

Rattlesnake Creek Model Technical Advisory Committee Minutes

May 14, 2008

Attendees: USFWS: Megan Estep, Rachel Laubhan and Carrie Cordova; KWO: Susan Stover and Susan Metzger; KFB: Kent Askren; Balleau and Associates: Peter Balleau and Steve Silver; SSPA: Steve Larson and Alex Spiliotopoulos; GMD 5: Sharon Falk; KWF: Steven Sorensen; KDA-DWR: David Barfield, Bruce Falk, Tina Alder, Andrew Lyon, Lisa Sader, Darci Paull, and Sam Perkins

The meeting got underway by David Barfield discussing the possibility of a GMD#5 district wide model, and Sharon Falk said that the board would make a decision on the district wide model at their June 5th meeting.

Megan questioned the relationship between the partnership and the management program agreement and would it need to change. It was discussed and decided that the management program would not have to change because the model was being constructed. Megan also brought up whether or not the district boundary would be the model boundary and if that boundary is important hydrologically. It was stated that the model boundaries would be extended outside of the district and would try and follow a hydrologic boundary. Peter Balleau stated that the size would not be unmanageable.

Steve Larson stated that the primary issue of going district wide would be the data characterization of the new areas, as the Middle Arkansas and Rattlesnake Creek are already developed and calibrated.

David talked about DWR's desire to have a collaborative process that is open to all interested stakeholders. He also discussed other modeling processes DWR has been involved in collaborative modeling and that we are trying to construct models with similar architecture across Kansas. David did point out that some of the protocols suggested for discussion by Peter Balleau were different than what was in the Memorandum of Agreement and the processes already laid out.

Peter Balleau voiced concerns on having access to the lead modeler and how communication between the modelers be handled. It was discussed and conveyed that the TAC meetings were the place to bring up any and all concerns, and where all stakeholders could all stay up-to-date on the modeling process. It was stated that the TAC would not have a formal way to report concerns, but that we would address the concerns during the meetings. If communication is needed between the modelers outside of the TAC meetings, then the TAC should be informed and this group will approve the interaction. Peter also voiced that one of the big questions for GMD 5 is they don't want

to get items denied due to budget restraints and being outside the scope of the model. GMD 5 needs an end product that has the ability to answer the questions they have.

Steve stated that some of the items on Peter's list are going to have budget issues and are outside the scope of the model and will need to be dealt with. Someone will need to make the call on what is needed for the modeling process and they will work around it. Peter suggested that these items be addressed early on in the process. David pointed out that it appeared Peter was suggesting a co-model development process. This was conducted in the Republican modeling process and it was a very expensive process as every state hired a modeling team to do the work. With the process Kansas has laid out one person is the primary modeler and they conduct all the work, but the work is peer reviewed.

Sharon asked about the quality of the model and if adding extra Modflow packages would make it a better model. David stated that the purpose of the model drives the quality and that you can continue to make changes but you reach a point of diminishing returns. The budget needs to be adequate for the purposes outlined. Steve Larson responded by explaining how the extra packages don't necessarily make it a better model, just a more versatile one and may not be able to answer all the questions out there. Peter added that if the model purpose is stated in the beginning, then the model can be constructed to meet that purpose, and budget constraints might not be such a problem.

Steven Sorensen asked about the budget of a district wide model, and it was discussed that would have to be decided once the district wide modeling effort began, if it does.

David talked about how this is a public process, and that if someone wants to present work in progress that they should use courtesy and let the TAC know what they are going to present. Steve then talked about how the TAC uses a step by step process where concerns and issues are dealt with as they are brought up, and that everyone will be informed of any major communication or decisions that need to be made between meetings.

The meeting then turned to the technical aspects of the model. Peter explained some of the extra Modflow packages that could be used in this effort. One is the farm process package. It has been used in California and New Mexico, even though it does have some issues. The multi-node well package was also discussed. Steve talked about how the use of these packages will increase the scope of the model, and significantly increases the effort and creates instability in the models. The packages make running the model more difficult and getting the outputs take a greater effort, but they do provide versatility. Steve also talked about how some analysis can be done external to the model and that input can go into packages that are more commonly used. David commented on how Kansas water use data allows us to overcome issues with data instead of the use of other Modflow packages. It was decided to look at consumptive use and return flows early in the process, and it would be decided on how to deal with these issues at that time. Reviewing the Middle Arkansas Numerical Groundwater Model would be a starting point.

Sharon brought up the capabilities that the model would need to have and if limitations in other models would create any problems. It was encouraged that everyone identify limitations the Middle Arkansas model has and what changes may need to be done to make it more versatile.

Steve explained where the modeling effort is currently. SSPA has been trying to organize the historical files to see how the model runs. The final modeling report does not always correspond with the files the group has, and that is causing some problems. Peter concurred that it would be better to have the final model files; however DWR does not know if they still exist. Sam Perkins stated that a few members of the original modeling team could be contacted. Marios Sophocleous at KGS would be the person to contact, and it was decided to try and step up a conference call with Marios to see if he could give us some insight as to how the original model actually functioned. Steve and Peter both wanted to continue to understand what they had first and will let DWR know when they are ready for the conference call to be arranged. SSPA is holding off in doing much work on the original model until they know if the entire district is going to be modeled. Once this is decided they will start putting together water budget files.

In addition, it was agreed by both SSPA and Balleau that they will not maintain SWATMOD and will convert and compare the new approach to the historical approach.

Graphics that Peter Balleau and Steve Silver produced were reviewed, and they suggested that the scheduling of recharge from the original model files could still be useful, even if the volume of recharge is not. It was decided that DWR needs to determine if the files that we have are the final model files from the original modeling effort. Once we have determined what files we have exactly, we can determine which files will need to be reworked.

Peter suggested that a field tour occur. Steve and other concurred that this would be useful. It was suggested that the tour be scheduled around the first Partnership meeting that will be held in August to begin reviewing the Management Program.

Action Items:

1. DWR will scan any addition appendices from the original model report that would be useful. Peter Balleau stated there were specific ones they are interested in, once DWR receives this list we will scan and post to the ftp site.
2. Decide how whether to use the farm package versus the current way
3. Identify limitations in the Middle Arkansas model and provide a list of the suggested changes to DWR.

The next TAC meeting is scheduled for June 10th, 2008 at 9:30 central standard time. This meeting will be to discuss conceptually how to proceed if GMD 5 votes to move forward with a district wide modeling process.