Central Florida Water Initiative

CFWI Water for Tomorrow

MEETING SUMMARY

Subject: Peer Review Teleconference – Meeting 14 (Review of Initial Transient Calibration)

Expanded East Central Florida Transient (ECFTX) Groundwater Model

Date: October 4, 2018 (2 PM to 4 PM)

Prepared By: Central Florida Water Initiative (CFWI) Hydrologic Analysis Team (HAT)

Attendees:

Panel Members: Pete Andersen (Chair), Lou Motz, Mark Stewart

Districts staff: Pete Kwiatkowski, Uditha Bandara, Jeff Giddings, Anushi Obeysekera, Tim Desmarais, , Doug Hearn, , Jason Patterson, Joanne Chamberlain, Ron Basso, Hua Zhang, Kevin Vought, Brian Starford, Chris Leahy, Joanna Oseguera, Claire Muirhead

FDEP: Pam Flores

Utility Representatives: Brian Megic, David Macintyre, Terry McCue

General Public:

The purpose of this meeting was to present to the Peer Review Panel the Districts' progress on the draft, transient calibration for the ECFTX Model. NOTE: PowerPoint slides for presentations made at the meeting have been posted to SWFWMD's peer review web board.

Pete Kwiatkowski (PK) welcomed the meeting participants. Ron Basso (RB) presented the agenda and began the discussion of team efforts since our last meeting. Initial efforts focused on calibration of the Lower Floridan Aquifer model layers as the last portion of the steady-state calibration. Uditha Bandara (UB) presented information regarding rainfall-adjusted NEXRAD data, which resulted in improved calibration statistics. NEXRAD data was adjusted within the SWFWMD and SFWMD. PK clarified that separate vendors had developed the NEXRAD data for each of the districts and hence it might be expected that different levels of data quality would exist between the districts. Next, UB indicated that updates were made to landscape irrigation, accounting for return flow from domestic self-supply users.

Also, he presented on the use of the drain return (DRT) package and how that coupled with the RCH package were now being used to calculate flows to drainage wells. He indicated this was a superior methodology compared to the previously used, constant flow assumption using the WELL package.

RB summarized the calibration targets for water levels, baseflows, and springflows. Pete Andersen (PA) expressed a desire to come up with a means of evaluating the ability of the model to simulate the dynamic response. Panelists agreed to come up with some suggestions. Later in the meeting, PK indicated our current plan is to use the calibration targets as noted, but to use the simulated vs. observed hydrographs to document the model's ability to capture dynamic response. UB presented on the surface water calibration including baseflows and structure flows.

RB noted that each District was assigned to achieve calibration in their area. Tim Desmarais (TD) presented on the current calibration statistics for the SJRWMD portion of the model domain, Anushi Obeysekera did so for the SFWMD portion, and Hua Zhang presented on calibration status for the SWFWMD portion using their "shiny app" application. PA noted that differences along the boundaries must be resolved, and RB noted our plan to periodically mesh all our calibration efforts together to ensure no boundary effects result.

RB noted that spring flow calibration for Rainbow Springs did not cover the entire springshed. RB also noted that portions of the model had water levels stack upwards of 50 feet associated with extreme rainfall events in September 2004. PA expressed concern and suggested that staff focus their efforts on understanding why this was occurring.

TD described the incremental approach to building the transient model using the transient data sets developed. He also described the balance between model run times and the number of time steps per stress period. For interim calibration runs. Staff have arrived at 6 as the optimum, with current model run times at 31 hours. PA stated that the timestep expansion factor used in the model (1.414) may be too high and suggested a TSMULT of 1.1. LM agreed with that general concept and suggested a TSMULT of 1.2.

RB indicated that the storage coefficients were initially compiled from other regional groundwater models in the area. The Panelists noted that the storage coefficient distribution was sporadic and apparently different on either side of District boundaries, including an area where the magnitude of storage coefficient approaches that of specific yield. Staff agreed to explore this further to ensure final calibrated values are as consistent as practicable and consistent with aquifer test values.

RB noted that our goal was to complete calibration by the end of November. PA inquired about the final report. PK noted that the purpose of convening these progress meetings was so that the Panel could provide input along the way, so that the approach could be understood, and the calibration results would allow the Panel to render their opinion about the model's ability to meet its intent at that time. PK emphasized that the model report would come soon after the Panel's recommendation.

Panelist Mark Stewart (MS) noted that the current calibration status was very good given the short amount of time that transient calibration has been underway. PA agreed that, although more work needs to be done, staff have done a good job so far.

Public Comment

None

Adjourn - The meeting was adjourned at 4:20 pm.