

# Memorandum

To: URGWOM Technical Team Members  
Date: April 19, 2018  
Subject: Notes of April 12, 2018 URGWOM Technical Team Meeting

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These notes summarize the salient matters discussed during the April 12, 2018 Upper Rio Grande Water Operations Model (URGWOM) Technical Team meeting. The meeting began at 9:00 am in the New Mexico Interstate Stream Commission Office in Albuquerque, NM. An attendance list is included on the last page of these meeting notes.

The principal meeting Agenda topics include review of URGWOM simulation of Albuquerque San Juan-Chama Project water accounting, data needs for Rio Grande basin study, April, 2018 AOP model run results, a report on the status of model documentation and a discussion of Technical Team Spring, 2018 field trip plan and itinerary.

Jesse reported that he has reviewed the Albuquerque Water Utility water right permit conditions and the accounting of the release and storage of San Juan-Chama Project (SJ-C) water for the Utility. His review included conditions regarding the diversion by exchange of water stored in Elephant Butte Reservoir when Cochiti Lake and Abiquiu Reservoir are in flood control operation and limited channel capacity precludes the release of SJ-C water to the Albuquerque diversion. His review identified four issues:

1. The model is not reconciling Rio Grande storage in Abiquiu during the period of time when stepped releases are being made and during the irrigation season. This is based on an old, perhaps outdated function.
2. SJ-C loss rates are not applied correctly at the end of the month due to the change in monthly loss rates from Abiquiu to the Albuquerque diversion. Loss rates are not being correctly applied when the water is in transit and not delivered by the last day of the month.
3. An accounting discrepancy exists when accounting of Albuquerque diversion, as the SJ-C water is subject to a two-day travel time Abiquiu Reservoir but the concurrent Rio Grande water diversion match is accounted on the current day.
4. Albuquerque diversion of SJ-C water in Elephant Butte by exchange can only happen during times when channel capacity on the Rio Chama is limited due to flood control operations, and not during other times such as during stepped releases.

Jesse was able to resolve items 2-4, and he presented hydrographs showing the results of his proposed remedies. Items 2 and 3 were bugs in that the model was not accounting time lag properly. Jesse does not completely understand the logic behind item no. 1 and he needs to study this matter in greater detail before he can suggest a means to resolve the discrepancy.

Lucas led a discussion on the Rio Grande basin study and the data needed to complete the model runs. The study, which is for a 150-year time period and extends from the state line to Elephant Butte Reservoir, is based on global climate model data which is used in URGWOM to study potential changes in supply and demand under differing future climate scenarios. Lucas summarized data that are needed and where the data are obtained, including inflow and local inflow (from USGS) and whether or not middle valley local inflows are required. Lucas may ignore evaporation losses on reservoirs on the Rio Chama during the winter months, partially due to efforts to reduce the amount of data required to run the model. Precipitation on reservoir water surface will be ignored (set=0) or based on global climate model data. Irrigated acreage area data will remain constant, although it may be preferable to provide for variable acreages and crop types. Deep aquifer heads will also remain constant during the modeling period. Based on feedback from the Tech Team, Lucas will base the model on historic conditions on the river as they existed during the time prior to the advent of the SJ-C project, and that SJ-C Project operations and uses will not be simulated in the model prior to 1972.

Lucas summarized some preliminary model results. He reported that the Cochiti Lake trap efficiency was set equal to zero because the model focus is not on the accounting of storage capacity remaining in that reservoir. He also reported on a discontinuity in the hydrology at Abiquiu Reservoir, which could be due to a discrepancy in the data units used in the model database.

Marc presented a summary of the results of the AOP model runs based on the April 1<sup>st</sup> runoff forecasts. The AOP model run is based on the 70% forecast (drier than most probable) to reflect forecasted dry conditions during the upcoming runoff period. The April 1<sup>st</sup> forecast is similar to the March 1<sup>st</sup> forecast. Marc summarized operating assumptions and presented a series of hydrographs of stream flow and reservoir storage that are forecasted to occur during the remainder of 2018. SJ-C Project contractors should receive slightly less than a full water supply allocation and there may not be adequate inflow to full the Prior and Paramount Middle Rio Grande Pueblo Indian storage requirements in El Vado Reservoir.

Miller updated the Team on the status of preparation of the physical model documentation. He explained that the current document is a compilation of previous model documentation that had been prepared for the individual portions of the basin. The documentation is intended to describe those model components that are not changed on a regular basis or that might only be changed after model calibration. He also summarized the portions of the physical model documentation that are incomplete. The draft document has been circulated

to Team members for their review and a copy has been posted on the myUSGS web site. Marc and Nabil are reviewing the current draft of the documentation.

Miller presented the current Tech Team field trip itinerary of the Lower Rio Grande scheduled for May 7-8, 2018. The itinerary includes stops at the major diversion works and the locations of drain returns to the river in the lower Mesilla Valley. He reported that a block of rooms had been set aside at the Mission Inn in Las Cruces and he urged those Team members who are planning on attending to make reservations as soon as possible. Arrangements for carpooling will begin when an accurate tally of participants is prepared. Zhuping reported that he will meet up with the group at Percha Dam.

Under other business:

- An updated “wish-list” for CADSWES work tasks is being assembled by Reclamation and the Corps. Team members were invited to suggest additional software improvements that could be added to the list.
- The Tech Team will schedule a telephone conference call to discuss the development of an application to implement a method of computing effective precipitation the ET Toolbox.
- A telephone conference call is scheduled for April 23 with among Tech Team members and CADSWES to discuss groundwater object enhancements.

The next meeting of the Team has been scheduled for May 7-8, 2018 (field trip). The June meeting date has tentatively been scheduled for June 12, 2018.

The meeting adjourned at about 11:00 am.

ATTENDANCE LIST  
URGWOM TECHNICAL TEAM MEETING  
April 12, 2018

<u>NAME</u>	<u>REPRESENTING</u>
Marc Sidlow	USACE
Jesse Roach	Tetra Tech / USACE Contractor
Curtis McFadden	USACE
Kyle Douglas-Mankin	USGS
Ken Peterson	Tetra Tech / USACE Contractor
Shalamu Abudu	NMISC
William Miller	WJM Engineers/USACE Contractor
Lucas Barrett	USBR
Carolyn Donnelly	USBR
Nabil Shafike	USACE
Cindy Stokes	NMISC
Page Pegram	NMISC

Those participating via telephone conference included:

Nick Mander	Hydros Consulting
Conrad Keyes Jr.	Paso del Norte WC / USACE Contractor
David Neumann	CADSWES
Brian Westfall	Keller Bliesner Engineering / BIA
Zhuping Sheng	Texas A & M University