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Memorandum

Date: September 25, 2009

To: Peter Kozelka, Ph.D., US EPA, Region 9

Cc: John Craig, Steve Carter, Amy King, Tetra Tech, Inc.

From: John Hamrick, Ph.D., P.E.

Subject: Response to comments from the Port of Los Angeles and Port of Long Beach on salinity and sediment memos (memos dated June 30, 2009 and July 14, 2009, respectively)

Introduction

This memorandum provides responses to comments by the Port of Los Angeles and Port of Long Beach. The responses are presented after a summary of the original comments.

Response to Comments

1) Besides the use of different LAR flow and wind data in the model as described in the salinity memorandum, were there other changes made to the TMDL Model?

   Response: Use of hourly observed Los Angeles River flow (gage F319) and spatially varying wind field data based on the NOAA Ports Wind observations were the only changes made to the model, other than the switch to hourly model inputs. It is important to note that the modification from daily inputs to hourly inputs plays a significant role in the model predictions and may account for some of the changes that were noted in the comment.

2) Since using LAR measured flow can result in substantial change in the TMDL Model-predicted hydrodynamics of the Harbor, are you planning further calibration of the watershed model so that its output is more in line with measured flows?

   Response: No further calibration to the watershed models are planned. The Los Angeles River watershed model was calibrated with observed data through 2001 for flows, total suspended solids concentration, and metals concentrations.

3) The memorandum shows reasonable prediction of sediment deposition at the LAR Estuary with the changes in the watershed loading. Were there also changes in sediment deposition at the San Gabriel River (SGR) Estuary?

   Response: All watershed inputs were updated to hourly inputs and verified for accuracy. Sediment deposition was also improved at the San Gabriel River Estuary. These changes will be discussed in the final modeling report.

4) Harbor Model results presented in the earlier report (Tetra Tech 2009, hereafter as 2009 Report) show a reduction in copper and zinc (Figures D-9 and D-12, respectively) at the LAR Estuary due to erosion. Has changing the sediment loadings from the LAR and subsequent deposition in the LAR Estuary resulted in changes to the copper and zinc concentrations in the LAR Estuary (now there shouldn't be re-suspension of metals from the bed)?

   Response: Changes to the copper and zinc concentrations have occurred in the LAR Estuary due to the recent model modifications. These changes will be discussed in the final modeling report.

5) Given this difference in the inflow, and that metal loadings are proportional to the flow (for the same metal concentrations), does it mean that the metal loadings from the LAR have been under-estimated for the model simulations shown in the 2009 Report?

   Response: As mentioned above, the watershed models have been calibrated for metals concentrations (not loads). Therefore, the predicted concentrations are accurate; however, with increasing flows, loads will also increase.

6) Given that the Watershed Model has been rerun to generate hourly input for the Harbor Model, will all the model simulations presented in the 2009 Report be updated using hourly flow and loading inputs?

   Response: All results presented in the final modeling report will be based on hourly flow and concentration inputs.