

*Non-Binding Arbitration initiated March 21, 2013*

*pursuant to*

*Decree of May 19, 2003, 538 U.S. 720*

*Kansas v. Nebraska & Colorado*

*No. 126 Orig., U.S. Supreme Court*

Report on the

Nebraska Plan for Alternate Water Short Year Administration

Republican River Compact

Response to report prepared by State of Nebraska, dated February 8, 2013

Prepared by

**David W. Barfield, P.E.**

Chief Engineer, Division of Water Resources

Kansas Department of Agriculture

July 1, 2013

## **I. Qualifications**

From late 1992 until becoming Chief Engineer in 2007, a principal part of my professional work was dedicated to the study and assessment of the hydrology and water infrastructure of the Republican River Basin (“Basin”) and administration of the Republican River Compact (“Compact”). This work engaged the many technical challenges of administering the Compact before, during, and after the litigation that produced the Final Settlement Stipulation of 2003 (“FSS”). As part of these duties, I was involved in all of the technical discussions related to the negotiation of the FSS, its Accounting Procedures, the RRCA Groundwater Model (“Model”), and all joint sessions of the various negotiation teams. After the adoption of the FSS, my work focused on implementing that agreement.

Since 2007, I have served as the Chief Engineer of the Division of Water Resources, Kansas Department of Agriculture. In that capacity, I have two principal duties. My first duty is that of a professional engineer specializing in water resources. This duty includes the analysis of water supplies, water resources management, surface water and groundwater hydrology, groundwater modeling, and the assessment of water structures. My second duty is that of the Chief Engineer. As Chief Engineer, I have the duty to administer and enforce the laws relating to water supply for the State of Kansas. These consist principally of the Kansas Water Appropriation Act, the four interstate compacts to which Kansas is a party, and numerous other laws and implementing regulations related to special water districts in Kansas, dams and dams safety, floodplain activities, and more. It is my duty to ensure that my administration of these laws and regulations accords with the realities of the State of Kansas—most importantly, the realities of its water supplies and of its water needs. As the Kansas commissioner to the Republican River Compact Administration (RRCA), I am responsible for all Compact-related matters. As a technical expert for Kansas leading up to and during the 1998-2003 litigation and settlement, and now as Chief Engineer, I have served in the administration of the Compact for nearly twenty years.

## **II. Background**

This report is prepared in response to the State of Nebraska’s Plan for Reduction of Computed Beneficial Consumptive Uses under Alternative Water-Short Year Administration (Alternative Water-Short Year Administration Plan), submitted to the RRCA on July 30, 2012, and submitted for non-binding dispute resolution on March 21, 2013. General background regarding the Republican River Basin, Republican River Compact, prior litigation, and the Final Settlement Stipulation (FSS) is provided in my expert report prepared in response to Nebraska’s Rock Creek Augmentation Plan.

As a whole the 5-volume FSS developed by the states was a very detailed, definitive and carefully crafted settlement that balanced flexibility of water use with protection of the rights of each state. During periods of normal water supply in the Republican River Basin, the FSS requires Nebraska to satisfy a five-year rolling average for the test of compliance with the Republican River Compact.

Periods of Water-Short Year Administration are times when the water supply in the basin is low. The FSS sets out the procedure for determining when Water-Short Year Administration is in effect. The FSS uses the irrigation supply in Harlan County Reservoir as a trigger because that is the last federal storage facility in Nebraska before the main stem of the Republican River crosses into Kansas and a good indicator of the overall status of the Basin's water supply. Harlan County Reservoir provides irrigation supply to the Bostwick Irrigation District, which is split into a Nebraska division and a Kansas division. When the irrigation supply at Harlan County Reservoir is less than 119,000 acre-feet, then Water-Short Year Administration is in effect.

Appendix M of the FSS (Attachment 1) provides a process whereby the RRCA can agree to allow Nebraska even more flexibility in return for a concrete commitment to reduce consumptive use in a definitive and quantifiable way. Appendix M provides a method for Nebraska to obtain RRCA approval to implement a pre-approved alternative plan for proactive reductions in its Computed Beneficial Consumptive Use (CBCU) in exchange for a more flexible compliance standard during Water-Short Year Administration

### **III. An Appendix M Plan should be a win-win for both Nebraska and Kansas**

As noted above, Appendix M provides a mechanism for approval of a specific plan for reducing CBCU in exchange for flexibility for Nebraska's test of compliance during Water-Short Year Administration.

If implemented appropriately, Nebraska benefits by obtaining a more flexible compliance test during water short conditions, and Kansas benefits by obtaining definite, proactive action by Nebraska to reduce its CBCU that is taken earlier in drought periods, evening out the water supplies.

#### **A. Appendix M is designed to reward Nebraska for defined, proactive action to reduce CBCU**

As I understand it, Appendix M was meant to provide Nebraska with an incentive for planning and carrying out agreed-upon mechanisms for reducing its use as the Basin moves

toward water-short conditions, to reduce the frequency, duration or depth of water short-years, thus providing a more reliable supply to Kansas during these dry periods.

Under the FSS, when Water-Short Year Administration is in effect, Nebraska's must keep its two-year CBCU above Guide Rock under its two-year allocation above Guide Rock. For the two-year compliance standard, year 1 of the two-year period is the year before Water-Short Year Administration went into effect, and year 2 is the year of determination of water-short conditions.

Appendix M provides that Nebraska cannot elect an Alternative Water-Short Year Administration Plan if the preceding year is water-short, and Nebraska had not implemented an Alternative Water-Short Year Administration Plan.

Appendix M does allow Nebraska to wait to elect a Plan for CBCU reduction in a year when the Basin is considered water-short, however in such case, Appendix M's compliance benefits would only apply to that second year of the two year test.

## **B. Specific Appendix M requirements:**

**1. CBCU reduction plans must prescribe a definite set of actions** - Appendix M requires Nebraska to bring to the RRCA be a defined set of actions that it intends to undertake if the plan is pre-approved and Nebraska subsequently elects to implement it. This is clear in the language of the Appendix's requirements that "amount of reduction expected" be indicated. There is also the clear expectation in paragraph 2 that the "designed" reductions will be evaluated by the RRCA using specific methods agreed upon.

A plan can include multiple, definite CBCU-reducing actions, as long as when Nebraska elects the Plan, it will carry out all elements in the Plan.

**2. CBCU reduction plans must have a defined water savings result** – Further, Appendix M is clear that a specific amount of water savings be assigned to each plan submitted by Nebraska, not a range of potential water savings. Again, this is inherent in the language itself. For example, in the expectation that the RRCA evaluate and agree upon such savings, and in paragraph's 4 statement that if the plan is implemented, the two-year sum of Nebraska's CBCU will not exceed its allocation for those two-years by more than the "Plan was designed to reduce above Guide Rock".

**3. Water savings in the Plans must be demonstrated by agreed upon methods** - Appendix M requires submission of a plan containing actions to be provided to the RRCA by July 1 of the year preceding its first potential use. This submission should include a

demonstration of the water savings proposed so that the RRCA verify the estimated CBCU reductions by November 1. Appendix M requires that the plan for reduced CBCU must be pre-approved by the RRCA, so the states can agree on the plan and its associated water savings

Appendix M requires the CBCU reduction plan be evaluated against a “base condition.” As the appendix does not prescribe this baseline, this is something left to the states to work out.

**4. The actions proposed in the plan must reduce CBCU** - Appendix M prescribes that the actions of the Plan must reduce CBCU.

#### **IV. The insufficiencies of Nebraska’s proposed plan**

In essence, Nebraska’s proposed Plan consists of its proposing its Integrated Management Plan (IMP) processes as an Alternative Water-Short Year Administration Plan.

In Nebraska, surface water regulation is done by the state’s Department of Natural Resources, and groundwater regulation is done by local natural resources districts (NRDs). Integrated Management Plans (IMPs) are used to jointly manage connected surface water-groundwater systems and in the case of the Republican River, these plans are Nebraska’s internal process for managing water use for compliance. The Republican River Basin IMPs include projection methods related to Nebraska’s compliance balance, a means to determine the obligation of each NRD toward compliance, and a list of possible actions that NRDs can choose to fulfill its responsibilities. The list is not exhaustive. The IMPs allow NRDs until January 31 to choose a management tool or tools to address its obligations. See Lower Republican NRD IMP at Table 1, p. 10 (page 22 of 90 in Exhibit A to Arbitration Agreement Exhibit 2). The State of Nebraska makes its final surface water regulation decision by January 1. See Lower Republican NRD IMP at Table 1, p. 15 (page 27 of 90 in Exhibit A to Arbitration Agreement Exhibit 2).

As I understand the intent of Appendix M, much of the real-time water administration envisioned in the IMPs would not meet the requirement of the Appendix, which requires proactive, definite reductions in CBCU. In this way, the IMP process as a whole seems to be a mismatch. However, there are several individual components of action under the IMPs would qualify, provided Nebraska submits them for evaluation pursuant to Appendix M’s procedure and then commits to carry out them out when implemented.

After a review of the plan, Kansas documented in my letter of October 4, 2012 (Attachment 2), the most apparent insufficiencies of Nebraska’s plan as well as a roadmap for Nebraska to conform acceptable portions into a Plan that could be considered pursuant to Appendix M.

In my opinion, Nebraska's proposed plan is deficient because:

1. The proposed action under Nebraska's plan was not definite but included a suite of potential options, none of which were specifically committed to in the Plan.
2. Nebraska's plan proposed water savings that were not definite and instead offered a potential range of water savings. The range was based on a non-exhaustive list of possible actions. Of the possible actions, only the proposed groundwater curtailment in the Rapid Response Areas identified in the IMPs could be quantified as of August 1.
3. With indefinite actions and water savings, the Nebraska plan had no means for the RRCA to conduct its evaluation and reach agreement on the Plan's actions and its water savings by November 1. While Nebraska's IMPs contain a forecasting process to identify a potential need for CBCU reduction or CBCU offsets, the forecasted need is not the same as a specific commitment to actions that can be quantified as of August 1 and evaluated by November 1.
4. In its Plan, Nebraska suggested that the base conditions be the condition of the basin as of 2002. Appendix M does not make this characterization. Reductions should be assessed based on the current management conditions and anticipated water supply conditions when plans would be in effect. That would establish the additional water saved above the status quo. The "base condition" will be specific to the action being proposed.

For example, Nebraska projected that application of the Rapid Response Area groundwater curtailment in the IMPs in 2005 would have generated 15,089 acre-feet of CBCU reduction. See Nebraska Plan p. 3. That analysis was conducted as part of the recent U.S. Supreme Court litigation between the states over Nebraska's overuse in 2005 and 2006. While likely similar, the hypothetical projection of benefit in 2005 is not necessarily the estimated CBCU reduction that would be achieved in 2013, assuming that the curtailment had been selected. In 2013, the NRDs decided not to use the Rapid Response Area groundwater curtailment. See Nebraska DNR letter dated March 29, 2013, at p. 4 (Attachment 3).

5. Some of the specific potential actions in the IMPs would not qualify.
  - a. Thus actions of the IMPs that are designed to increase supplies, such as augmentation, are not acceptable components of a CBCU reduction plan.
  - b. Other actions that would not produce definite water savings. This would include many aspects of real-time water administration.

In addition, to these insufficiencies, Nebraska did not work with the states to define procedures for evaluation of including how the “base condition” would be defined and methods to evaluate water savings.

## **V. Impact to Kansas**

**An illustration:** Under an approved alternative Water-Short Year Administration plan, Nebraska’s water-short compliance test is less rigorous, moving from a two-year test of compliance at Guide Rock, to a three-year test and a modified two-year test that is less rigorous by the amount of CBCU reduction in the plan being implemented. For example, if Nebraska has a CBCU reduction plan that commits to curtail well pumping in an IMP’s Rapid Response Area, and the states agree this action would yield 15,000 AF of reduced CBCU from baseline allocations, and then Nebraska agrees by April 1 of a year to take that action, it would move Nebraska’s water-short standard to a 3-year test and a 2 year test is reduced by 15,000 AF.

Without the corresponding benefit to Kansas of additional, definitive, proactive CBCU reduction that provides a more dependable supply, this relaxed compliance standard will allow Nebraska to expand its use and reduce the water supply to Kansas in water-short periods, in contravention of the FSS’s goals.

## **VI. A more productive course for Nebraska**

As stated in my letter of October 4, 2012, in our discussions in the RRCA, and in my letter of February 20, 2013 (Attachment 4), Nebraska could formulate a Plan or multiple plans that are sufficient under the FSS. Such plans would be useful to Nebraska for its compliance purpose. It would also achieve the type of definite, proactive action that would benefit Kansas water users by taking definite, CBCU reducing components and reformulating them into one or more plans.

For example, it appears based on the testimony of the states’ experts that Nebraska could have formulated a CBCU reduction plan that commits to curtail well pumping in the Rapid Response Area, and the states could agree on what this action would yield in the near term future during periods of limited supply. Based on the states’ apparent agreement on this quantification, I would expect that Nebraska could formulate an accepted Plan based on this type of definite action.

Appendix M allows multiple Plans to be evaluated and approved for implementation. Thus Nebraska could likewise formulate 5,000 and 10,000 acre-feet plans based on differing but still definite actions. In a year where the previous year was not water short and the irrigation

supply is less than 130,000 acre-feet, Nebraska could then determine via its IMPs process by April which plan it wished to implement.

## **VII. Conclusion**

It was appropriate for Kansas to reject Nebraska' proposed plan for the reasons cited above.

As encouraged in Kansas letter to Nebraska, Nebraska should work with the RRCA to define what management actions would qualify for a Plan, methodologies to define base condition and to evaluate such plans, and then reformulate specific actions that qualify in Plans that can be considered by the RRCA.



**References:**

Nebraska Department of Natural Resources, State of Nebraska's Plan for Reduction of Computed Beneficial Consumptive Uses under Alternative Water-Short Year Administration, July 30, 2012

Final Settlement Stipulation, December 15, 2002, Vol. 1-5, Kansas v. Nebraska and Colorado, No. 126, Original, United States Supreme Court

Integrated Management Plans of the Republican River natural resources districts, dated 2010 and 2011 (attached to Nebraska's plan)

Kansas Department of Agriculture - Division of Water Resources, letters dated October 4, 2012 and February 20, 2013

Nebraska Department of Natural Resources, letter dated March 29, 2013

**APPENDIX M**

**Alternative Water-Short Year Administration**

1. When the projected water supply pursuant to the methodology described in Subsection V.A.2. in the Stipulation is less than 130,000 Acre-feet, in lieu of the requirements of Subsection V.B.2.e.i. of the Stipulation, Nebraska may elect to implement a Plan for Reduction of Computed Beneficial Consumptive Uses (Plan) approved pursuant to paragraph 3.
2. Each Plan shall indicate the actions which Nebraska would undertake to reduce its Computed Beneficial Consumptive Uses from the base condition and the amount of reduction expected from those actions. A Plan's designed reductions in Computed Beneficial Consumptive Uses shall be evaluated by the RRCA using methods consistent with the RRCA Accounting Procedures and the RRCA Groundwater Model.
3. Nebraska may submit one or more Plans to the RRCA and the RRCA shall take action regarding such Plan(s) pursuant to the schedule below. Nebraska must submit new plans or modifications to existing Plans to the RRCA prior to August 1 for the RRCA's consideration. The RRCA must take action on new Plans or modifications to existing plans prior to Nov. 1 of that same year. Once approved, a Plan shall expire three years from the January 1 following the Plan's approval. After a Plan expires, Nebraska may submit the same Plan to the RRCA according to the above schedule. The RRCA may approve multiple Plans.
4. If Nebraska elects to implement a Plan, Nebraska will provide notice to the RRCA by April 1 of its intention to implement a Plan for that year. If an approved Plan is

implemented, Nebraska's Computed Beneficial Consumptive Use of its Allocation above Guide Rock in Water-Short Year Administration shall be calculated on a three year running average of the current year plus the previous two years. Notwithstanding compliance under a three year running average, the two year sum of Nebraska's current and previous year's Computed Beneficial Consumptive Use in excess of its Allocation above Guide Rock, pursuant to Subsection V.B.2., of the Stipulation shall not exceed the amount of Computed Beneficial Consumptive Use that the Plan was designed to reduce above Guide Rock.

5. For any year in which Nebraska implements an approved Plan, such Plan shall be in effect for the remainder of the year unless the projected supply rises above 130,000 Acre-feet. At such time, Nebraska may revoke the Plan by notifying the RRCA. If Nebraska revokes a Plan, the provisions of Subsection V.B.2.e.i., if applicable, shall be in effect. If Nebraska revokes a Plan during the year, it may not resume the Plan in that year.

6. Nebraska may not elect this Alternative Water-Short Year Administration in any year if in the previous year, Water-Short Year Administration was in effect pursuant to Subsection V.B.1.b. and Nebraska failed to elect the Alternative Water-Short Year Administration in that year.

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Sam Brownback, Governor

October 4, 2012

Brian P. Dunnigan, P.E.  
Nebraska Commissioner  
Republican River Compact Administration  
Nebraska Department of Natural Resources  
301 Centennial Mall South  
PO Box 94676  
Lincoln NE 68509-4676

RE: The State of Nebraska's July 30, 2012 Submittal of an Alternative Water-Short Year Administration Plan to the Republican River Compact Administration

Dear Commissioner Dunnigan:

Kansas has received your letter of July 30, 2012 enclosing the State of Nebraska's submission to the Republican River Compact Administration ("RRCA") of Nebraska's Plan for Reduction of Computed Beneficial Consumptive Uses ("CBCU") under Alternative Water-Short Year Administration ("Plan").

The Plan is submitted pursuant to Appendix M of the Final Settlement Stipulation ("FSS") as approved by the U.S. Supreme Court. Appendix M states:

Each Plan shall indicate the actions which Nebraska would undertake to reduce its Computed Beneficial Consumptive Uses from the base condition and the amount of reduction expected from those actions. A Plan's designed reductions in Computed Beneficial Consumptive Uses shall be evaluated by the RRCA using methods consistent with the RRCA Accounting Procedures and the RRCA Groundwater Model.

FSS, App. M, § 2 (emphasis added).

Section 3 of Appendix M makes clear, and your letter correctly recognizes, that RRCA approval is required of a Plan submitted under Appendix M before Nebraska can elect to implement the Plan.

The actions indicated by Nebraska in its proposed Plan, directly and by reference, may, but do not necessarily, include some or all of the following:

ATTACHMENT 2

1. Retirement of irrigated acreage
2. Leasing of surface water CBCU
3. Adjustment of allocations for groundwater pumping
4. Augmentation of stream flows
5. Groundwater leasing
6. Curtailment of groundwater pumping within the Rapid Response Regions of the Upper Republican, Middle Republican and Lower Republican NRDs
7. Closure of junior surface water diversions
8. Requirement of compliance with senior surface water diversions
9. Protection of storage water releases from Harlan County Lake for delivery at Guide Rock
10. Efforts to minimize bypass flows at Superior-Courtland Diversion Dam
11. Closure of all natural surface water flow and storage permits in the Basin
12. Other alternative management actions

Plan, ¶ II.A, at 1 (incorporating Nebraska's Integrated Management Planning process).

Nebraska's Plan begins its discussion of the expected reductions by stating, "Nebraska will seek to maximize the utilization of its Compact allocation while ensuring that the planned reductions in CBCU will be sufficient to ensure compliance with the Compact in each year that this Plan is implemented." *Id.*, ¶ II.B at 2. Nebraska also indicates that its actions under the Plan "will vary for each time that it is implemented," and "[f]or each occasion . . . it will be necessary to calculate the expected reduction in CBCU." *Id.*, at 3. Nebraska further states that it will indicate in its April 1 notice to the RRCA "the expected CBCU reduction required for that year (this value will fall within the ranges specified above)." *Ibid.*

Nebraska's Plan is based on its IMPs, and potentially incorporates all of the potential actions under the Compact Call Year provisions of the IMPs. The Plan proposes that the CBCU reduction to be achieved could be as low as zero and as high as 38,515 acre-feet per year. No specific quantifications of CBCU reduction are provided.

The Nebraska Plan diverges widely from the requirements of Appendix M. No commitment to any particular action is made in the Plan. Rather, the Plan refers directly or indirectly to an exceedingly great range of actions suggested by the list set out above. Nebraska merely commits that it "will indicate in its notice to the RRCA (due by April 1) if any alternative management actions will be taken in lieu of groundwater curtailment," *id.*, at 2, and "the expected CBCU reduction required for that year," *id.*, at 3. It is notable that Nebraska does not even commit to provide by August 1, as required by Section 2 of Appendix M, the amount of expected CBCU reduction, but, rather, commits only to provide on April 1 the expected CBCU reduction "required" for that year.

The Nebraska Plan is thus unacceptable at both a substantive and a literal level. If the RRCA does not know the specific actions proposed by Nebraska as of the time of the submittal of its proposal, which must be received no later than August 1, it is impossible for the RRCA to assess the adequacy of the proposed actions or for Nebraska to quantify the CBCU reduction or for the RRCA to check the validity of such quantification.

Brian Dunnigan, P.E.

October 4, 2012

Page 3

Although the current proposal cannot be approved, Kansas is willing to work with the State of Nebraska in the future if Nebraska wishes to develop a plan which conforms to the requirements of Appendix M. I look forward to our discussion at the RRCA Work Session. I suggest we plan to take action on the Plan at the Annual Meeting.

Sincerely,



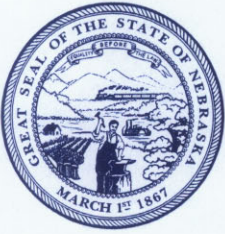
David W. Barfield, P.E.

Kansas Commissioner

Republican River Compact Administration

cc: Colorado Commissioner Dick Wolfe, P.E.





**Dave Heineman**  
Governor

# STATE OF NEBRASKA

**DEPARTMENT OF NATURAL RESOURCES**  
Brian P. Dunnigan, P.E.  
Director

March 29, 2013

IN REPLY TO:

David Barfield, P.E.  
Kansas Commissioner, RRCA  
Kansas State Engineer  
Division of Water Resources  
109 SW 9th Street, 2nd Floor  
Topeka, KS 66612-1283

Dick Wolfe, P.E.  
Colorado Commissioner, RRCA  
Colorado State Engineer  
Colorado Division of Water Resources  
1313 Sherman Street, Room 818  
Denver, CO 80203

RE: Nebraska's Notification that it will Implement its Alternative Water-Short Year Administration Plan

Dear Commissioners Barfield and Wolfe:

Pursuant to the terms of Appendix M, paragraph 4 of the Final Settlement Stipulation, Nebraska hereby provides notice to the Republican River Compact Administration (RRCA) that it intends to implement the State of Nebraska's Plan for Reduction of Computed Beneficial Consumptive Uses under Alternative Water-Short Year Administration (Plan) in 2013. The Plan was submitted to the RRCA on July 30, 2012. This was followed by a subsequent projection by the United States Bureau of Reclamation on October 3, 2012, that 2013 would be a Water-Short Year. Nebraska put forth a resolution for approval of its Plan to assist with its Compact compliance efforts in 2013 at the October 23, 2012, Annual Meeting of the RRCA. This resolution was supported by the State of Colorado and voted down by the State of Kansas. The Plan is currently the subject of non-binding arbitration invoked by the State of Nebraska on February 8, 2013. Therefore, Nebraska currently intends to implement the Plan pending the outcome of the dispute resolution process to ensure that Nebraska will receive the full benefits of the Plan in 2013 and subsequent years<sup>1</sup>.

<sup>1</sup> Under the terms of Appendix M, paragraph 6, Nebraska would not be allowed to elect Alternative Water-Short Year Administration next year if Nebraska failed to elect Alternative Water-Short Year Administration this year (unless this year ultimately is not designated as water-short). The harm to Nebraska resulting from the lack of resolution over the dispute surrounding the Plan therefore may extend to 2014 at a minimum.

**ATTACHMENT 3**

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The Plan outlined that the Compact Call Year provisions in Nebraska's Integrated Management Plans (IMPs) would serve as the foundation for expected Computed Beneficial Consumptive Use (CBCU) reduction under the Plan. These include groundwater curtailments and surface water administration, and could also include alternative management actions, such as: retirement of irrigated acreage; leasing of surface water CBCU; allocation of groundwater pumping; and augmentation of streamflows. The amount of expected CBCU reduction that it could achieve through the Compact Call Year provisions of the IMPs ranged from 0 to 15,089 acre-feet in the first year, with the exact value dependent on the level of actions necessary to comply with the Compact.

The Plan also provided the detailed forecasting process contained in Nebraska's IMPs. The forecast aims to identify the expected Compact balance that Nebraska will obtain if the next year (in this case, 2013) is dry. The forecast uses many conservative assumptions (e.g., extremely dry year, 10,000 acre-feet cushion, etc.) and has been back-tested against recent drought conditions in the basin to ensure that Nebraska's actions will be sufficient to ensure Compact compliance (Schneider, 2012<sup>2</sup>).

Since the Annual Meeting of the RRCA, Nebraska has continued its efforts to implement its Plan, including forecasting and identifying the magnitude of a potential shortfall that would exist if management actions were not taken in 2013 for the applicable compliance tests in 2013. Nebraska's preliminary 2012 accounting for the basin upstream of Guide Rock indicates an annual balance of 13,900 acre-feet, and Nebraska's 2012 dry-year forecast for the basin upstream of Guide Rock indicates an annual balance of -22,960 acre-feet. These results, along with the projection of a Water-Short Year for 2013, lead Nebraska to implement the Plan for 2013.

The Plan identifies that Nebraska's must reduce the impact of its CBCU by half of what would have been necessary under the two-year averaging test, and take any additional steps to reduce the impact of its CBCU to ensure that the three-year average is greater than or equal to zero. This concept is laid out in Equation 1 of the Plan as follows:

Equation 1: Calculation of expected CBCU reduction when Nebraska implements this Plan

$$0.5 \times |\text{Year}_{-1} \text{CB} + \text{Projected Year}_0 \text{CB}| = \text{Expected CBCU Reduction}$$

Where:

$\text{Year}_{-1} \text{CB}$  = Nebraska's Compact balance for the previous year

$\text{Projected Year}_0 \text{CB}$  = Nebraska's projected Compact balance for the current year if no additional management actions were taken

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<sup>2</sup> Nebraska Responsive Expert Report Concerning Nebraska's Future Compliance, James C. Schneider, Ph.D., March 15, 2012.

Plugging in the values from above for 2012 and 2013, the Expected CBCU Reduction is 4,530 acre-feet. The value for the expected reduction in the impact of CBCU is inserted into Test One. The Test One equation is illustrated below with the results illustrated in Table 1.

Equation 2: Calculation of compliance with Test One

$$[\text{Year}_{-1} \text{CB} + \text{Year}_0 \text{CB} + \text{Expected CBCU Reduction}] = \text{Test One Balance}$$

Where:

Year<sub>-1</sub>CB = Nebraska's Compact balance for the current year

Year<sub>0</sub>CB = Nebraska's Compact balance for the current year with management actions implemented

Expected CBCU Reduction = Management actions taken to reduce the impact of CBCU (4,530 acre-feet).

Table 1. Results of Test One under the Plan.

Test One	
Previous Year (Year <sub>-1</sub> CB)	13,900
Expected CBCU Reduction	4,530
Current Year (Year <sub>0</sub> CB) with Management Actions	-18,430
Test One Balance	0

Nebraska understands that compliance with Test One will ultimately be determined using the Expected CBCU Reduction and comparing this to the sum of the final Compact balances for the appropriate two years (Year<sub>-1</sub>CB, and Year<sub>0</sub>CB).

In addition to satisfying the requirements of Test One, Nebraska must also make any additional reductions in CBCU necessary such that the three-year running average would result in a value

greater than or equal to zero (compliance with Test Two). Providing additional reductions of the expected CBCU would only be necessary if the three-year running average were to result in a negative value even after the CBCU reductions used to satisfy the requirements of Test One were implemented. The quantities of additional reductions in the expected CBCU that may be necessary to comply with Test Two are calculated by the following equation.

Equation 3: Calculation of expected additional CBCU reduction

$$\text{Year } -2_{\text{CB}} + \text{Year } -1_{\text{CB}} + \text{Projected Year } 0_{\text{CB}} + \text{Expected CBCU Reduction} = \text{Additional Expected CBCU Reduction}$$

Where:

Year  $-2_{\text{CB}}$  = Nebraska's Compact balance for the year prior to previous year

Year  $-1_{\text{CB}}$  = Nebraska's Compact balance for the previous year

Projected Year  $0_{\text{CB}}$  = Nebraska's projected Compact balance for the current year if no additional management actions were taken

Expected CBCU Reduction = the results from Equation 1, inserted as a positive value

Nebraska's current estimate for her Compact balance above Guide Rock for 2011 is 53,280 acre-feet. Based on this and the values from above for 2012 and 2013, no additional CBCU reductions will be necessary as the projection is that the three-year average will be positive. Nebraska understands that this does not represent a final assessment of Compliance with Test Two. Compliance with Test Two will ultimately be determined by averaging the final Compact balances for the appropriate three years (Year  $-2_{\text{CB}}$ , Year  $-1_{\text{CB}}$ , and Year  $0_{\text{CB}}$ ).

Thus, Nebraska hereby elects to implement the Plan and will do so by initiating reductions in its CBCU by an amount of 4,530 acre-feet. This falls within the range identified for the Plan of zero to 15,089 acre-feet. For 2013, Nebraska's management actions under the Plan will include surface water administration and augmentation of streamflows. The streamflow augmentation will be provided by Nebraska's Rock Creek Augmentation Project<sup>3</sup>. The total amount of streamflow augmentation in 2013 will be in excess of 10,000 acre-feet. This will provide an offset to Nebraska's CBCU in excess of 4,530 acre-feet under the current accounting procedures. The surface water administration conducted by the Department will ensure that an additional (i.e., an increase from what would have been available in the absence of Nebraska's management actions) 4,530 acre-feet of water will be provided to Kansas in 2013 as a direct result of the Plan. Accounting for this streamflow augmentation under Nebraska's proposed accounting procedures which were recently submitted to the RRCA as part of the Rock Creek Augmentation Plan, would result in an even greater offset to Nebraska's CBCU, likely in excess of 10,000 acre-feet.

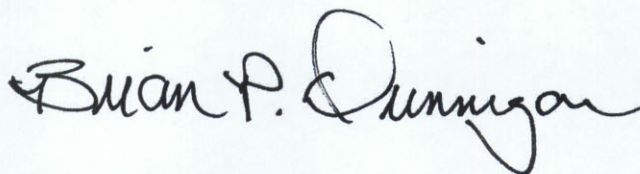
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<sup>3</sup> Rock Creek Augmentation Project, submitted to the RRCA February 8, 2013.

Due to the pending dispute over the Plan, Nebraska has initiated management actions that are in excess to those that would be required under the Plan<sup>4</sup>. However, this notification focuses only on the management actions that would be required under the Plan. Nebraska will seek appropriate redress for its actions over and above those that are strictly necessary under the Plan.

Nebraska looks forward to ongoing discussions regarding the resolution of the current dispute over the Plan. I hope that the straightforward nature of Plan implementation, as presented above, will help to alleviate the Kansas concerns over the Plan.

Sincerely,

A handwritten signature in black ink that reads "Brian P. Dunnigan". The signature is written in a cursive style with a large, looped initial "B".

Brian P. Dunnigan, P.E.  
Director

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<sup>4</sup> The additional actions include the reduction of irrigated acreage, thus reducing the CBCU.



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Dale A. Rodman, Secretary  
David W. Barfield, Chief Engineer

Sam Brownback, Governor

Brian P. Dunnigan, P.E.  
Nebraska Commissioner  
Republican River Compact Administration  
Nebraska Department of Natural Resources  
301 Centennial Mall South  
PO Box 94676  
Lincoln NE 68509-4676

February 20, 2013

Dick Wolfe, P.E.  
Colorado Commissioner  
Republican River Compact Administration  
Colorado Division of Water Resources  
1313 Sherman Street  
Suite 818  
Denver CO 80203

RE: Nebraska's proposed Alternative Water Short Year Administration Plan

Dear Commissioner Dunnigan and Commissioner Wolfe,

I am in receipt of Commissioner Dunnigan's February 8, 2013 letter invoking non-binding arbitration regarding Nebraska's proposed Alternative Water Short Year Administration Plan ("Plan").

As I stated in my October 4, 2012 letter (Attachment A), and repeated at the work session and annual meeting of the Republican River Compact Administration ("RRCA") in October, I do not believe that the Plan meets the requirements of Appendix M. But equally importantly, I do believe that Nebraska could formulate a plan or plans in a manner that would meet those requirements, working through the RRCA.

Commissioner Dunnigan has stated that it has submitted the Plan to the RRCA, and that the Plan has been addressed by the RRCA "within the meaning of the FSS." While Nebraska certainly did submit the plan to the RRCA, it did so at a time that effectively precluded the RRCA from considering it. Over the summer and fall of 2012, the three states were fully occupied with the trial in *Kansas v. Nebraska & Colorado*, No. 126 Orig., and post-trial matters. Furthermore, this is the first such proposal under Appendix M that has been submitted to the RRCA for consideration and the RRCA has never discussed Appendix M and its substantive technical requirements. As a result, Kansas believes that the RRCA has not truly attempted to resolve the substantive technical and engineering issues involved in this dispute; and Kansas also believes that these issues can be resolved. Therefore, Kansas believes that invoking arbitration on the Plan at this time is premature under the FSS and unnecessarily litigious.

ATTACHMENT 4

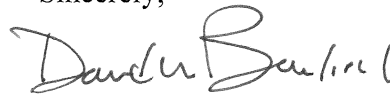
Brian Dunnigan, P.E.  
Dick Wolfe, P.E.  
February 20, 2013  
Page 2

Yet on the specific legal question for which Nebraska has invoked arbitration-- whether the June 30, 2012 Plan is consistent with Appendix M of the FSS-- there appears to be little value in additional RRCA consideration of the matter. Assuming Nebraska wishes to move forward with its invocation of arbitration, Kansas does not see a need to amend the scope of the dispute. As Nebraska requested, we plan to provide our list of potential arbitrators to the States by Friday.

In closing, I would urge Nebraska to initiate resolution of the issues raised by the Plan through the RRCA, so that the RRCA can discuss the requirements of Appendix M and how Nebraska may formulate a plan or plans that are consistent with those requirements. I believe through cooperative work of the States, Nebraska could reformulate its plan into one or more plans for RRCA consideration by this summer or fall—and in a more timely and far less expensive fashion than that provided for by arbitration.

Brian, feel free to give me a call if you wish to discuss this.

Sincerely,

A handwritten signature in black ink that reads "David W. Barfield". The signature is written in a cursive style with a large, prominent "D" and "B".

David W. Barfield, P.E.  
Kansas Chief Engineer  
Chairman, RRCA

Enclosure  
DWB:spf



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Sam Brownback, Governor

October 4, 2012

Brian P. Dunnigan, P.E.  
Nebraska Commissioner  
Republican River Compact Administration  
Nebraska Department of Natural Resources  
301 Centennial Mall South  
PO Box 94676  
Lincoln NE 68509-4676

RE: The State of Nebraska's July 30, 2012 Submittal of an Alternative Water-Short Year Administration Plan to the Republican River Compact Administration

Dear Commissioner Dunnigan:

Kansas has received your letter of July 30, 2012 enclosing the State of Nebraska's submission to the Republican River Compact Administration ("RRCA") of Nebraska's Plan for Reduction of Computed Beneficial Consumptive Uses ("CBCU") under Alternative Water-Short Year Administration ("Plan").

The Plan is submitted pursuant to Appendix M of the Final Settlement Stipulation ("FSS") as approved by the U.S. Supreme Court. Appendix M states:

Each Plan shall indicate the actions which Nebraska would undertake to reduce its Computed Beneficial Consumptive Uses from the base condition and the amount of reduction expected from those actions. A Plan's designed reductions in Computed Beneficial Consumptive Uses shall be evaluated by the RRCA using methods consistent with the RRCA Accounting Procedures and the RRCA Groundwater Model.

FSS, App. M, § 2 (emphasis added).

Section 3 of Appendix M makes clear, and your letter correctly recognizes, that RRCA approval is required of a Plan submitted under Appendix M before Nebraska can elect to implement the Plan.

The actions indicated by Nebraska in its proposed Plan, directly and by reference, may, but do not necessarily, include some or all of the following:

1. Retirement of irrigated acreage
2. Leasing of surface water CBCU
3. Adjustment of allocations for groundwater pumping
4. Augmentation of stream flows
5. Groundwater leasing
6. Curtailment of groundwater pumping within the Rapid Response Regions of the Upper Republican, Middle Republican and Lower Republican NRDs
7. Closure of junior surface water diversions
8. Requirement of compliance with senior surface water diversions
9. Protection of storage water releases from Harlan County Lake for delivery at Guide Rock
10. Efforts to minimize bypass flows at Superior-Courtland Diversion Dam
11. Closure of all natural surface water flow and storage permits in the Basin
12. Other alternative management actions

Plan, ¶ II.A, at 1 (incorporating Nebraska's Integrated Management Planning process).

Nebraska's Plan begins its discussion of the expected reductions by stating, "Nebraska will seek to maximize the utilization of its Compact allocation while ensuring that the planned reductions in CBCU will be sufficient to ensure compliance with the Compact in each year that this Plan is implemented." *Id.*, ¶ II.B at 2. Nebraska also indicates that its actions under the Plan "will vary for each time that it is implemented," and "[f]or each occasion . . . it will be necessary to calculate the expected reduction in CBCU." *Id.*, at 3. Nebraska further states that it will indicate in its April 1 notice to the RRCA "the expected CBCU reduction required for that year (this value will fall within the ranges specified above)." *Ibid.*

Nebraska's Plan is based on its IMPs, and potentially incorporates all of the potential actions under the Compact Call Year provisions of the IMPs. The Plan proposes that the CBCU reduction to be achieved could be as low as zero and as high as 38,515 acre-feet per year. No specific quantifications of CBCU reduction are provided.

The Nebraska Plan diverges widely from the requirements of Appendix M. No commitment to any particular action is made in the Plan. Rather, the Plan refers directly or indirectly to an exceedingly great range of actions suggested by the list set out above. Nebraska merely commits that it "will indicate in its notice to the RRCA (due by April 1) if any alternative management actions will be taken in lieu of groundwater curtailment," *id.*, at 2, and "the expected CBCU reduction required for that year," *id.*, at 3. It is notable that Nebraska does not even commit to provide by August 1, as required by Section 2 of Appendix M, the amount of expected CBCU reduction, but, rather, commits only to provide on April 1 the expected CBCU reduction "required" for that year.

The Nebraska Plan is thus unacceptable at both a substantive and a literal level. If the RRCA does not know the specific actions proposed by Nebraska as of the time of the submittal of its proposal, which must be received no later than August 1, it is impossible for the RRCA to assess the adequacy of the proposed actions or for Nebraska to quantify the CBCU reduction or for the RRCA to check the validity of such quantification.



Brian Dunnigan, P.E.

October 4, 2012

Page 3

Although the current proposal cannot be approved, Kansas is willing to work with the State of Nebraska in the future if Nebraska wishes to develop a plan which conforms to the requirements of Appendix M. I look forward to our discussion at the RRCA Work Session. I suggest we plan to take action on the Plan at the Annual Meeting.

Sincerely,



David W. Barfield, P.E.

Kansas Commissioner

Republican River Compact Administration

cc: Colorado Commissioner Dick Wolfe, P.E.