

MEMORANDUM FOR RECORD

SUBJECT: Savannah Harbor Expansion Project;  
Executive Management Group Meeting; 21 May 2004

1. The subject meeting was held in the Georgia Port Authority (GPA) Conference Center in Garden City, GA. A copy of the agenda and list of attendees are attached at the end of this document. The following organizations were represented:

US Environmental Protection Agency (EPA)  
US Fish and Wildlife Service (USFWS)  
National Marine Fisheries Service (NMFS)  
US Geological Survey (USGS)  
South Carolina Department of Health and Environmental Control (SCDHEC)  
Georgia Department of Natural Resources Environmental Protection Division  
Georgia Ports Authority (including consultants)  
Corps of Engineers – South Atlantic Division (CESAD)  
Corps of Engineers – Savannah District (CESAS)

2. This MFR is a detailed discussion of issues and decisions made at the subject meeting. It was prepared from notes taken by CESAS and GPA staff and is not intended to be a record of everything that was said during the course of the meeting.

3. The purpose of this meeting was to

- discuss the agencies reviewers' comments on technical defensibility of Plan B;
- discuss GPA's concerns identified in their 11 May 2004 letter to Federal regarding making a decision on the Plan A and Plan B modeling approaches;
- discuss cost and schedule estimates for further development of Plan A and Plan B hydrodynamic models; and
- obtain concurrence among the Federal agencies on which modeling approach to pursue for further development.

4. The following introductory remarks were made:

David Schaller of GPA welcomed everyone and expressed his concern about the gravity of the decision before the EMG. He stated that while it was the Federal agencies call on the decision, GPA believes that there are still a number of unanswered questions on the Plan A and Plan B modeling approaches. It is GPA's position that there is insufficient information to make an informed decision on the two modeling approaches at this time.

Colonel Gerber of CESAS thanked GPA for hosting the meeting and their continued support of the project. After introductions, he stated that the purpose of the EMG meeting was to make a decision on whether to proceed forward with the Plan A or Plan B modeling approach. He summarized the findings of the last EMG meeting and the tasks that were identified for discussion in the current EMG meeting. These were;

- discuss Plan B calibration report review and agency positions on Plan B;
- discuss estimated costs and schedules for further development of the Plan A and Plan B hydrodynamic models; and
- obtain concurrence from Federal agencies on the modeling approach.

Colonel Gerber indicated that only limited resources were available for this modeling effort and that the schedule to complete the modeling work was also important. Therefore, we have to make sure that the choice between Plan A and Plan B modeling approaches represents the best use of available resources.

##### 5. Plan B Review and Comments

Colonel Gerber then proceeded to the discussion of the Plan B calibration report review by the agencies' technical reviewers. He indicated that the reviewers had indicated that the Plan B hydrodynamic model appeared to be technically defensible, but there were issues such as grid resolution that needed to be addressed. He then asked each agency for their comments and position on Plan B. EPA, USFWS, and NMFS all supported further development of the Plan B modeling approach. Mitch King (USFWS) and David Rackley (NMFS) stressed the importance of resolving the grid resolution, boundary, and tidal marsh interactions issues identified by the reviewers. Colonel Gerber indicated that the Corps reviewer from the Waterways Experimental Station had raised similar concerns about the Plan B hydrodynamic model. Further discussions among the Federal agencies on these issues indicated that these did not appear to be fundamental problems with the Plan B hydrodynamic model.

GPA was asked for their comments and they indicated that they could not provide detailed comments at this time since they had not received complete documentation on the Plan B calibration. Based on the information available, they had concerns about the performance of the model and similar concerns as the other agencies with regard to grid resolution, boundaries, etc. GPA stated that it was their assessment that more information and further review was needed before a decision on the technical defensibility of the model could be made. David Schaller stated that even though GPA did not have a vote on the decision, that for the record they cannot support Plan B at this time.

The state agencies were asked for their input on the Plan B model and both states stated their preference for the Plan B model over the Plan A model. The states indicated that they had similar concerns as the other agencies with the Plan B model. However, they preferred to only work with one model. They indicated that the Plan B model was viewed

favorably because of the public domain nature of the Plan B model and the good support provided to users of the EFDC.

Colonel Gerber summarized this Plan B discussion noting GPA's concerns but also stating that the Federal and state agencies favored using available project resources for the further development of the Plan B modeling approach.

#### 6. GPA Comments/Concerns on Modeling Approach Decision

Colonel Gerber indicated that GPA had sent a letter to the Federal agencies requesting that a decision on the modeling approach be delayed. He indicated that although the Federal agencies had to make this decision, input from GPA was critical to a fair decision. He asked David Schaller to relate GPA's concerns for discussion by all the parties.

David Schaller indicated that he felt that GPA's concerns and input was not receiving adequate consideration in this decision making process. He indicated that GPA is concerned that a decision is being made too quickly without sufficient information and understanding of the two models capabilities and performance. GPA (David Schaller with support from consultants) thinks that their contractor has not been given ample opportunity to defend the Plan A model and that the Federal agency reviewers have not looked deeply enough into the model to understand it. GPA stated that Plan A had received a much more intense level of scrutiny than the Plan B model. While not opposing development of Plan B, GPA believes that Plan A should not be discarded. He indicated that considerable time and effort had been expended on this model development, working closely with the Federal agencies and stakeholders, and did not think it was appropriate to just discard the Plan A model. He also indicated that the Federal agencies' reviewers had provided formal support for the further development of Plan A in 2002.

David Schaller stated that his primary concerns centered on the fact that the Plan B model was developed by EPA to meet its TMDL needs, not the needs of the Savannah Harbor Expansion (SHE) Project. He pointed out that the Plan B model has not been developed to the same level as Plan A had. The Plan A model, on the other hand, was developed specifically for the needs of the SHE Project. Whether or not Plan B will be able to meet the needs of the project is not known at this time. Therefore, GPA believes we do not know that Plan B will be able to meet the needs of the project. He stated that it would be more prudent to develop the Plan B models for use in SHEP and compare the performance of both Plan A and Plan B models against the federal expectations document. The choice should be the model with the best performance.

As GPA was presenting its concerns and position on the Plan A and Plan B modeling approach the Federal and state addressed these concerns. The Federal agencies indicated that considerable time and effort have been spent trying to assist GPA, and its consultants, with the Plan A model development and trying to understand exactly how the model was constructed and functioned. The Federal agencies pointed out that concerns

and issue with the Plan A model were raised early on in the process, but they had accepted ATM's statement that they had tried physics-based models and they had not worked. Given these concerns and the unique application of the Boundary Fitted Hydrodynamic Model (BFHYDRO) developed for the vertical mixing (empirical based rather than physics-based) scheme, the Federal agency reviewers had to closely review and monitor the model development. The Federal agencies indicated that many of their suggestions were not considered since in subsequent reviews or meeting no appropriate modifications were noted. The Federal agencies became more concerned when EPA had to start a modeling effort on its own to meet its court-mandated TMDL standards requirements. EPA had originally planned to use the Plan A model for this, but ongoing delays in the model development and the lack of progress in ATM addressing the agencies concerns forced EPA to seek an alternative modeling approach. This alternative modeling approach became know as Plan B, when it was found that the Environmental Fluid Dynamics Computer Code (EFDC), a physics-based model, was able to handle the vertical mixing of the Savannah River with no modification of the basic model code. The level of concern by the Federal agencies increased when it was discovered that there apparently was a physics-based model that could be developed to meet the needs of the SHE Project. Although this was brought to light in the fall of 2003, ATM's efforts concentrated on explanation and documentation of their approach in an attempt to make it acceptable to the Federal agencies from a defensibility perspective. A draft report of the Plan A model was reviewed and the Federal agencies expressed concerns about the technical defensibility of the model. After review of the January 2004 Final Calibration Report for the hydrodynamic model, the Federal agencies still judged the vertical mixing portion of the model was not defensible. GPA was afforded the opportunity to provide further information about the vertical mixing scheme, but this was not sufficient to cause the Federal agencies to revise their opinion of the model's technical defensibility. In March 2004 the Federal agencies determined that the Plan A model vertical mixing scheme did not pass the initial test of technical defensibility and, based on the established review protocol, that no further review of the Plan A model was warranted. At this time an initial calibration report of the Plan B EFDC model was presented to the Federal agencies for review and comment. At the end of April 2004 it was found that the vertical mixing scheme of the Plan B model was technically defensible and that further development and review were warranted.

The issue of technical defensibility was an important issue to the Federal agencies, but GPA felt that performance was equally important. The Federal agencies, led by Jimmy Palmer, explained that the technical defensibility of a model was important in these types of projects. A model that is applicable to a variety of projects, that has a long history of intense scrutiny, and that has proven itself over the years is much easier to defend than a model that is unique with no history and a lack of substantial peer group review. Plan B meets these criteria and Plan A does not. Additionally, the Plan A model has technical shortcomings which need to be overcome. A model can perform well, but not be technically defensible for these reasons. The performance of the two models is not fully known at this point, but preliminary comparisons have been run and in net the performance of the two models are similar. However, the Plan B model has a much

coarser grid resolution than the Plan A model and Plan B's performance may actually improve with greater grid resolution.

Confidence in the outcomes of the development of the two models was another issue presented by both the Federal and state agencies. There was a general lack of confidence that Plan A could be fixed and properly running in a timely manner, given the history of the Plan A development. The Federal and state agencies expressed their frustration with the lack of detailed updates and the complexities of the calibration process for the Plan A models. The Plan B model development on the other hand has proceeded quickly, without similar frustrations. Jimmy Palmer indicated that EPA and its contractor are actively working with the other Federal agencies and states to adapt the Plan B model to fit their particular needs. The Plan B model has passed the first test of technical defensibility and the modifications needed to make the model more appropriate to the needs of the SHE project are known. Additionally, the proven track record of the EFDC model and its availability within the public domain creates greater confidence in its technical defensibility, adaptability, and application for the SHE project's and state's needs.

Colonel Gerber summarized this lengthy discussion by indicating that the Federal and state agencies shared GPA's concerns about the issues with the Plan B model and that no one wanted to be in this same position with Plan B down the road. However, based on limited resources and time being available for this modeling effort, a decision had to be made on how best to utilize these resources. From the discussion, it was clear that the Federal agencies had more confidence in the Plan B modeling approach than the Plan A modeling approach. He asked that the Federal agencies and state agencies confirm this and they all confirmed this position.

## 7. Decision on Modeling Approach

Following a break for lunch, Colonel Gerber (CESAS), Jimmy Palmer (EPA), Mitch King (USFWS) and David Rackley (NMFS) met privately to discuss the meeting's progress and to formulate a decision. It was decided that the issues and concerns had been sufficiently discussed and addressed and the decision needed to be put on the table. It was decided that Plan A would be put on the shelf for now and that development of Plan B would continue. It was also decided that the development of Plan A had been important to the timely development of Plan B and the associated costs were part of the project costs. Once the Plan B was developed and calibration complete a final decision would be made on whether to proceed with Plan A or Plan B. If Plan B met the Federal expectations and performance criteria, it would be the model of choice. If not Plan A would be the fall back position and would be reexamined for further development.

The full meeting was reconvened and Colonel Gerber presented the decision to GPA. Colonel Gerber stated that GPA's support was important to the further development effort given its responsibility for funding the underpinning work for the SHE Project. David Schaller indicated that GPA did not agree with the decision and indicated that GPA should have had the opportunity to have further input into the decision. David

Schaller also indicated that GPA did not agree with some of the support documentation used for the decision and that GPA would be providing appropriate input on this. He also requested and was provided with a copy of the decision Memorandum For Record that had been prepared for the meeting. However, he indicated that GPA would support the further development of Plan B. David Schaller acknowledged that GPA would receive credit for the Plan A model costs to date, subject to auditing, but expressed concern about whether GPA would receive credit for the Plan B work if it proved unacceptable down the road. Jimmy Palmer indicated that it was highly unlikely that they would receive credit for the Plan A work and not receive credit for the Plan B work.

After further discussion on the decision between GPA and the Federal agencies, Colonel Gerber asked EPA, NMFS and USFWS if they concurred with the decision to shelve the Plan A model and to proceed with further development of the Plan B model. The three Federal agencies all concurred and agreed to indicate their concurrence on the final MFR document. It was agreed that the draft decision MFR prepared for the meeting would be modified to reflect the decision on Plan A and Plan B and that GPA could provide comments on the draft decision MFR for consideration.

Colonel Gerber thanked everyone for their efforts and indicated that an important decision had been made and now we need to make it happen for everyone's benefit.

Prepared by:

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Savannah District

**SAVANNAH HARBOR EXPANSION PROJECT**  
**Executive Management Group**  
**Meeting Agenda for May 21, 2004**

**Location:** Conference Center, Georgia Port Authority Administrative Building,  
2 Main Street, Garden City, Georgia

**Time:** 10:00 AM to 2:00 PM

- I. Introductions
  
- II. Why we are here (Colonel Gerber)
  - A. April 7, 2004 EMG meeting decision
  - B. Agency review comments and positions on Plan B
  - C. Cost and schedule requirements for Plan A and Plan B
  - D. Final decision on Plan A and Plan B
  
- III. Plan B review and comments
  - A. Overview (Colonel Gerber)
  - B. Comments and positions from all Agencies (Colonel Gerber)
  - C. Comments from GPA (David Schaller)
  - D. Summary (Colonel Gerber)
  
- IV. GPA Comments/Concerns
  - A. Summary of GPA concerns (David Schaller/Consultants)
  - B. Discussion of GPA Comments/Concerns (All agencies)
    - 1. Adequacy of Plan B Review
    - 2. Plan of Action
  - C. Summary (Colonel Gerber)
  
- V. Decision on Plan A and Plan B
  - A. Information Paper (Bill Bailey, CESAS)
  - B. Agency Responses to GPA Letter of May 11, 2004 (Ken Derickson, CESAS)
  - C. Decision MFR (Colonel Gerber)

1. Lead Agency decision
- D. Discussion on Lead Agency Decision
- E. Concurrence/Non-Concurrence on decision MFR by Federal Cooperating Agencies
  1. EPA (Jimmy Palmer)
  2. USFWS (Mitch King)
  3. NMFS (David Rackley)
- F. Summary (Colonel Gerber)

## VI. Path Forward

- A. Corps (Colonel Gerber)
  1. Lessons learned
  2. Future Role
  3. Expectations from GPA
- B. Other Federal Agencies Expectations (Jimmy Palmer, Mitch King and Miles Croom)
- C. GPA Expectations (David Schaller)
- D. State Agencies Expectations (Alton Boozer and Carol Couch)

## VII. SMART Role

- A. Prepare a plan for model development based on SHE project needs.
  1. Incorporate uncertainty and multi-parameter sensitivity analyses
  2. Decide on grid resolution, boundaries and tidal marsh interactions
  3. Develop a detailed schedule and cost estimate
- B. Present plan to PDT for evaluation and approval on June 23, 2004
- C. Keep states actively involved in model development
- D. Provide timely status reports for the Stakeholders Evaluation Group meetings

## VII. Closing Remarks

- A. GPA (David Schaller)
- B. EPA (Jimmy Palmer)
- C. USFWS (Mitch King)
- D. NMFS (David Rackley)

E. CESAS (Colonel Gerber)

**SAVANNAH HARBOR EXPANSION PROJECT  
EXECUTIVE MANAGEMENT GROUP**

**ATTENDANCE ROSTER  
May 21, 2004 MEETING**

ORGANIZATION	LAST	FIRST	TITLE	EMG Member	ATTEND	E-Mail
Applied Technology & Management	Ellis	Bo	GPA Environmental Manager	N	JNE	jeilis@appliedtm.com
CESAD	Small	Daniel	Planning Management	N	DS	Daniel.L.Small@sad01.usace.army.mil
CESAD	Waddell	Jim	LEAD, SAV. DIST Support TEAM	N	W	JAMES.M.WADDELL@USACE.ARMY.MIL
CESAS	Bailey	Bill	Lead Physical Scientist	N	WGB	William.G.Bailey@sas02.usace.army.mil
CESAS	Derickson	Ken	Project Manager	N	1/10/04	W.K.Derickson@sas02.usace.army.mil
CESAS	Gerber (Col)	Roger	District Commander	Yes	GR	Roger.A.Gerber@sas02.usace.army.mil
CESAS	Parrott	Dan	Chief, Civil Works Mgmt	Yes	-	Daniel.L.Parrott@sas02.usace.army.mil
CESAS	Schmidt	David	Chief, Planning	Yes	JSK	David.V.Schmidt@sas02.usace.army.mil
CESAS	Urbine	Wayne	Deputy District Engineer	Yes		Anthony.W.Urbine@sas02.usace.army.mil
EPA	Giattina	Jim	Chief, Water Mgt Division	N	JGS	giattina.jim@epa.gov
EPA	Greenfield	Jim	TMDL Group	N	W	greenfield.jim@epamail.epa.gov
EPA	Miller	Gerald	POC for EPA	N		MILLER.GERALD@EPAMAIL.EPA.GOV
EPA	Palmer	J.I.	Regional Administrator	Yes	JHP	palmer.jimmy@epa.gov
EPA	Barnes	Allen	Asst. to the Regional Admin.	N	AB	barnes.allen@epa.gov
GPA	Moorer	Hope	GPA Program Manager	N	HM	hmoorer@gaports.com
GPA	Schaller	David	Deputy Executive Director	Yes	DS	DSCHALLER@gaports.com
GPA	Vaughn	Cathy	Admin Asst	N	CV	cvaughn@gaports.com
Lockwood-Greene	Keegan	Larry	GPA Project Manager	N	LK	lkeegan@lg.com
NMFS	Brownell	Pres	POC for NMFS & Dept. of Commerce	N	PS	prescott.brownell@noaa.gov

	ORGANIZATION	LAST	FIRST	TITLE	EMG Member	ATTEND	E-Mail
	NMFS	Croom	Miles	Asst. Regional Administrator	Yes		miles.croom@noaa.gov
	NMFS	Rackley	David	South Atlantic Office Area Mgr.	N	DNR	david.rackley@noaa.gov
	REES Engineering	Rees	Morgan	GPA Consultant	N	MAR	morganrees@earthlink.net
	USFWS	Eudaly	Ed	POC for USFWS & Dept of Interior	N		ed.eudaly@fws.gov
	USFWS	Grabill	Bill	Regional Area Refuge Supervisor	N		bill_grabill@fws.gov
	USFWS	King	Mitch	Deputy Regional Director	Yes	JMS	mitch_king@fws.gov
	USFWS	Hall	Tim	Field Supervisor	N	JNA	tim_hall@fws.gov
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✓	SCDHBC	Boozer	Alton	Chief, Bureau of Water	N		boozerac@dhec.sc.gov
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