

Operating Guidelines Committee Meeting Summary August 12, 2004

Attendees: Bill Bailey, Will Berson, Judy Jennings, Larry Keegan, Dave Kyler, Teri Leffek, Morgan Rees (via phone), Bob Scanlon, Chris Schuberth

The committee was tasked at the July 2004 SEG meeting to look at/determine how the rejection of the hydrological modeling effort after years of technical review occurred, how to prevent it from reoccurring and how to facilitate/increase the flow of information between the SEG and federal agencies/USACE (the Corps).

The meeting began with discussion to determine the current relationships between the SEG and GPA and GPA and the Corps. The group agreed the SEG has an advisory relationship with GPA. As to GPA's and the Corps relationship, there was considerable discussion as to how to accurately interpret that, depending on one's reading of the Memorandum of Understanding signed July 2001 and Congressional language referencing the SEG. In reference to the preparation of the EIS, the Memorandum of Understanding between the USACE and GPA provides for the Corps to be the Lead Agency and GPA to be a Cooperating Agency as defined by the Council on Environmental Quality (CEQ) regulations for implementation of the National Environmental Policy Act (NEPA). The relationship between GPA and the USACE regarding the Savannah Harbor Expansion Project (as distinguished from the Tier II EIS development) is not clearly defined by a formal agreement and is under discussion between them. It was reiterated that the SEG's conduit for information/communication to/from the Corps is through GPA.

The discussion then turned to what actually occurred. Larry Keegan and Bob Scanlon provided a detailed explanation of what happened. The model used for the Tier II EIS development was the same one used in the feasibility study (WQMAP from Applied Science Associates, Inc.), which is foundationally a physics-based model. At the time of the feasibility study, WQMAP would not accurately represent the mixing of fresh and salt waters in the estuary (a crucial component for evaluating potential deepening effects in the Savannah River ecosystem). Applied Technology & Management (ATM) substituted a vertical mixing scheme based on tidal state, which was empirically derived. At the time, the agency reviewers accepted the modelers' conclusions about a vertical mixing approach. In the first SEG meeting, GPA provided recommendations for a DO field study and recommended formation of a group of modeling experts called the Modeling Technical Review Group (MTRG) to review the study proposal and provide feedback to the SEG. The SEG concurred with both recommendations. The MTRG was established as a committee of the SEG and began meeting in February 1999. The federal agencies involved in the Savannah Harbor Expansion Project, the Army Corps of Engineers, the Environmental Protection Agency, the US Fish and Wildlife Service (and its technical support, US Geological Survey (USGS)), and the National Marine Fisheries Service, decided they needed a forum within which they could discuss technical aspects of the modeling development and calibration and met in May 2001. Eventually, this became known as the Savannah Multi-Agency Review Team (SMART). From June 2001 through 2003, both SMART and MTRG meetings were held to deal with the calibration of both the hydrodynamic and salinity (H&S) and dissolved oxygen models of WQMAP and both the MTRG and SMART raised similar questions about how WQMAP, now referred to as Model A, represented the mixing of fresh and salt water.

The code for the H&S portion of the model from WQMAP was provided to the SMART members in January 2001. After review of an acceptance package, the SMART members accepted the H&S portion of the model for further development of the water quality portion of WQMAP. While the SMART group had accepted the H&S portion of the model for further development, they did retain a concern regarding the vertical mixing. At this point EPA was intending to use this model not only for assessing the dissolved oxygen, DO, impact of the deepening but also to use it to establish TMDLs for the harbor. During the summer of 2002 EPA was becoming more concerned that the impact of the vertical mixing would be more critical with respect to water quality issues than it had been with tidal cycles and salinity. Over the next 10 to 12 months as ATM continued tweaking the model to reflect better vertical mixing

EPA was becoming less comfortable with ATM's model. In July 2003 EPA decided to explore other alternatives. When EPA started to develop the EFDC model for use in setting TMDL limits, they found that it seemed to handle vertical mixing with the model's physics-based code, which was preferable to utilizing the methodology in the WQMAP H&S and DO models. In August 2003, having determined that they needed to adopt and defend the model used in Savannah Harbor Expansion Project as their own, EPA began developing the EFDC model on a parallel path as a "Plan B" option. In May 2004, upon review of ATM's Final Calibration Report, the agencies were concerned with the sensitivity of the model and judged the vertical mixing scheme made the WQMAP models not defensible and decided to suspend further development efforts on the WQMAP models and focus the available, limited resources on the development of EPA's EFDC & WASP models for use in the expansion project. Once the EFDC and WASP models are calibrated for use in the project, their suitability for use relative to the federal agency expectations for performance will be determined.

Bob Scanlon tried to summarize using a simple analogy of a group taking a bus trip. A group of people agree to go on an extended road trip. The organizers make arrangements for a bus specially equipped for the trip. Having the unique bus delays the start of the trip but everyone agrees that the unique nature of the vehicle makes the delay worth while. Everyone loads their equipment onto the unique bus and they start the trip. After a little while the bus breaks down, the group agrees to find a way to fix it and continue on the trip only to have another breakdown requiring a unique fix. This pattern continues. Since it is the only means of transportation, the group votes to keep fixing it and continuing the road trip. After several breakdowns, a few of the participants who have to be back from the trip by a certain time, start talking about finding other alternatives and start trying to arrange for another bus to meet them at a future destination. Once they determine that it might be possible to arrange for another bus to meet them, they share their plan with the whole group and call the search for a new bus Plan B. Finally at a future stop, there is a new bus waiting and available to complete the rest of the trip. The majority of the group decides to abandon the unique bus, load their gear on the new bus and finish the trip.

David Kyler commented that it appeared that the shift to the Plan B models was not the result of a flaw in the process of model development and review. Bob Scanlon agreed, stating that the review process appeared to work, as it identified an unacceptable model before it was used for evaluations and decision-making on the project.

Larry gave his opinion that the situation in question resulted from difficult, incomplete, and, ultimately, poor communication between technical modelers, project management, and agency heads/decision makers. A great deal of effort by many individuals went into the technical aspects of model calibration. Unless one is knowledgeable and experienced with modeling, that individual will not understand what is being discussed in the various meetings and other communications regarding modeling, which complicated the information flow between the modelers and managers and decision makers. Additional complication was imposed by the limitation imposed by federal law on agency cooperation with non-federal agency groups and the SEG's operating guidelines.

Will Berson commented the SEG is supposed to "endorse" the project according to the congressional language. However, it is difficult for SEG members to do this unless they have a comfort level with the credibility of the EIS itself. He also stated that problems must be openly admitted, even if the details of these problems are not explained, rather than being "soft-pedaled." Will added that recognition of problems has been viewed as "failures" and some have varnished the truth to avoid admitting that problems existed.

Dave Kyler said that there was an important distinction to be made between the communication difficulties related to a technical topic like modeling, versus transparency and trust issues, such as openly

admitting problems when they are known to be occurring. Evidently, the remaining difficulty with the model (vertical mixing) was so prolonged that key MTRG members ultimately decided that it was impractical to invest more time trying to modify the original model, when another, more adaptable, model had become available. The question remains whether anyone on the SEG knew that this outcome was forthcoming, and if so, how far in advance they knew it.

Judy Jennings added that more access to certain meetings needed to be provided to SEG members, as well as greater responsiveness to questions and issues raised at SEG meetings. She recalled numerous occasions when she asked questions that were deferred indefinitely.

Several suggestions for improving communication were thrown out for discussion including:

- Exploring the possibility of a SEG member attending modeling team meetings as an observer
- Changing the structure (agenda) of the SEG meetings by one or more of the following:
 - Change the content/format Larry Keegan's status report
 - Focus each SEG meeting on 2 different topics/issues of the project
 - Reports for topics should be given by different individuals at each meeting making sure whomever gives the report coordinates with the corresponding SEG committee chair and federal agency/GPA/Corps contacts for that topic/issue

The committee decided to continue the discussion of suggestions for improving communication through a working group discussion page on the SEG website. The committee will try to schedule a second meeting the week of August 30th or September 6th. Teri requested committee members email their availability those weeks to her so a meeting date accommodating the most members may be chosen.