

Status Report of the Modeling Technical Review Group (MTRG) For the Savannah Harbor Expansion Project as of February 5, 1999

Based upon comments made so far, we have put together a list of issues. These items have been put into two categories. The first category represents changes that we have general agreement on, and will be included in the revised Task Statements. The second category presents issues that have been brought up by individual MTRG members that we have not had a chance to discuss as a group, and/or that represent a significant increase in cost and scope for the study. Please provide us some comments on the issues in the second category, i.e. what are your feelings on including these items in the scope of work for the field data collection, and if you feel this is a good use of resources.

1. Items to be included in the revised Task Statements:

SEGP311: Chloride Study Field Data Collection

- ❑ Vertical profiling should be performed in Abercorn Creek near the City of Savannah Water Intake. Chemistry and velocities should be measured to verify the preconception of a well-mixed system above I-95 bridge.
- ❑ Bathymetry will be needed above I-95, including Abercorn Creek and Big Collis Creek. The Corps has not surveyed this area at all and the bathymetric data will be needed for the model refinement between I-95 and Clyo. The model refinement should include resolving the grid in Abercorn Creek, Big Collis Creek, and the Savannah River between Ebenezer Creek and I-95 bridge.
- ❑ A list of chemical parameters for the chloride grab samples should be included in the task description and the detailed monitoring plan.
- ❑ Grab samples should be taken during the reconnaissance survey in early April to determine if the instruments are in the optimal position (vertically in the water column and spatially in the cross-section).

SEGP312: Dissolved Oxygen Field Data Collection

- ❑ For the upstream boundary condition in the model, add a sampling station (grab samples) at Clyo to be analyzed for selected parameters.
- ❑ For all inhibited BOD5 tests, a companion BOD5 test that has not been inhibited should be performed, since inhibitors will inhibit nitrification as designed, but also have a tendency to inhibit CBOD reactions. It was noted that some inhibitors have an oxygen demand themselves.
- ❑ Turbidity and suspended solids should be added to the list of parameters to be analyzed.
- ❑ Based on historical data collected by GA EPD in the late 1980s and ATM in the summer of 1997, primary productivity is not considered a significant process in the Lower Savannah Estuary. To confirm this, periodic light profiling should be conducted in association with measuring the temperature and chlorophyll-a.
- ❑ QA/QC procedures (SOPs) from EPA-ESD field personnel will be included in the Monitoring Plan.
- ❑ Dredging could have a significant influence on the data collected this upcoming summer. If dredging were reduced or eliminated, the model would not have to account for dredging activities (O&M and agitation dredging) during the calibration to the summer of 1999 data set. The Corps should examine the scheduled dredging activities in the harbor and make an effort to keep dredging activities downstream of Fort Jackson from July 1 through September 30, 1999. GPA should also attempt to restrict agitation dredging during this time period.
- ❑ Law's laboratory should perform all of the longterm BOD analysis including the instream samples and the industry effluent samples. GA EPD has provided specific recommendations on the design

of the longterm BOD analyses. These recommendations will be forwarded to Law laboratory personnel for inclusion into the LTBOD analysis design.

- Atmospheric deposition potential should be examined before data collection begins to determine its significance in the Lower Savannah Estuary. Results from the Chesapeake Bay program and the Tampa Bay project will be utilized for this evaluation.
- ADCP transects should be provided to measure flow and velocity at the same time and place as the reaeration measurements performed by EPA-ESD.
- Examine marsh flux rates that EPD determined from their data collection in the mid to late 1980s.
- Longitudinal profiling of 10 stations established by EPD in the mid 1980s was recommended in order to quantify the spatial distribution of dissolved oxygen throughout the critical areas of the system and to provide comparison with historic dissolved oxygen isopleths.
- Identify any available stormwater water quality data collected by the City of Savannah to use in quantifying potential non-point loads below the I-95 bridge area.
- Bottom mounted ADCPs were recommended for installation along the Front River in the main channel to quantify the vertical profile and residual currents during the 1999 data collection.
- Concerns on servicing interval of 1-week for the continuous water quality instruments were raised. Agreed to perform mid-interval profiling of conditions near instruments to identify any drift in the continuous measurements.
- Include procedures for finalizing time series data in the QA/QC plan. Also, address issues of documentation and archiving.
- In addition to vertical profiling at the continuous gaging stations, lateral profiles should be done periodically to document any lateral variability at the site. If there is significant lateral differences, additional grab samples should be collected at these locations.

SEGP313: Marsh Salinity Field Data Collection

- A figure or table should be included depicting the representative marshes to be measured and specify the type of marsh anticipated (freshwater, saltwater, and/or intermediate mix) for each one.

2. Items requiring further consideration by the MTRG:

SEGP311: Chloride Study Field Data Collection

None at this time

SEGP312: Dissolved Oxygen Field Data Collection

- Mark Dortch of USACOE Waterways Experiment Station emailed recommendations that were read at the meeting. Some of his specific issues discussed at the meeting included the following:
 1. Adding DOC and TOC to the parameter list on the instream grab samples
 2. Not spending resources on measuring site-specific reaeration rates
 3. Concerns on the design of the marsh nutrient flux measurementsAdditional discussion by ATM directly with Mark Dortch was recommended to clarify these issues.
- Incorporate storm sampling into the plan. It was suggested that it would be beneficial to have additional sampling at a higher frequency immediately after a storm event.
- An issue of concern is the fate and transport of the point-source discharges with the deepening. To demonstrate that the model is accurately simulating the transport of the point-sources, consider dye studies (continuous injection) at either all the discharges or some appropriate subset of the discharges.
- A recommendation has been made to re-establish station GPA-07 (from the Tier I EIS field work) along the Back River between the tide gate and Rifle Cut.

SEGP313: Marsh Salinity Field Data Collection

- Marsh sediment samples should be analyzed for the following: grain size, cation exchange capacity, and mineralogy.