

G-3

TEAM MEETINGS

**MEMORANDUM FOR RECORD
(GAINES)**

SUBJECT: Review of Traditional Kate-Aubrey Model Calibration and discussion of comparison analyses- Micro-model Evaluation

1. Attendees: Rob Davinroy and Dave Gordon, MVS
Steve Maynord, Charles Nickles, and Tom Pokrefke, WES
Andy Gaines and Wayne Max (Comparison analyses only) MVM
2. Discussions pertaining to the present state of calibration for the traditional Kate-Aubrey model focused on which prototype survey was being used to assess calibration and how well the model did (or did not) meet the objectives stated in the November 1999 meeting in Rolla, MO. The calibration objectives defined in the November 1999 meeting were that the model would reproduce the left-right, right-left, left-right crossing sequence observed in the 1975 and 1976 prototype surveys. The present model reproduces the lower two crossing sequences fairly well; however, the upper crossing sequence does not faithfully reproduce the thalweg alignment observed in the 1975 and 1976 prototype surveys. The model more resembles the 1973 prototype survey condition in this area. The shallow depths through this crossing are observed as indicated in the prototype surveys. The high bar along the left descending bank in the vicinity of the upper left-right crossing does not fully develop in the model.
3. Based on discussions about model to prototype agreement, the decision was made to consider the present model calibrated. As such, the following steps were outlined:
 - a. The present model would be used for the base condition.
 - b. The existing wire mesh structures will be replaced with new wire mesh because of extensive rusting problems. The present openings in the rusted mesh may not provide the desired roughness for model conditions (Per Dave Gordon).
 - c. Kate-Aubrey dike No. 2 will be lowered to reflect pile-dike construction in an effort to determine whether the model bathymetry can be improved. If the model response does not improve, the dike will be returned to the design elevation(s) of +15 LWRP (Per Dave Gordon).
 - d. Features used to achieve calibration will be described in detail, particularly elements that may have no apparent physical basis in the prototype (Per Steve Maynord).
 - e. Run the future predictive case for 1998-1999 prototype conditions (Per consensus agreement).
 - f. Run the past predictive case for 1969-1970 conditions (Per consensus agreement).

- g. Use calibration information obtained from the 2X Kate-Aubrey model regarding flow in the back channel area (just upstream of Kate-Aubrey dike No. 1) to evaluate if the problematic crossing improves (Per Tom Pokrefke).
 - h. After all runs are completed (subject to MVM alternative analysis), remove all screen roughness along banks with flow added in the back channel area (see g. above). This run is subject to time availability. (Per Rob Davinroy)
- 4. Comparison of model and prototype agreements was discussed at length. Specifically, the work completed by WES was used as the basis for discussions. The averaging techniques used in summarizing the WES data were considered as a possibility for consolidating the information into a concise format – one that could be quickly referenced. However, there were problems inherent with various averaging methods mentioned. For now, the method presented in the WES data will be adopted for further comparison work.
- 5. Additional comparison parameters will be added to the WES procedure for all models analyzed. Cross-sectional area below elevation -10.0 LWRP will be included. Tables and plots indicating the variability in prototype surveys will be added where data permits. All prototype surveys used in a particular model effort will be averaged; the percent differences between each individual survey and the “average” survey will then be analyzed. These comparisons will provide information necessary for evaluating whether the average differences between model and prototype are/are not commensurate with the natural variability in the prototype.
- 6. The Vicksburg Front model work was discussed. Currently, MVS has received funding from WES (\$10,000) for this effort; however, an **additional \$20,000** are needed from MVD to complete this effort. Funding from R&D sources were reduced from anticipated levels; therefore, the funds must be sought from the Channel Improvement (or MR&T) projects. The specific conditions to be modeled were discussed with no stated time frame noted for the effort. Steve Maynard and Rob Davinroy are to check the following:
 - a. What is the calibration timeframe? Tentative answer was that previous calibration data (e.g. 1997-1998 surveys) would be used for calibration.
 - b. What is the target date for the “past” condition? Tentative answer was mid-1980s, to be verified subsequent to the current meeting.
 - c. Determine whether the banklines have changed between calibration time period and the past condition.

7. Funding for comparison effort in MVS was discussed. Presently, additional funds are being transferred from MVM (\$20,000) to MVS to continue the research support. Funds transferred to MVS to date are \$20,000. Total funding provided to MVS, including the current transfer, is \$40,000. This exceeds the scheduled amount of \$35,000 for FY2001.
8. MVD funding of \$15,000 for GPS float data collection in the Morgan City reach will be addressed pending reply by the US Coast Guard. Coast Guard approval/cooperation must be obtained to begin collection efforts. Contacts with MVN and the Coast Guard have not indicated whether the data collection activity can be scheduled for this high traffic area.
9. Current progress:
 - a. Submittal of ASCE Forum Article - Slipped (20 days). Final submittal completed 8 Feb. 2001 with anticipated publication date of May 2001.
 - b. Calibration of Traditional Kate-Aubrey Model - Slipped (40 days). Team review meeting deferred till 7 Feb. 2001 resulted in schedule slippage.
 - c. Future conditions Trad. Kate-Aubrey Model - Slipped (30 days). See note 9b.
 - d. Past conditions Trad. Kate-Aubrey Model - Slipped (20 days). See note 9b.
 - e. MVS comparison effort - Slipped (??). Work is progressing, but no anticipated completion date specified.
 - f. Prepare final methodology for making historic model/prototype comparisons - Slipped (25 days). Team review meeting deferred till 7 Feb. 2001 resulted in schedule slippage.
 - g. Remaining work items are progressing toward scheduled completion dates.
 - h. No net slippage in completion of evaluation effort is anticipated.

Andy Gaines, MVM
Project Manager