

Engineering Committee Report

Republican River Compact Administration Special Meeting

December 19, 2013

Committee Assignment

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. Complete this review by December 15, 2013.

Related Work Activities

The EC met on October 28th and November 22nd to discuss the committee assignments. Meeting notes are included as attachments 1 and 2.

Recommendation

The Engineering Committee recommends that the RRCA continue its arrangement with Principia Mathematica to perform on-going maintenance of the ground water model and periodic updates requested by the Engineering Committee. However, the Engineering Committee recommends that it be given the following assignments:

1. Review the task descriptions in each states contract with Principia Mathematica to ensure that there is no latitude for Principia Mathematica to deviate from the standard procedures without prior approval by all three states.
2. Explore the development of an RFP to determine contractor options for the annual model update and model repository.

The Engineering Committee Report will be posted on the web at:

www.republicanrivercompact.org.

SIGNED BY



James Schneider
Chair, Engineering Committee Member for Nebraska



Chris Beightel
Engineering Committee Member for Kansas



Ivan Franco
Engineering Committee Member for Colorado

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Notes from the October Meeting of the RRCA Engineering Committee
Drafted 10/30/2013
Kansas edits 11/08/2013
Nebraska edits 11/15/2013

Attendees:

Chris Beightel	Kansas	Ivan Franco	Colorado
Chelsea Erickson	Kansas	Jim Schneider	Nebraska
Sam Perkins	Kansas	Jennifer Schellpeper	Nebraska
Craig Scott	Reclamation	David Kracman	Nebraska
Scott Guenther	Reclamation	Tom Riley	Nebraska
		Willem Schreuder	Principia Mathematica

- 1 Introductions
- 2 Review / Modify Agenda
 - Schneider proposed adding an item: Beaver Creek Stream Gage
- 3 Publication of RRCA Annual Reports
 - **Kansas is taking the lead, will distribute to President of US and federal agencies, and each Party**
 - **Each Party will distribute to their Governor and Basin Stakeholders**
 - **The format will be electronic**
- 4 Modeling and Data Tasks for Principia Mathematica
 - Schneider emphasized that a centralized repository and the experience with the project are two factors of high importance to Nebraska
 - Franco noted that Colorado agrees with Nebraska
 - Beightel summarized Kansas' proposal (attachment A), noting that there is a potential for conflict of interest with the current procedures because Colorado's expert witness in litigation between Kansas, Colorado, and Nebraska is being paid to perform model updates and to generate model runs for the RRCA
 - Beightel noted that
 - The ability of each state to run the model authoritatively and the ability of the States to come to agreement on a model run in the absence of Principia Mathematica was important to Kansas
 - Kansas feels strongly that any contract for model update work done on behalf of the RRCA should be with a neutral party
 - Kansas' concern was illustrated when Principia modeled Bonny Reservoir according to Colorado's proposal which the RRCA has not approved
 - Schneider stated that Nebraska is not comfortable rotating modeling duties among the 3 states and has concerns about cost and time involved with transitioning to a new consultant
 - **Nebraska will schedule another meeting in 3-4 weeks for the EC to meet and discuss only this agenda item**

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- 5 Conservation Committee Terraces Study
 - Scott Guenther summarized status
 - **Reclamation will follow-up with Derrel Martin to address his comments, do final edits and distribute a final draft to the EC**
 - **Reclamation will also follow-up on the question of where the data will be housed**

- 6 Data Exchange for 2013 Accounting
 - No Discussion expected until April

- 7 Estimating Ground and Surface Water Irrigation Recharge and Return Flows
 - Beightel noted Kansas' perception that irrigation practices across the Basin have changed to generally become more efficient, asks if the other States are interested in participating in a study
 - **Kansas will provide a draft "Scope and Need" document to the EC regarding changes in irrigation efficiency through time**
 - Schneider pointed out Column 3 of Attachment 7 to the RRCA Accounting Procedures and asked if the Parties had any recollection on the reason this column has not historically been used
 - Schneider noted that Nebraska has installed new flumes on several surface water returns/spills and believes that Column 3 is intended to contain that data
 - Craig Scott noted that the BOR reports on the data given to them by the producers, so if they do not receive the data it would not be reported
 - Schneider noted that NDNR had granted a convey water permit involving Meeker-Driftwood and Bartley canals and believes that Column 3 of the accounting sheet should be used to properly account for this activity and other canal wasteways
 - Further discussion on Column 3 of Attachment 7 is tabled until the next meeting

- 8 Accounting Issues 2006-2012
 - **Before the next meeting each Party will make a list of any items in this category that are not already in arbitration and send them to the group**

- 9 Accounting Changes for Nebraska Groundwater Recharge Projects waiting for results of the Basin Study
 - Discussion needed on how to deal with non-irrigation season evaporation from canals

- 10 Future Augmentation Plans - Application and Approval Process
 - Discussion will wait until current arbitration is complete
 - Schneider noted that the TBNRD may be developing a new project

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- 11 Harlan County Lake - Evaporation Charges and Compact Accounting Adjustments
 - Schneider summarized this year's agreement
 - Craig Scott noted that the 2013 proportioning of evaporation is consistent with historic Reclamation practice
 - Beightel described Kansas' proposal to calculate HCL evaporation in such cases
 - **Kansas will develop a proposal for calculating the incremental increase in reservoir area and assignment of evaporation and send it to the EC**

- 12 Budget to Accomplish Compact Goals
 - **Nebraska will send examples of the Blue River and North Platte Decree Committee budgets**
 - **Kansas will send examples of the Arkansas River Budgets with Colorado and Oklahoma**
 - **Colorado will send other example budgets**
 - The committee discussed funding such things as stream gages, studies, web/cloud storage of data, court reporters, and other meeting costs

- 13 Beaver Creek Stream Gage
 - Schneider explained that the Beaver Creek Stream Gage is in disrepair and will be moved to a near-by bridge
 - Schneider offered tours of the new location
 - **Nebraska will send a map showing the current and proposed gage locations**

- 14 Summary of Meeting Actions / Assignments
 - Schneider summarized the action items from the agenda

- 15 Future Meeting Schedule
 - **Nebraska will send out potential dates to hold an EC meeting in a few weeks**

 - The next regularly scheduled meeting is in January

Kansas Proposal for Performing the Annual Update of the
RRCA Groundwater Model
Submitted to the RRCA Engineering Committee
October 23, 2013

1. Documentation of the Groundwater Model update process:

The RRCA has approved an official version of the Groundwater Model (V12s2) and a version of the Accounting Procedures (August 12, 2010). However, the RRCA has not adopted a process for ensuring that the RRCA Groundwater Model is run in accordance with the Accounting Procedures.

The RRCA shall document the process by which the Groundwater Model is used to implement the Accounting Procedures. The documentation shall be sufficiently detailed so that a reasonably qualified person who may not be deeply familiar with the specifics of the RRCA Groundwater Model and Accounting Procedures could nonetheless follow the process and generate the correct output. This documentation, when agreed upon by the states, shall be made a part of the RRCA Accounting Procedures as Attachment [X].

2. Responsibility and workflow for performing the annual Groundwater Model update:

The state that is chairing the RRCA ("host state") shall be responsible to provide to the other states a complete model run for the previous calendar year by April 30. The update shall use the data which is to be exchanged between the states by April 15 of each year pursuant Section V. of the RRCA Accounting Procedures. This shall be called the preliminary run of the model¹. The other states shall submit to the host state and to one another any comments or suggested alterations to the preliminary run by May 15.

The states shall exchange their final data for the previous year at least 60 days prior to the annual meeting. The host state shall then submit to the other states a run of the model using the final data within 15 days of the states' exchange of their final data. This shall be called the draft final run of the model. The other states shall submit to the host state and to one another any comments or suggested alterations to the draft final run within 15 days of the submission of the draft final run of the model. When the states agree to a final model run, it will be written to DVD and distributed to the states by the host state.

¹ A run of the model will be an archive (e.g. *.zip) electronic file that includes the current version of the RRCA Groundwater Model, all necessary computer programs, input files, and output files needed to run the RRCA Groundwater Model and report the impacts, and an MD5 checksum to verify the identity of the archive file that contains the model run.

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3. Repository and disposition of annual model runs:

Option 1: Each state shall maintain an electronic repository of final runs of the model. The repository shall be available to the other states through one or more common means (e.g., HTTP, FTP).

Option 2: The States will contract with a neutral third party to host a website that will serve as the repository for the foregoing.

Option 3: The States will contract with a neutral third party to perform some of the data compilation tasks required to prepare a model run (e.g. precipitation, reservoir stage level, and evapotranspiration data) and said contractor will also provide the website to serve as repository for the foregoing model runs.

Notes from the November Meeting of the RRCA Engineering Committee
Drafted 11/26/2013
Corrected 12/19/2013

Attendees:

Chris Beightel	Kansas	Ivan Franco	Colorado
Chelsea Erickson	Kansas	Jim Schneider	Nebraska
Sam Perkins	Kansas	Jennifer Schellpeper	Nebraska

- 1 Introductions
- 2 Review / Modify Agenda
 - Beightel proposed adding discussion on the budget at the end if there was time.
- 3 Review October Meeting Notes
 - No further comments were supplied. Comments are to be provided before finalization of the EC report for the December 19th RRCA meeting.
- 4 Modeling and Data Tasks for Principia Mathematica
 - Schneider summarized two potential ways to move forward in the immediate future: The RRCA signs one contract with Willem either using an outside entity such as the Nebraska Community Foundation, like the NPDC does or as an entity like the Blue River Compact OR the RRCA could investigate hiring a new 3rd party using an RFP process.
 - Beightel stated that KS is willing to begin the work on the RFP process. He also summarized his review of the current KS contract with Principia, and noted that the language is clear that Principia has no latitude to make judgment calls on how to complete the annual model runs.
 - Schneider and Franco agreed that the intent of each state's contracts are the same.
 - Schneider noted that there is little use in obtaining an official run from Principia while there are any disputed issues that affect the model run.
 - **It was agreed that Principia should continue work on the current calendar year, though the EC should review all three state's contracts with Principia to ensure that there is no latitude for Principia Mathematica to deviate from the standard procedures without prior approval by all three states. At the same time the EC will work to develop an RFP for a 3rd party contractor and continue to evaluate the costs and benefits of a new contractor.**
 - **Everyone agreed to circulate a copy of their current contract with Principia to the other members of the EC.**
 - **The EC drafted a report to the RRCA; this will be routed along with the meeting notes for review and comment.**
 - **Nebraska will research how the EC report becomes available on the website:**
<http://www.republicanrivercompact.org/>
- 5 Budget
 - Discussion on the CO email occurred with agreement that further discussion would occur during the January meeting, with everyone following up on the action items in the October meeting minutes.
- 6 Summary of Meeting Actions / Assignments
 - Schneider summarized the action items from the agenda.
 - **Nebraska will include an Outlook mail invitation in future EC meeting emails.**
- 7 Future Meeting Schedule
 - The next regularly scheduled meeting is in January