



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 4  
ATLANTA FEDERAL CENTER  
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APR 0 2004

Colonel Roger A. Gerber  
District Engineer  
U.S. Army Corps of Engineers  
P. O. Box 889  
Savannah, GA 31402-0889

SUBJ: Savannah Harbor Expansion Project Formulation of Alternatives and Modeling  
Comments, Chatham County, Georgia

Dear Colonel Gerber:

As requested during the March 17, 2004, interagency coordination meeting on the Savannah Harbor Upgrade held in Atlanta, the U.S. Environmental Protection Agency (EPA) has reviewed the Formulation of Alternatives Report for the Savannah Harbor Navigation Project, and the final report on the "Calibration of a Hydrodynamic and Water Quality Model for the Savannah Harbor." EPA conducted the reviews pursuant to its responsibilities as a cooperating agency on the Tier II Environmental Impact Statement for the Savannah Harbor Navigation Project. We have the following comments on the two reports.

Formulation of Alternatives Report

The Formulation of Alternatives report focuses on the method and the assumptions used in developing the range of alternatives for the Tier II environmental impact statement. According to the report, some of the design elements of the alternatives result from physical (vessel squat at a particular speed) and/or institutional (amount of under-keel clearance demanded by the pilot association) constraints. Nevertheless, we concur with the selected suite of alternatives and their rationale for formulation. Similarly, the range of alternate locations for the upgraded terminal is sufficiently comprehensive to meet the requirements of the National Environmental Policy Act. EPA's remaining concern is that the Report, as currently drafted, does not provide an objective baseline for cost comparison of alternatives, i.e., the estimates for the various alternatives should be normalized in terms of with- and without project conditions.

Hydrodynamic and Water Quality Model Report

The Hydrodynamic Water Quality Model Report was prepared by Applied Technology Management (ATM) under contract to the Georgia Ports Authority (GPA). The purpose of the modeling effort is to predict the potential dissolved oxygen and salinity changes associated with the various harbor deepening alternatives. EPA's evaluation, which included an independent review by our Office of Research and Development, has determined that the modeling effort is technically flawed and, as a result, lacks the capabilities to accurately forecast the dissolved

oxygen and salinity parameters. The primary problems with the model are that it does not accurately represent the vertical mixing of water within the estuary or simulate flows in the upper reaches of the system in the Savannah River.

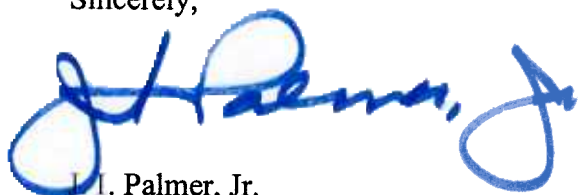
Throughout this project, EPA and other federal, state, and local stakeholders provided technical assistance to ATM with the expectation that the model would be an appropriate tool for predicting changes in water quality. It was only recently, after receiving the final report, that EPA and other stakeholders had enough information to fully understand the workings of the model, and its limitations. This review of the Final Model Report regretfully concludes that the ATM model is not appropriate to evaluate alternatives for the Tier II Environmental Impact Statement for the Savannah Harbor Navigation Project.

EPA is presently developing a hydrodynamic and a water quality model that will accurately predict water quality changes within the Savannah River estuary. EPA began work on these models last year to address the Agency's commitments associated with the Water Quality Standards Program and the Georgia TMDL Consent Decree. Data and analyses from the GPA's modeling work have been valuable to EPA's model-development efforts. When completed, these EPA models will be used to evaluate the appropriate water quality criterion for dissolved oxygen, and to develop a dissolved oxygen Total Maximum Daily Load for the Savannah Harbor.

With financial assistance from other Savannah Harbor stakeholders, EPA intends to expand the capabilities of these EPA models to evaluate the water quality and hydrologic impacts associated with the various harbor deepening alternatives. EPA will continue to cooperate with GPA, the Savannah District Army Corps of Engineers, and other stakeholders to support the EIS process.

We appreciate the Savannah District's efforts to coordinate this project with the EPA. If you have questions or need clarification, please have your staff contact Dr. Gerald Miller (404-562-9626) for issues associated with the alternatives analysis, or Jim Greenfield (404-562-9238) for issues related to the modeling effort.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Palmer, Jr.", written in a cursive style.

J. Palmer, Jr.  
Regional Administrator