

Notes from URGWOM Steering Committee Meeting; January 13, 2005; 10:00 AM; Corps of Engineers Conference Room, Albuquerque

In Attendance:

Cyndie Abeyta, USFWS

William Miller, WJM Engineering, Inc./Corps

Steven Bowser, USBR

D. Michael Roark, USGS

Ellen Dietrich, SAIC/Corps

April Sanders, Corps

Conrad Keyes, Jr., Consultant to Corps

Gail Stockton, Corps

Don Gallegos, Corps

Tim J. Ward, UNM

- ❖ Gail Stockton opened the meeting and announced her retirement at the end of the month. April Sanders will replace Gail as manager for URGWOM, URGWOPS, and the collaborative program.
- ❖ Mike Roark reviewed Tech Team activities and model status. The information from his handout is appended to the end of these notes. Additional discussion or information not in the handouts are briefly summarized below.
 - Part of the purpose for the meeting during the week of January 31 to document URGWOM rules is to familiarize the Technical Team with the ruleset. Currently, some Tech Team members know a few rules, but no one is familiar with all of them.
 - Development of the proposal to modify URGWOM in the middle valley was a good planning tool to think through the steps for improving the simulation of surface water/groundwater interactions. April Sanders reported that the ESA Collaborative Program developed teams to review proposals and will begin next week, although the awards most likely will not be made until at least April. The Technical Team may need to consider alternative funding sources if funds are needed before this.
- ❖ Bill Miller discussed the status of URGWOM Testing Phase I.
 - Model testing packages were sent to all of the cooperating agencies that signed the MOU on November 1, 2004. The package included a base case and 3 alternatives using 1995-97 historic data.
 - The primary purpose of Phase I is to expose people to the model, find out if different users can use the model, and whether Technical Team results can be duplicated. Most testers are using the RiverWare viewer.
 - Although Bill requested responses by the end of 2004, participation was voluntary. To date, Bill received 5 responses to testing request. These included feedback from Desert Research Institute, consultants to the City of Albuquerque, Los Alamos National Laboratory, Garret Ross at USBR, and Ed Fierro at El Paso Water Utilities.
 - Some of the data values different than what expected. DRI got different results on 2 different computers. Some specific questions about model have come up.
 - Bill will follow up with the other testers, especially Chuck Braden of BIA to determine if they will be testing. Other packages went to IBWC and the Paso del Norte Watershed Council.
 - Cyndie Abeyta reported that she is testing for USFWS but has not responded yet. USFWS purchased the full RiverWare model, but it is an older version than the test version so it took time to upgrade at first. She commented that the testing was easy to run because the instructions that were clear.

- There was some discussion on why an older version of RiverWare will not run the test models. Some enhancements and some aspects of the scenarios provided, such as target flows, require the new version. This should not cause a problem for the testers because the viewer or upgrades to the model can be downloaded at any time. The scenarios provided are ones that the Tech Team thought people would like to test.
- ❖ Mike discussed plans for Phase II model testing.
 - Phase II model testing subcommittee meeting is set up for January 20.
 - USBR had Edie Zagona come to speak with management about RiverWare. The URGWOM Tech Team took advantage of her trip at that time to discuss the development of the user/operator interface that is needed for Phase II testing. The interface will let a modeler identify slots that could be changed in testing, with notes on the limits and suitable range of values for each slot. They also discussed linking the surface water/groundwater model to RiverWare, but agreed that it probably will not work because it would take longer for URGWOM to process if the calculations for each timestep were run through a separate model. Instead, the Technical Team is considering development of surface water/groundwater methods in RiverWare that would simplify the interactions for middle valley model calculations.
 - There will be 3 parts of the Phase II testing plan:
 - Getting users familiar with model and ruleset
 - Scenarios to follow using the operator panel to run
 - Pose problems that requires the testers to set up the model to address
 - Phase II will go out to the same group as Phase I at first. Then can go to public. PI should be able to go to anyone now, unless there is some big problem with model. Once coops are thru, should go to anyone.
 - Recommendations for Phase II testing from the group:
 - Utilize Dave Wilkins' experience with changing the rules in RiverWare at a December 15 session at NMSU, sponsored by Paso del Norte Watershed Council, before finalizing the testing scenarios and instructions.
 - A statement should be included with the testing package that URGWOM is a complicated model, which requires training and expertise to operate. It is not intended to be simple to run.
 - Testers should be made aware that they can pass the package along to anyone else to test. There is no intent to dictate how an organization should use the model or who should test it. The Steering Committee has always said that URGWOM users need a highly technical background and an avid interest in Rio Grande water operations in order to use the model effectively.
 - When public releases are approved by the Steering Committee, it is best to put the model on the website instead of offering CDs. Registration will be required before downloading so there is a record of who gets it.
- ❖ The status of Technical Team priorities for 2004 and recommendations for 2005 were reviewed by Mike Roark. He distributed handouts that summarized his discussion (attached to the end of these notes).
 - 2004 status:
 - Tracking types of water through URGWOM was not completed in calendar year (CY) 2004 and should be a Priority 1 for CY 2005.

- Priorities related to HEC-DSS, Bureau of Reclamation accounting, and data accessibility are most relevant to the development of HDB, not URGWOM Technical Team activities. They should be deleted from the Technical Team priorities.
- 2005 priorities:
 - The Technical Team needs to determine who is interested in tracking the types of Rio Grande water through URGWOM because additional funding is needed to accomplish this task. The next steps are to discuss the work and get a cost estimate from CADSWES. It may be possible that some of the work done for the Colorado and Truckee Rivers can be applied for the Rio Grande
 - Rules documentation staff and time will be updated to reflect the current plan to complete the initial documentation by January 31, and then keep the documentation up to date.
 - The task title related to model development below Elephant Butte will read “Coordinate model below Elephant Butte.” There is a need for the Technical Team to coordinate with the developers of the downstream model to ensure that model standards, data quality, and functionality work together. There should be data sharing and communication between the developers.
- Mike will revise the priorities per discussion and present at the next Steering Committee meeting.
- ❖ Other items
 - Conrad Keyes suggested having a demonstration of Paso del Norte Watershed Council’s Phases I and II coordinated database project for the URGWOM Steering Committee. The Tech Team should coordinate with the Watershed Council president Sue Watts and secretary Nancy Hanks. Phase III could be funded through a challenge grant proposal to Bureau of Reclamation, due January 15.
 - Steve Bowser reported that, called meeting with Corps and Bureau of Reclamation before Christmas to discuss how to use ET toolbox data in URGWOM. To date, he has not heard back from the Corps on what is needed and how this data are used. Most of the URGWOM work has focused on groundwater/surface water interactions, but because ET is so variable daily, it is very important in the middle valley. Steve believes that URGWOM must use this variability and that it cannot be entirely represented by the can't get from groundwater/surface water interaction data. Some effort should be put into understanding ET and assimilating that data into URGWOM. Steve would like some confirmation on how the data are being used in URGWOM to determine whether they are applied accurately and if the Technical Team has the information needed.

Technical Team Activities—Mike Roark

Target Flow improvements:

- Brad and Mark Sidlow still working on revamping the Target flows for Central, Isleta, San Acacia, and San Marcial. CADSWES has finished the model method that will allow shortages of irrigation water while meeting target flows. Mark has the target flows working to Central but is having problems with the hypothetical simulation for reaches below Central. Mark is working directly with CADSWES to solve the problem.
- Brad and Mark are continuing to put together the documentation for the rule set.

Development of the MMS Model for snowmelt-runoff:

- Mike and Jack Veenhuis are continuing to work with the USGS Denver development team. The Denver development team is having problems with the snowmelt temperature simulation and the results are not making sense. They are looking at the methods for temperature simulation to determine if there is a problem.

Model improvement of the Middle Valley Reaches:

- The calibration of the lookup table has been completed. The lookup tables have been incorporated into the sensitivity model to test the difference in the between using the lookup tables or the previous methods. The first runs were complete yesterday evening. Results of the run are currently being compared with the original sensitivity runs to see the difference made by the lookup tables. If a significant difference is seen, several scenarios for the EIS will be run using the lookup tables as soon as possible.

Technical Team Tasks—CY2004 and beyond tasks

TESTING OF MODEL

Priority: 1

Model testing is listed as one of the necessary tasks in the “Database and Model Testing Quality Assurance /Quality Control (QA/QC) Plan” to put the Water Operation model into production mode. Refer to the QA/QC Plan part 2c-f for the tasks that need to be accomplished.

USACE contractors under direction of the Technical Team will accomplish the preparation for the testing. The Technical Team will accomplish the check of the testers models and results.

Approximate Technical Team time required: All 2 months

Start Date: March 2004

COMPLETE RULES FOR STORAGE/RELEASE OF MULTIPLE RG ACCOUNTS AT EL VADO

Priority: 1

Task is now completed.

TRACKING TYPES OF RIO GRANDE WATER THROUGH THE MODEL

Priority: 1

There is a need to be able to track the different types of Rio Grande water through the model, especially during drought conditions. The different types of water that need to be tracked are: Prior and Paramount water, ESA supplemental water, MRGCD drought water, and Rio Grande Conservation water. This change to the Water-Operations Model would require that new methods be written by CADSWES for routing and tracking the water. Some existing rules will need to be changes and new rules written by the Technical Team.

Approximate Technical Team time required: All 3 months after method development by CADSWES.

DOCUMENTATION OF RULES

Priority: 1

This task should be completed as part of the documentation of the model and part of the information needed for the test of the model by other entities other than the Technical Team. The existing rules in the model will be reviewed and cleaned up and summary documentation of the rules will be written in the actual RiverWare rule window. The summaries will be exported and combined into a rules document. The decision tree for the rule execution will be documented using CADSWES developed functionality.

Approximate Technical Team time required: M.Sidlow 2 months

Brad Vickers 2 months

MMS TESTING AND VERIFICATION

Priority: 2

The technical team has received the updates MMS snow melt/runoff model from Steve Markstrom. The most recent calibrated parameter files for the MMS model has been received from Doug Boyle. The Rio Grande MMS model needs to be documented and verification testing completed. Providing that the model successfully passes the verification tests, it will be used to forecast this year’s snowmelt/runoff as another

test. Changes will be made to the forecast model and accompanying DMIs to accept input from the MMS model.

Approximate Technical Team time required: M. Roark 2 months

MODELING SYSTEM FOR MONTHLY COMPARISON OF FORECAST VS. ACTUAL

Priority: 2

Currently HEC-DSS is used for storage and management of time-series data used by the RiverWare models (Accounting, Forecast, and Water Operations). Processes are set up to: export observed data from the Accounting model to date to HEC-DSS file(s), export forecasted data from the Forecast model for spring runoff months through the calendar year, and prepare these exported data for the Water Operations model.

This task will be mainly set up of DSS to show the actual data to a date and the forecast data from the Water-Ops model together. DSS will also need to provide data to date as input to the Water-Ops model to run a forecast to the end of the year.

Approximate Technical Team time required: Roberta 1 months
M. Sidlow 1 month

REFINE MIDDLE VALLEY GW/SW INTERACTION

Priority: 1

A concept of how the middle valley will be updated needs to be formulated. Since Nabil has a GW/SW interaction model in the lower part of the middle valley, this area can be used this year to make changes and testing of updates to the Water-Ops model. As necessary data is gathered the concepts developed for the lower portion of the middle valley can be used to update the rest of the middle valley.

Approximate Technical Team time required: M. Roark undetermined
N. Shafike undetermined

Future tasks (CY2005 and beyond)

ACCOUNT MODEL OUTPUT GO SEAMLESSLY INTO BOR WATER ACCOUNTING SPREADSHEET

Priority: 3

This is an activity for the Bureau of Reclamation in development of the interfaces with HDB. Assistance will be needed from the Tech. Team.

Approximate Technical Team time required: M. Sidlow 0.1 months

DEVELOP MODEL BELOW ELEPHANT BUTTE

Priority: 2

The Water-ops Model will need to be developed beyond just flood control capabilities. To make this task successful the Bureau of Reclamation's El Paso Office will have to be involved in development.

Approximate Technical Team time required: All undetermined

DATA ACCESSIBILITY SOLUTION

Priority 2

There are several parts to this task. Make model run data available to the public and develop interactivity between the separate BOR and COE databases that are used for model runs. There are many security issues with the task that will need to be resolved.

Approximate Technical Team time required: undetermined

Technical Team Tasks—CY2005 and beyond tasks

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Approximate Technical Team time required: All 2 months

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Money may be an issue

Approximate Technical Team time required: All 3 months after method development by CADSWES.

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