

MEMORANDUM FOR RECORD

1 February 2007

SUBJECT: Chesapeake Bay Sediment Model Review Meeting

The subject review committee met on 9 January 2007 (for the seventh time) at the EPA's Chesapeake Bay Program Office in Annapolis Maryland. Presentations were made by Drs. Cerco and Kim on recent developments and status of the sediment transport as well as some other model components. Emphasis was on the sediment transport model.

The hydrodynamic run 92 has been looped through the sediment/water quality model several times. Negative sand concentrations developed but a revised mass balance seems to eliminate most of these. No bank loads have been included yet. The M-concept, whereby erosion depends on the mass of previously eroded material, could be implemented in several ways. One is to initialize M whenever erosion goes to zero. Need to bring bed closer to equilibrium.

The R92 suspended sediment concentrations were not too bad near the upper and lower boundaries but too high in the central bay area. The bottom level was the most out of agreement with data. Surface values were low and in the right range. The typical U^* near station CB7.4 was about 5 cm/sec (about 9 Pa maximum!). No bed was left as it was completely eroded after spin-up.

Some strategies for improving the sediment model were discussed. Alternate methods for initializing M in the erosion model will be formulated and tested at ERDC. The shear stresses will be checked. Negative sand concentration were still observed near the ocean boundary and the problem of specifying this boundary for sand concentration was discussed.

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