

## **Engineering Committee Report**

### **Republican River Compact Administration**

September 12, 2013

#### **COMMITTEE ASSIGNMENTS AND WORK ACTIVITIES RELATED TO THESE ASSIGNMENTS**

1. Exchange by April 15, 2013 the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document. By July 15, 2013 the states will exchange any updates to these data.
  - a. Willem Schreïder of Principia Mathematica ran a preliminary version of the RRCA groundwater model including all 3 states preliminary data and posted it April 16, 2013 on the website [www.republicanrivercompact.org](http://www.republicanrivercompact.org).
  - b. Kansas posted final data on August 30; Nebraska's April 15 posting is their final data; and as of August 30, Colorado posted CIR data, which does not include metered pumping data.
  - c. Principia Mathematica posted a final run September 10<sup>th</sup>, 2013. This final model run utilized the No-Bonny scenario proposed by Colorado, which is currently the subject of arbitration.
  - d. The Committee collected stream flow data, climate information, diversion records, and reservoir evaporation records of the three states in cooperation with the U.S. Geological Survey, U.S. Bureau of Reclamation, and U.S. Army Corps of Engineers for 2012.
2. Evaluate ways to standardize methods of estimating ground and surface water irrigation recharge and return flows within the Republican River Basin and related issues.
  - a. The status of this assignment is that Kansas provided literature regarding irrigation efficiency to Colorado and Nebraska for their review at the 2011 annual meeting. Aside from that initial review and comments by Colorado and Nebraska, no additional progress has been made on this assignment. Kansas has indicated its intent to propose a study to resolve the problems of differing groundwater irrigation recharge methods. No additional progress was made in 2013. The assignment should be continued for next year.
3. Review the contract for Principia Mathematica to perform on-going maintenance of the ground water model and periodic updates requested by the Engineering Committee for calendar year 2013.
  - a. The Engineering Committee recommends an assignment of continued discussion of specific modeling and data tasks to be assigned to Principia Mathematica, to be accomplished by December 15<sup>th</sup>, 2013.
4. Continue efforts to finalize accounting for 2006-2012.
  - a. The issues preventing the states from agreeing on the accounting are pending in the current Supreme Court case and pending arbitration.

5. Continue discussion of issues preventing agreement on final accounting for 2006-2012.
  - a. The issues preventing the states from agreeing on the accounting are pending in the current Supreme Court case and pending arbitration.
6. Develop a recommendation on whether or not to account for inflows to the stream segment between Guide Rock diversion dam and the relocated stream flow gage.
  - a. Nebraska has installed an additional gage at the location. The committee recommends removing the task from the committee list due to the presence of an additional gage below Guide Rock diversion dam.
7. Discuss any accounting changes that may be needed for surface water diversions for the purpose of recharging groundwater.
  - a. Nebraska anticipates studies will be conducted during a wet year. The committee recommends this task remain on the Engineering Committee list for future investigation as data becomes available.
8. Discuss developing an application and approval process for future augmentation plans.
  - a. The augmentation plan process is subject of current arbitration. No progress was made on this task in 2013.
9. Finalize the procedure described in Exhibit A of the 2012 Engineering Committee report to apply to 2011 and subsequent years with missing precipitation data.
  - a. Exhibit A is attached to Engineering Committee report in 2012.
10. Finalize work on a user's manual for the RRCA Accounting Procedures and provide a recommendation to the Administration for adoption.
  - a. The committee recommends that each state identify the procedures used to account and process data. This documentation will be shared among the states and updated as the need arises.
11. Continue development of a five-year accounting spreadsheet/database for adoption.
  - a. Each state currently uses its own version of a five-year accounting spreadsheet. At this time the committee does not see the need for a single five-year accounting spreadsheet and recommends this task be removed until a future issue arises with the spreadsheets.
12. Discuss the application of the revised Bonny Reservoir area-capacity tables to past accounting data.
  - a. Kansas agrees to adopt the revised Bonny Reservoir area-capacity tables and apply it to 2007 accounting and forward. That change will be effective when the accounting for 2007 and afterwards is approved. The retroactive application of the 2011 survey to this particular RRCA accounting will have no effect on official Bureau records.
  - b. This retroactive application is recommended in this special case due to the recent technical surveys made by the USBR for Bonny Reservoir and the existence of unapproved RRCA accounting.

## **RECOMMENDED ASSIGNMENTS FOR THE COMING YEAR**

The Engineering Committee recommends the Republican River Compact Administration assign the following tasks:

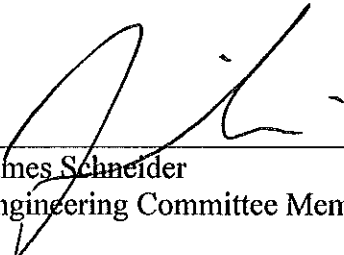
1. The Engineering Committee will meet quarterly to review the tasks assigned to the committee.
2. Exchange by April 15, 2014 the information listed in Section V of the RRCA Accounting Procedures and Reporting Requirements, and other data required by that document, including all necessary documentation. By July 15, 2014 the states will exchange any updates to these data.
3. The Engineering Committee recommends an assignment of continued discussion of specific modeling and data tasks to be assigned to Principia Mathematica, to be accomplished by December 15<sup>th</sup>, 2013.
  - a. The committee recommends calling a special meeting of the RRCA shortly after December 15<sup>th</sup> to finalize this issue.
4. Continue efforts to resolve concerns related to varying methods of estimating ground and surface water irrigation recharge and return flows within the Republican River Basin and related issues.
5. Continue efforts to finalize accounting for 2006-2012.
6. Continue discussion of issues preventing agreement on final accounting for 2006-2012.
7. Discuss any accounting changes that may be needed for surface water diversions for the purpose of recharging groundwater, as data becomes available from Nebraska projects.
8. Discuss developing an application and approval process for future augmentation plans.
9. The Engineering Committee will explore options for sharing evaporation charges for Harlan County Lake when accounts exist separate from the project water supplies of Bostwick Irrigation District and explore potential means to adjust the compact accounting of Harland County Lake for the mutual benefit of the States.
10. The committee will engage in discussions to establish a budget to accomplish tasks needed by the Administration and States for Compact goals.

The Engineering Committee Report and the exchanged data will be posted on the web at [www.republicanrivercompact.org](http://www.republicanrivercompact.org).

**SIGNED BY**

  
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Scott Ross  
Chair, Engineering Committee Member for Kansas

  
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Ivan Franco  
Engineering Committee Member for Colorado

  
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James Schneider  
Engineering Committee Member for Nebraska