documents.

Such questions, therefore, are neither before me nor decided in this Arbitration. However, if such an application of the N-CORPE Project were to be proposed, the States would need to address them and amend the Accounting Procedures accordingly. And again, to the extent augmentation water were to be stored with the intent that it later produce a credit against CBCU, any evaporation attributable to it in storage must be assigned solely to the State placing it there—in this hypothetical case, Nebraska.

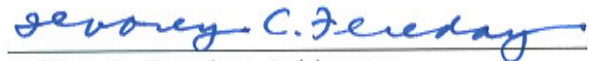
V. CONCLUSION

This case involves a tension evident in many water disputes: the pull between the law and the physical world. While the Compact, the FSS, and the Accounting Procedures govern and cannot be rewritten by any court (much less an arbitrator), they do not currently require consideration of all hydrological factors that might occur in the Basin.

In this case, stream transit loss is the topic of concern, and it is one of these physical factors the governing documents currently omit. The water use allocation system described by the Compact and the FSS is not rendered inoperable by this omission. Leaving out a mandate to consider stream transit losses can be seen as a reasonable part of an overall bargain, even given its potential effect on allocations if losses are anything but de minimis—particularly where the FSS contemplates future changes to the Accounting Procedures. As of now, the governing documents control, and they do not mandate consideration of transit losses occurring in the Basin’s natural streams.

The law of this case does, however, require consideration of reservoir evaporation as part of the Basin's accounting of CBCU, and it makes no exception for evaporation from stored augmentation water. Therefore, Nebraska's N-CORPE plan is approved, subject to the conditions described above, including the requirement to establish a means to calculate any evaporation accruing to the augmentation supply if and when it is stored in Harry Strunk Lake.

DATED this 19th day of May, 2014.



Jeffrey C. Fereday, Arbitrator

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this 19th day of May, 2014, 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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