

Non-Fed Evap.

# DNR MEMO

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July 17, 2006

TO: David Barfield  
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George Austin  
Megan Sullivan  
Scott Ross  
Brad Edgerton  
Shuhai Zheng

From: Mike Thompson

Subject: Non-Federal Reservoir Evaporation Computations

The Final Settlement Stipulation (Stipulation), Section VI.A. is titled "Soil and Water Conservation Measures". It states that the Compact accounting is to calculate the evaporation from "Non-Federal Reservoirs" located in an area that contributes run-off to the Republican River above Harlan County Lake, in accordance with the methodology set forth in the RRCA Accounting Procedures.

At this time the Republican River Compact Administration (RRCA) Accounting Procedures and Reporting Requirements, Revised January 12, 2005 (Accounting Procedures) document does not have instructions that are in accordance with Section VI.A. as cited above. The Accounting Procedures refer to the Computed Beneficial Consumptive Use from Non-Federal Reservoirs in the Basin. "Basin", "Consumptive Use", and "Computed Beneficial Consumptive Use" are defined on pages 5-6 of the Accounting Procedures without any mention of the "above Harlan County Lake" as required in the Settlement Stipulation.

After looking through the various definitions and procedures contained in both the Stipulation and Accounting Procedures, I have concluded that we should amend the 2004 Compact accounting computations and modify the Accounting Procedures to explicitly limit Non-Federal Reservoir evaporation computations to those above Harlan County Lake. Section I.F. of the Stipulation allows for modifying the Accounting Procedures. I believe Section I.G. bolsters my recommended course of action. It is clear to me that the Accounting Procedures should carry out the language in the Stipulation. I am sure it was an oversight when the Accounting Procedures were being assembled.

No. 126, Original

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In The  
SUPREME COURT OF THE UNITED STATES

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STATE OF KANSAS,

Plaintiff,

v.

STATE OF NEBRASKA

And

STATE OF COLORADO,

Defendants.

---

BEFORE THE HONORABLE VINCENT L. MCKUSICK  
SPECIAL MASTER


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JOINT MOTION OF THE STATES FOR ENTRY OF PROPOSED  
CONSENT JUDGMENT AND APPROVAL AND ADOPTION OF  
FINAL SETTLEMENT STIPULATION


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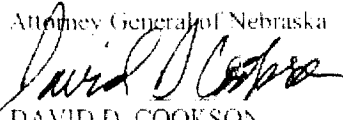
COME NOW the Parties and respectfully move the United States Supreme Court to enter the Parties' Proposed Consent Judgment approving and adopting the Final Settlement Stipulation executed by all the Parties to this case and presented to the Special Master on December 15, 2002, and dismiss the above styled Original Action with prejudice.

Dated December 15, 2002.

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No. 126, Original

In The

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STATE OF KANSAS,

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BEFORE THE HONORABLE VINCENT L. MCKUSICK  
SPECIAL MASTER

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FINAL SETTLEMENT STIPULATION

December 15, 2002

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The States of Kansas, Nebraska and Colorado, hereby enter into this Final Settlement Stipulation as of December 15, 2002:

I. General

- A. The States agree to resolve the currently pending litigation in the United States Supreme Court regarding the Republican River Compact by means of this Stipulation and the Proposed Consent Judgment attached hereto as Appendix A.
- B. The States agree to undertake the obligations set forth in this Stipulation. The States shall implement the obligations and agreements in this Stipulation in accordance with the schedule attached hereto as Appendix B.
- C. Upon the Court's approval of this Stipulation and entry of the Proposed Consent Judgment, the States agree that all claims against each other relating to the use of the waters of the Basin pursuant to the Compact with respect to activities or conditions occurring before December 15, 2002, shall be waived, forever barred and dismissed with prejudice. These claims shall include all claims for Compact violations, damages, and all claims asserted or which could have been asserted in the pending proceeding, No. 126, Original.
- D. With respect to activities or conditions occurring after December 15, 2002, the dismissal will not preclude a State from seeking enforcement of the provisions of the Compact, this Stipulation and the Proposed Consent Judgment. Nor will the dismissal preclude any State in such future action from asserting any legal theories it raised in the present proceeding, or any other legal theories, with respect to activities or conditions occurring after the date of such dismissal. The States agree that this Stipulation and the Proposed Consent Judgment are not intended to, nor could they, change the States' respective rights and obligations under the Compact. The States reserve their respective rights under the Compact to raise



any issue of Compact interpretation and enforcement in the future:

- E. Specific information-sharing requirements are set forth in the RRCA Accounting Procedures, attached hereto as Appendix C. The States will provide each other with the opportunity to inspect and copy their records pertaining to water use in the Basin, other than privileged materials, upon request. The States will cooperate in arranging verification as reasonably necessary.
- F. The RRCA may modify the RRCA Accounting Procedures, or any portion thereof, in any manner consistent with the Compact and this Stipulation.
- G. Headings in this Stipulation are provided for convenience only and shall not affect the substance of any provision.
- H. This Stipulation supersedes the Settlement Principles signed by the States on April 30, 2002.
- I. The provisions of Subsection IV.C. relating to the development of the RRCA Groundwater Model shall be in effect and enforceable between December 15, 2002 and July 1, 2003 or until the Court's approval or disapproval of this Stipulation, whichever is later.
- J. Within six months of the final dismissal of this case, the RRCA shall revise its existing rules and regulations as necessary to make them consistent with this Stipulation and the RRCA Accounting Procedures.

## II. Definitions

Wherever used in this Stipulation the following terms are defined as:

**Acre-foot:** The quantity of water required to cover an acre to the depth of one foot, equivalent to forty-three thousand, five hundred sixty (43,560) cubic feet;

**Actual Interest:** A State will be deemed to have an actual interest in a dispute if resolution of the dispute could require action by the State, result in increasing or decreasing the amount of water available to a State, affect the State's ability to monitor or administer water use or water availability, or increase the State's financial obligations;

**Addressed by the RRCA:** A matter is deemed to be addressed by the RRCA when the RRCA has taken final action by vote on such request or failed to take action by vote on the request after a Reasonable Opportunity to investigate and act on the request;

**Allocation(s):** The water supply allocated to each State from the Computed Water Supply;

**Annual:** As defined in the RRCA Accounting Procedures Section II;

**Basin:** Republican River Basin as defined in Article II of the Republican River Compact;

**Beneficial Consumptive Use:** 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;

**Compact:** The Republican River Compact, Act of February 22, 1943, 1943 Kan. Sess. Laws 612, codified at Kan. Stat. Ann. § 82a-518 (1997); Act of February 24, 1943, 1943 Neb. Laws 377, codified at 2A Neb. Rev. Stat. App. § 1-106 (1995), Act of March 15, 1943, 1943 Colo. Sess. Laws 362, codified at Colo. Rev. Stat. §§ 37-67-101 and 37-67-102 (2001); Republican River Compact, Act of May 26, 1943, ch. 104, 57 Stat. 86;

**Computed Beneficial Consumptive Use:** The stream flow depletion resulting from the activities of man as listed in the definition of Computed Beneficial Consumptive Use in the RRCA Accounting Procedures Section II;

**Computed Water Supply:** As defined in the RRCA Accounting Procedures Section II;

**Conservation Committee:** The conservation measures study committee established in Subsection VI.B.1;

**Court:** The United States Supreme Court;

**Designated Drainage Basins:** The drainage basins of the specific tributaries and Main Stem of the Republican River as described in Article III of the Compact;

**Dewatering Well:** A Well constructed solely for the purpose of lowering the groundwater elevation;

**Federal Reservoirs:** Bonny Reservoir, Swanson Lake, Enders Reservoir, Hugh Butler Lake, Harry Strunk Lake, Keith Sebelius Lake, Harlan County Lake, Lovewell Reservoir;

**Flood Flows:** The amount of water deducted from the Virgin Water Supply as part of the computation of the Computed Water Supply due to a flood event as determined by the methodology described in the RRCA Accounting Procedures, Subsection III.B.1.;

**Guide Rock:** A point at the Superior-Courtland Diversion Dam on the Republican River near Guide Rock, Nebraska; the Superior-Courtland Diversion Dam gage plus any flows through the sluice gates of the dam, specifically excluding any diversions to the Superior and Courtland Canals, shall be the measure of flows at Guide Rock;

**Historic Consumptive Use:** That amount of water that has been consumed under appropriate and reasonably efficient practices to accomplish without waste the purposes for which the appropriation or other legally permitted use was lawfully made;

**Imported Water Supply:** The water supply imported by a State from outside the Basin resulting from the activities of man;

**Imported Water Supply Credit:** The accretions to stream flow due to water imports from outside of the Basin as computed by the RRCA Groundwater Model. The Imported Water Supply Credit of a State shall not be included in the Virgin Water Supply and shall be counted as a credit/offset against the Computed Beneficial Consumptive Use of that State's Allocation, except as provided in Subsection V.B.2. of this Stipulation and Subsections III.I. – J. of the RRCA Accounting Procedures;

**Main Stem:** The Designated Drainage Basin identified in Article III of the Compact as the North Fork of the Republican River in Nebraska and the main stem of the Republican River between the junction of the North Fork and the Arikaree River and the lowest crossing of the river at the Nebraska-Kansas state line and the small tributaries thereof, and also including the drainage basin Blackwood Creek;

**Main Stem Allocation:** The portion of the Computed Water Supply derived from the Main Stem and the Unallocated Supply derived from the Sub-basins as shared by Kansas and Nebraska;

**Modeling Committee:** The joint groundwater modeling committee established in Subsection IV.C.;

**Moratorium:** The prohibition and limitations on construction of new Wells in the geographic area described in Section III;

**Non-Federal Reservoirs:** Reservoirs other than Federal Reservoirs that have a storage capacity of 15 Acre-feet or greater at the principal spillway elevation;

**Northwest Kansas:** Those portions of the Sub-basins within Kansas;

**Proposed Consent Judgment:** The document attached hereto as Appendix A;

**Reasonable Opportunity:** The RRCA will be deemed to have had a reasonable opportunity to investigate and act on a regular request when, at a minimum, the issue has been discussed at the next regularly scheduled annual meeting. If the RRCA agrees that an issue requires additional investigation, the RRCA may specify a period of time that constitutes a reasonable opportunity for completion of such investigation and final action on the particular issue. The RRCA will be deemed to have had a reasonable opportunity to investigate and act on a “fast-track” request when the issue has been discussed at a meeting of the RRCA no later than 30 days after the “fast-track” issue has been raised. If the RRCA agrees that a “fast track” issue requires additional investigation, the RRCA may specify a period of time that constitutes a reasonable opportunity for completion of such investigation and final action on the particular issue;

**Replacement Well:** A Well that replaces an existing Well that a) will not be used after construction of the new Well and b) will be abandoned within one year after such construction or is used in a manner that is excepted from the Moratorium described in Subsections III.B.1.c.- f. of this Stipulation;

**RRCA:** The Republican River Compact Administration, the administrative body composed of the State officials identified in Article IX of the Compact;

**RRCA Accounting Procedures:** The document titled “The Republican River Compact Administration Accounting Procedures and Reporting Requirements” and all attachments thereto, attached hereto as Appendix C;

**RRCA Groundwater Model:** The groundwater model developed under the provisions of Subsection IV.C. of this Stipulation;

**State:** Any of the States of Colorado, Kansas and Nebraska;

**States:** The States of Colorado, Kansas and Nebraska;

**Stipulation:** This Final Settlement Stipulation to be filed in *Kansas v. Nebraska and Colorado*, No. 126, Original, including all Appendices attached hereto;

**Sub-basin:** Any of the Designated Drainage Basins, except for the Main Stem, identified in Article III of the Compact;

**Submitted to the RRCA:** A matter is deemed to have been submitted to the RRCA when a written statement requesting action or decision by the RRCA has been delivered to the other RRCA members by a widely accepted means of communication and receipt has been confirmed;

**Test hole:** A hole designed solely for the purposes of obtaining information on hydrologic and/or geologic conditions;

**Trenton Dam:** The dam located at 40 degrees, 10 minutes, 10 seconds latitude and 101 degrees, 3 minutes, 35 seconds longitude, approximately two and one-half miles west of the town of Trenton, Nebraska;

**Unallocated Supply:** The “water supplies of upstream basins otherwise unallocated” as set forth in Article IV of the Compact;

**Upstream of Guide Rock, Nebraska:** Those areas within the Basin lying west of a line proceeding north from the Nebraska-Kansas state line and following the western edge of Webster County, Township 1, Range 9, Sections 34, 27, 22, 15, 10 and 3 through Webster County, Township 2, Range 9, Sections 34, 27 and 22; then proceeding west along the southern edge of Webster County, Township 2, Range 9, Sections 16, 17 and 18; then proceeding north following the western edge of Webster County, Township 2, Range 9, Sections 18, 7 and 6, through Webster County, Township 3, Range 9, Sections 31, 30, 19, 18, 7 and 6 to its intersection with the northern boundary of Webster County. Upstream of Guide Rock, Nebraska shall not

include that area in Kansas east of the 99° meridian and south of the Kansas-Nebraska state line. Attached to this Stipulation in Appendix D is a map that shows the areas upstream of Guide Rock, Nebraska. In the event of any conflict between this definition and Appendix D, this definition will control;

**Virgin Water Supply:** The Water Supply within the Basin undepleted by the activities of man.

**Water Supply of the Basin or Water Supply within the Basin:** The stream flows within the Basin, excluding Imported Water Supply;

**Well:** Any structure, device or excavation for the purpose or with the effect of obtaining groundwater for beneficial use from an aquifer, including wells, water wells, or groundwater wells as further defined and used in each State's laws, rules, and regulations.

### III. Existing Development

#### A. Moratorium on New Wells

1. Except as provided below, the States hereby adopt a prohibition on the construction of all new Wells in the Basin upstream of Guide Rock, Nebraska (hereinafter "Moratorium"). The Moratorium may be modified, in whole or in part, by the RRCA if it determines that new information demonstrates that additional groundwater development in all or any part of the Basin that is subject to the Moratorium would not cause any State to consume more than its Allocations from the available Virgin Water Supply as calculated pursuant to Section IV of this Stipulation. New information shall mean results from the RRCA Groundwater Model or any other appropriate information. Attached hereto in Appendix E, are such laws, rules and regulations in Nebraska concerning the prohibition on construction of new Wells in the Basin.

2. Nothing in this Stipulation, and specifically this Subsection III.A., shall extend the Moratorium or create an additional Moratorium in any of the States in any other river basin or in any other groundwater supply located outside of the Basin.
3. Notwithstanding the provision in Subsection III.A.1. of this Stipulation permitting the RRCA to modify the prohibition on construction of new Wells, the States will not increase the level of development of Wells as of July 1, 2002 in the following Designated Drainage Basins, subject to the exceptions set forth in Subsection III.B.1-2.:

North Fork of the Republican River in Colorado  
Arikaree River  
South Fork of the Republican River  
Buffalo Creek  
Rock Creek

That portion of the North Fork and Main Stem of the Republican River in Nebraska that lies upstream of Trenton Dam.

Any of the States may seek to amend this provision of this Stipulation by making application to the Court upon any change in conditions making modification of this Subsection III.A.3. necessary or appropriate.

B. Exceptions to Moratorium on New Wells

1. The Moratorium shall not apply to the following:
  - a. Any and all Wells in the Basin located within the current boundaries of the following Natural Resource Districts in Nebraska:
    - i. The Tri-Basin Natural Resource District;
    - ii. The Twin Platte Natural Resource District;  
and



- g. If in any month during the year, the projected or actual irrigation supply from Harlan County Lake is equal to or greater than 119,000 Acre-feet, Nebraska may, at its discretion, cease the administrative action called for in this agreement in Subsection V.B.2.a.; provided, however, that any Alternative Water-Short Year Administration Plan shall be subject to the requirements set forth in Appendix M.
- 3. Colorado action: In those years when Water-Short Year Administration is in effect, Colorado agrees to limit its use of the flexibility identified in Subsection IV.B., to the extent that any portion of Colorado's Allocation from Beaver Creek cannot be used on any other Sub-basin in Colorado.
- 4. Northwest Kansas action: In those years when Water-Short Year Administration is in effect, Kansas agrees to (1) measure compliance in Northwest Kansas on a two-year average, using the current and the previous year, and (2) limit Computed Beneficial Consumptive Use in the Sub-basins to the sum of Kansas' specific Sub-basin Allocations and 51.1% of the sum of the Unallocated Supply from those same Sub-basins and 51.1% of any unused portion of Colorado's Allocation (no entitlement to Colorado's unused Allocation is implied or expressly granted by this provision), or determine compliance in such other manner as agreed to by the RRCA.

VI. Soil and Water Conservation Measures

- A. For the purposes of Compact accounting the States will calculate the evaporation from Non-Federal Reservoirs located in an area that contributes run-off to the Republican River above Harlan County Lake, in accordance with the methodology set forth in the RRCA Accounting Procedures.
- B. In order to attempt to develop information that may allow the States to assess the impacts of Non-Federal Reservoirs and land

terracing on the water supply and water uses within the Basin, the States agree to undertake a study, in cooperation with the United States, of the impacts of Non-Federal Reservoirs and land terracing on the Virgin Water Supply.

1. The States, in cooperation with the United States, shall form a committee by January 31, 2003, to be known as the Conservation Committee. By April 30, 2004, the Conservation Committee will:
  - a. Evaluate the available methods and data relevant to studying the impacts of Non-Federal Reservoirs and land terracing practices on water supplies, including a review of any existing studies and their applicability to the Basin;
  - b. Determine the general types of data that are available and relevant to the study;
  - c. Determine the availability of data throughout the Basin, and assess the level of accuracy and precision of the data;
  - d. Agree on standards for data;
  - e. Identify additional data necessary to determine the quantitative effects of Non-Federal Reservoirs and land terracing practices on water supply;
  - f. Propose a methodology for assessing area-capacity relationships for Non-Federal Reservoirs; and
  - g. Submit to the RRCA a proposed study plan to determine the quantitative effects of Non-Federal Reservoirs and land terracing practices on water supplies, including whether such effects can be determined for each Designated Drainage Basin.
2. Following the RRCA's acceptance of the proposed study plan described in Subsection VI.B.1.g., the States and the

## Estimates of Non-federal Reservoirs Net Evaporation in 2005

(Republican River Basin Above Harlan Co. Lake in Nebraska)

[acre-feet]

<b>Sub Basin Name</b>	<b>Net Evaporation</b>
Beaver Creek	50.66
Buffalo Creek	20.98
Driftwood Creek	1.75
Frenchman Creek	134.76
Mainstem Rep Riv & N F abv Guide Rock	976.68
Medicine Creek above Gage	292.27
Medicine Creek below Gage	7.15
Prairie Dog Creek	21.20
Red Willow Creek	181.89
Rock Creek	81.59
Sappa Creek above Gage	42.80
Sappa Creek below Gage	5.20
<b>Total</b>	<b>1816.91</b>

## Estimates of Non-federal Reservoirs Net Evaporation in 2005

(Whole Republican River Basin in Nebraska)

[acre-feet]

<b>Sub Basin Name</b>	<b>Net Evaporation</b>
Beaver Creek	50.66
Buffalo Creek	20.98
Driftwood Creek	1.75
Frenchman Creek	134.76
Lower Republican River	24.52
Mainstem Rep Riv & N F abv Guide Rock	1890.93
Mainstem Republican River blw Guide Rock	136.86
Medicine Creek above Gage	292.27
Medicine Creek below Gage	7.15
Prairie Dog Creek	21.20
Red Willow Creek	181.89
Rock Creek	81.59
Sappa Creek above Gage	42.80
Sappa Creek below Gage	5.20
<b>Total</b>	<b>2892.55</b>