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To: Carl Cerco, Sung-Chan Kim
From: Earl Hayter
Subject: Comments on July's Meeting
Date: August 23, 2006

My main concern is related to the schedule, and the significant amount of work that still needs to be performed prior to next April. I was glad to read in your last Email message that other people are now helping Sung-Chan. I talked to Joe Gailani about Sung-Chan's model development when I saw him in Seattle late last month, and he said he would be willing to help Sung-Chan as well. A few specific comments are given below.

- Despite Allen's arguments to the contrary, I agree with the decision to use one cohesive size class and two noncohesive size classes. I think there are too little data to adequately calibrate the model using two cohesive size classes.

- For whatever reason, I did not realize that SEDZL had already been incorporated into the Chesapeake Bay (CB) water quality model until this past meeting. I strongly urge you to consider a parallel track where SEDZL is applied and calibrated on one "track", and the ROMS noncohesive sediment transport and Larry's cohesive sediment transport algorithms are incorporated into the water quality model on the other track. As you know, one always runs a risk when incorporating new modules into a model, of not completing the modeling effort on schedule. The latter is especially true in this case since these new algorithms will need to be peer reviewed by Allen.

- Model calibration and validation/confirmation of the new sediment transport model should be performed using whatever sedimentation records exist in the Bay, e.g., in navigation channels.

- The settling velocities for flocculated cohesive sediments should be calculated as a function of (at a minimum) the local concentration of suspended cohesive sediments.

- As I have commented on during previous meetings, my modeling experience has convinced me of the need to spin-up a sediment transport model for at least one year, longer if time allows. This is especially important when there are significant portions of the modeling domain for which sediment bed properties (e.g., grain size distribution, bulk density, % OC) are not known as is true in the CB modeling domain. The year spin-up

should ideally be performed using the hydrologic record from a year in which several "big events" occurred.