

MINUTES
OF THE
UPPER MISSISSIPPI RIVER SYSTEM FLOW FREQUENCY TASK FORCE MEETING
21 JUNE 2001 – ST. LOUIS, MISSOURI

The meeting began at 8:10 a.m. with welcoming remarks, introductions, and a discussion of the schedule by the Chairman, Mr. S. K. Nanda. A complete list of the speakers is provided in the transcript, which is available on request from the Rock Island District, Corps of Engineers. These minutes highlight principal speakers and issues addressed.

Mr. George Gitter reported that the original study completion date, September 2001, is now approved to be changed to March 2003, a total extension of 18 months time. The hydrology is essentially complete and the current effort is on developing the hydraulic modeling using UNET and digital terrain information.

Dr. David Goldman from the Hydrologic Engineering Center provided a summary and review of accomplishments. The discharge frequency relationships have been addressed and appropriate relationships between regulated and non-regulated flows have been determined. He then discussed the task of computing the uncertainty in the relationships. Dr. Goldman's approach was to liken computing uncertainty to a sensitivity analysis. This process is critical to the process of levee certification in conjunction with FEMA requirements. Mr. Nanda pointed out that this will be accomplished for the main stem levees only. Dr. Goldman went on to say that Mike Gee from the Hydrologic Engineering Center is working with the districts to determine what should be the sensitivity parameters for the UNET model. In response to a question from Mr. Gibbs, Dr. Goldman responded essentially that we will have uncertainty estimates for the whole frequency curve; you'll know the confidence bands about the whole stage versus probability relationship. It was then pointed out that there was no plan for the Corps to decertify existing certified levees on the basis of these new relationships using uncertainty.

After a brief recess Mr. John Burant from the Rock Island District then made a presentation giving a general overview of the hydraulic modeling effort including the reasons for doing one, the steps involved, how the results will be used, and finally how pertinent information will be disseminated to the public. Three purposes discussed included 1) develop stage flow relationship, 2) quantify impacts of reservoirs, and 3) evaluate impacts of levee overtopping. The models will also be valuable in future floodway analysis and inundation mapping. The steps in the modeling effort include 1) collect topographic data, 2) format data and put it into the model, that is build the model, 3) calibrate the model – first for flow and then for stage, 4) finally, production runs including simulation of the period of record. St. Louis District has gotten to the point of having some preliminary production run results. Omaha and Kansas City Districts have all the data and the models built and are in the calibration phase. Rock Island has all the data and is beginning to build the models by inputting the data into the UNET program. And St. Paul District is still waiting for some of the topographic data and has nothing in the form of cut cross sections. Dissemination of the data is a primary concern and was briefly discussed. It is planned that for all districts, when the data is available, it will be accessible by the public through the Internet. Until that is accomplished however, POC's will be established and the data will be available through personal contacts.

Mr. Ron Dieckman from the St. Louis District then presented the status of the modeling effort for his district. Since the St. Louis District received the topographic information ahead of the other districts, they are well into the UNET modeling phase of the study. He presented rating curves developed by the modeling process for three gage locations, St. Louis, Chester, and Thebes. The model results seemed consistent with rating curves based on USGS flow measurements, with general opinion, and with existing elevation frequency profiles. However, slightly lower discharges were indicated compared to flows currently used by the St. Louis District. Mr. Ducharme suggested evaluating the effects of the newer reservoirs separately and Mr. Dieckman agreed that it would be a worthwhile effort.

Next to speak was Laura Abney, who has taken over the responsibilities of Chairperson for the Public Involvement Group (PIG) coordination from Paul Soyke. She summarized the PIG meeting and presented the following major points: 1) they would like access to all data and assumptions used in the study (levee data in tabular form), 2) more sensitivity analysis including total containment and flood fighting, 3) confirmation of levee data by the relative levee districts, 4) increased coordination between COE and FEMA to update maps as soon as the information is available, 5) explanation of decreasing flows in spite of recent high water events, 6) UMMIRA would like to see an SPF developed and, 7) encouraged the agencies in the task force to take ownership and have acceptance of the final product that comes from the study. The tentative plans for open houses to be held in November of 2002 were also discussed.

Dr. Gene Stakhiv was next on the agenda and presented the status of studies associated with evaluating the long-term hydrologic relationships, global warming, and natural cycles. He reported investigations of all kinds of information and applying various models. The conclusions to date were that the information is all preliminary and a draft report to hopefully be completed by the end of September probably won't be completely satisfying. He noted that a recent National Academy of Science report concluded that evidence of global warming and climate change is inconclusive and that natural climate variability could explain all of our experience. The Institute of Water Resources (IWR) has also studied land cover and channel development aspects but with no definite conclusion as to trend impacts could be reached. The primary conclusion is that more work in evaluating trends is needed.

After a lunch break Dr. Stakhiv's presentation was discussed. Work on TP 40 as reported by Dr. Julian indicated increased variance associated with rainfall records. This discussion ended with a consensus that the Flow Frequency Study approach is appropriate and essentially as good as it can be, given the existing data and analysis techniques.

Mr. Ken Hinterlong made a brief presentation on the part of FEMA. He indicated a desire for a three way partnership between FEMA, the Corps, and the States to accomplish an estimated 30 million dollars of effort related to updating mapping consistent with this study. He also indicated some personal (not necessarily agency) support for conservative profiles which would result from the possibility of "strong" levees overtopping but not resulting in complete breach development. At the end of Mr. Hinterlong's presentation Mr. Nanda made it clear that FEMA has a definite position calling for no flood fighting and levee failure at overtopping. He went on to say that if any agency has differing opinions as to levee failure assumptions they must be presented immediately.

The representatives of the various States involved then made brief comments. After comments from the States, Mr. Nanda invited comments from representatives of the other offices and agencies. The comments were generally in support of the study and various opinions were offered regarding the importance and methodology of inundation mapping and floodway development.

Dr. Ming Tseng reviewed the progress of the study to date and indicated his recognition of the importance of the mapping effort to follow. He warned however about the difficulties of funding and that the partnering approach suggested by FEMA would be a problem for the Corps if new funding is not made available. Mr. Nanda acknowledged Dr. Tseng's important contributions in obtaining funds for the Flow Frequency Study and how much he will be missed since his retirement will likely occur before the next Task Force Meeting.

Then Mr. Nanda thanked the St. Louis District for serving as host, and all the others who helped put together the conference. Where upon the meeting concluded at 3:45 P.M.