

March 24, 2003

Mr. Mark Voorhees
Office of Ecosystem Protection
U.S. Environmental Protection Agency – Region I
One Congress Street
Boston, MA 02114-2023



Re: TMDL Hydrodynamic Model Review

Dear Mark:

Mirant understands through Betsy Mason, that the calibrated hydrodynamic model and associated results will be available on April 15th in anticipation of the upcoming TMDL team meeting on April 29th where the model and the associated calibration results will be discussed. As you are aware, Mirant has a vital interest in the model validation, calibration and results since, as we understand, the results of the TMDL study, which will rely heavily on this hydrodynamic model, will be used to eventually set permit limits for the Mirant Kendall facility.

In order to be able to review and comment on the model by April 29th our team needs some background information now. This information should be available and probably has already been communicated from the modelers to the agencies in the past. The requested information we need to start our analysis is as follows:

- Current version (or update if necessary) of the previously distributed model documentation report
- Meteorological data files used as a model basis
- Boundary Conditions over relevant time steps: River flows (withdrawals and inflows), Temperatures, Salinities, wind characteristics etc. for the following boundaries:
 - Watertown Dam
 - Kendall Station
 - Blackstone Plant
 - New Charlestown Dam
 - Locks and sluices governing inflows and outflows
 - Any other locations selected as boundaries
- Initial conditions for all physical and eutrophication variables and source data from which they are developed
- Diffuser orientation and operating assumptions
- Full description of algorithms and relationships among variables, including but not limited to relationships between algal growth (by algal type) and each of the following: temperature, temperature changes, individual nutrients, salinity and salinity changes, light


- and removal from light, wind, precipitation events, turbulence, and grazing by predators including but not limited to zooplankton and fish (clupeids).
- Full documentation for physical and chemical assumptions about when/if/how constituents (e.g., salinity, oxygen, nutrients) will be redistributed by diffuser
- Input data files

As soon as the model and calibration and initial results are available, we request the following information to allow us analyze the model results:

- Results files from model run
- Measured data that model is compared to for calibration and validation, including documentation of sources.
- Error analysis showing predictive accuracy comparing measured to predicted conditions
- Demonstration that calibration and validation has occurred for representative range of foreseeable cases, including, for example, extremes of stratification like 2002 and diffuser utilization scenarios including but not limited to flow at same level as MDC aerators
- Any changes to information above for different scenarios

Mirant looks forward to receiving the preliminary model documentation and input data to prepare us to begin our review. We would like to thank you in advance for your cooperation in coordinating this request.

Very truly yours,



John Reynolds

cc: David Webster, EPA
 Betsy Mason, EPA
 Sara Cohen, EOEA
 Todd Callaghan, MA CZM
 Kathy Baskin, CRWA
 Mark Doolittle, MDC
 Glenn Haas, MA DEP
 Phil Weinberg, MADEP
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