

MEMORANDUM FOR RECORD

SUBJECT: Savannah Harbor Expansion Project;
 Summary of 20 April Meeting of the Interagency Water Quality Team

1. Attendees:

GA DNR-EPD	Roy Burke III & Paul Lamarre
SC DHEC	Wade Cantrell
COE	Bill Bailey
COE-ERDC	Joe Letter
EPA	Jim Greenfield & Steve Whitlock
Harbor Committee	Larry Neal & Margaret Tanner
USGS	Paul Conrads (by phone)
TetraTech	Steve Davie

2. The meeting was held to review the status of EPA’s efforts to develop the Plan B D.O. Model. The group also discussed the review goals for the Plan B Hydro Model. Savannah District would like a letter from each agency expressing their position on the EFDC (Plan B) Hydro Model **by the end of April**. The Expansion Project’s Executive Management Group will be meeting in mid-May to decide whether to pursue the Plan A or Plan B models to evaluate impacts on the Expansion Project.

3. Jim Greenfield opened the meeting by distributing and discussing a revised agenda. We discussed EPA’s goals for their TMDL analysis and setting of a D.O. WQ standard for the State of Georgia. We also discussed the Corps need to develop or select and then apply models to identify expected impacts from a harbor deepening project. We agreed that EPA would take the lead for issues concerning TMDL development and technical development of the EFDC Models. The Corps would take the lead on issues concerning the application of the models to evaluate harbor deepening.

4. We discussed whether the group should adopt any **new processes** for their coordination on these efforts this summer. USGS suggested keeping a running list of “Unresolved Issues”. EPA said they intend to prepare a series of “Technical Notes” to document how the group reaches decisions on specific issues as they move along.

5. We discussed the **coarse and fine grids for the EFDC model**. EPA said the coarse grid was acceptable to them for use on the TMDL and on the water quality issues in the Expansion Project. Joe Letter thought that a finer grid would be necessary to catch subtle changes that could be produced by proposed changes in the harbor bathymetry. He agreed that a coarse grid could be used as a screening tool. He suggested using a fine grid to tune the predictions of a coarse grid if model run times become an important factor.

6. EPA stated that they were working on both WASP 6.1 and WASP 7.0. If they could get WASP 7.0 working in time, they would use that in their final calibration. If it wasn't working acceptably when the model development time is complete, EPA will use the WASP 6.1 version for their work.

7. We discussed **Boundary Conditions**. Concerning CBOD_u, MACTEC stated that they had completed the analyses of the latest samples collected near the harbor entrance. They would electronically distribute the results. In response to a question from the Corps, the group confirmed that model application runs should use the permit limits from the upstream dischargers, as well as those from those in the harbor.

8. We discussed **Loadings**. Concerning temperature, EPA will first use a sensitivity analysis to determine the sensitivity of the transport to this parameter. MACTEC said that one could back into a temperature loading for a power plant from the energy production and the heat rejection of the equipment. GA stated that we may need to consider heat loads under full permit limits in a critical conditions analysis.

Concerning the marshes, GA asked TetraTech to further analyze ATM's data to try to determine SOD levels from the marshes. This could assist in a further review of the BOD loads from the marshes.

EPA asked the group to review their files and provide LTBOD information related to the decision to use a $K = 0.06$. The group thought that issue was discussed after May 2000.

The City requested an additional look at multiple BOD decay rates. They said effluent from the paper plants has a $K = 0.02$ and produces a large total load, while the model assumes a $K = 0.06$ for the entire river.

The City stated that the Stone Container plant went back on line in 2002 with one production line. Its effluent is blended with that from Savannah Sugar and Port Wentworth municipal wastewater.

9. EPA said it would be using the mid to end of August 1999 period for the sensitivity analyses since the data are more complete over that period of time.

10. SCDHEC will pick a station in SC water that it wants EPA to run the model to compare the results to SC WQ standards.

11. Concerning **GA's review of the EFDC Hydro Model**, they stated that they were using the same review goals as they had used for the Plan A ATM Models. They reviewed their previous concerns about Plan B's performance on water surface elevation, flow, currents, and salinity. TetraTech will respond to GADNR's concerns in writing before the end of April.

GADNR stated that the “Expectations” were correctly “goals” and not criteria. ERDC concurred that the “Expectations” set quite a high bar for performance. All agreed with those characterizations and stated that they expected that when the goals were not met, the modelers would explain why they did not / could not reach those goals.

GADNR noted that the Hydro Model results possessed a phase shift that exceeded > 30 minutes half of the time. TetraTech explained that they wrote Appendix A to address comments that Dr. Billy Johnson had previously made about the Plan A Hydro Model concerning the tidal surge being a progressive vs. a standing wave. GADNR requested TetraTech compare the model results directly with the data.

12. The following day a smaller group reconvened to get more hands-on explanations of the working of the EFDC Hydro Model. Before that discussion got underway, I asked about the **input conditions for model application runs**. Roy Burke explained that GA and SC laws require use of 7Q10 flows before a permit decision can be made. EPA regulations require that dischargers and water withdrawals be examined at permit limits. Roy explained that modelers may conduct a “Natural Conditions” analysis as well as a “Critical Conditions” analysis. In a Natural Conditions analysis, all discharges would be removed, so that the model would indicate the conditions that could occur in a more natural state. I explained that the Corps normally uses a “most likely to occur” approach. Roy agreed that evaluating potential impacts from a harbor deepening using just a “Critical Conditions” approach may not present a complete picture for decision-makers. For application runs on the Expansion Project, I believe the group should identify the model input conditions for both a “most likely to occur” approach and a “Critical Conditions” approach. Roy explained that typically the input conditions for the application runs are determined after a model has been developed and calibrated. I stated that the Corps has been trying to define the input conditions now solely because of a desire to speed the project along – to be able to begin application runs as soon as the agencies agree that a model is acceptably calibrated.

To allow a more informed discussion of this topic EPA / TetraTech should obtain the following information for each discharger and water withdrawal: (A) permit limits, and (B) levels observed during the 1999 calibration period.

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