



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
 REGION 4
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AUG 25 2005

Colonel Mark S. Held
 District Engineer
 Savannah District
 P. O. Box 889
 Savannah, GA 31402-0889

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Subject: **Final Report - Hydrodynamic and Water Quality Model for the Savannah Harbor [May 20, 2005]**

Dear Colonel Held:

The U.S. Environmental Protection Agency, Region 4 (EPA) has completed its review of the subject report prepared by Tetra Tech (TT) for the U.S. Army Corps of Engineers – Savannah District (District). The report and its appendices describe the hydrodynamic, salinity transport, and dissolved oxygen models being used to characterize ambient conditions in the Lower Savannah River and Harbor environs. These documents also discuss the specifics as to how these models will be applied to predict water quality impacts based upon changes in pollution loading and proposed Harbor dredging. The documentation also includes information related to model calibration, validation, and confirmation.

Because this river system is complex hydro-dynamically, it was necessary to develop these water quality assessment tools in an evolutionary manner. TT originally formulated the Environmental Fluid Dynamic Code (EFDC) model for EPA to use in determining the Total Maximum Daily Loading (TMDL) for dissolved oxygen conditions in the Savannah Harbor. TT has subsequently updated/modified this model with a higher resolution model to better evaluate the water quality impacts of the various harbor dredging scenarios to enhance the navigation channel.

While the above report addresses most of the comments/concerns cited by EPA in its previous review of the TMDL model report, we understand that a more detailed analysis is currently underway to further document the model's application/performance. Jim Greenfield of my staff has been involved in the on-going water quality modeling efforts and is confident that any remaining issues can be addressed after additional model sensitivity runs are performed and evaluated.

The model development and review for upgrading Savannah Harbor has been a long and demanding process for all stakeholders. However, it is encouraging that we are in the final stages of producing an acceptable model for use in making the critical water quality decisions regarding this Harbor project and the TMDL. We will continue to provide support for the successful completion of this water quality modeling effort which is a priority for both of our Agencies.

Sincerely,



James D. Giattina, Director
Water Management Division