CEMRK-ED-HR 9 May 1990

MEMORANDUM THRU Chief, Operations Division, ~~ATTN: OD~~

FOR OD-PP

SUBJECT: L-385 Elutriate Re-Evaluation and Mixing Zone Determination for Renewal of Missouri River Commercial Dredging Permits

1. As requested in a 22 March meeting with OD-PP and PD-R, Missouri River elutriate testing data was reviewed by ED-HR to identify, under current water quality and drinking water standards, possible dredging contamination problems. The data also was utilized in calculating a mixing zone for dilution of dissolved contaminants. The available elutriate testing (Encl. 1) was done in 1985 on the bed materials between Mile 370 and 375 for the MRLS Unit L-385 Project originally to evaluate the potential for contaminants (if present) to be released in open water if a dredging operation was used to make the random fill for this MRLS Unit. Additionally, data on dredge-suspended solids was utilized for determination of a mixing zone for settling of these suspended materials. These zone estimations may be used by OD-PP in re-evaluating Missouri River commercial dredging permit restrictions. They may also be used by PD-R in its Section 404 (b)(1) work on the L-385 Project.

2. Analysis (Encl. 2) following the elutriate testing in 1985 revealed that ten contaminants exceeded ambient (receiving) water concentrations in at least one sample each, but none exceeded drinking water standards in effect at that time. During L-385 Project coordination (Encl. 3 & 4), the Kansas City Missouri Water & Pollution Control Department and the Corps of Engineers agreed that cyanide and five metal contaminants -- arsenic, antimony, cadmium, nickel, and zinc -- were only slightly greater than the ambient concentrations. Di-n-butylphthalate and methylene chloride were considered by the District to be contaminants introduced at the lab during analysis although the Water Department felt the former may have been dredging contamination. The Water Department also felt that elevated chloroform and toluene, in addition to taste and odor problems resulting from synergy between dredging and discharges from the contaminated Line Creek area, may make additional water treatment necessary. The Water Department and Corps agreed that water testing at the plant's raw water intake would be needed to ensure that the quality of the river water supply did not adversely affect the plant's ability to meet standards for finished water. Experts on dredging from WES reviewed the 1985 data in 1988 (Encl. 5) and agreed there would be practically no release of contaminants from dredging the sand bed-sediments. WES expressed the belief that mixing would "quickly reduce any elevated concentrations to ambient levels". Because of the anticipated intake monitoring, WES thought the "sparse" elutriate sampling was generally adequate for evaluation of the project.

3. Because of the rapid promulgation of standards for contaminants in drinking water by the EPA and states, due to the Safe Drinking Water Act Amendments of 1986, the above conclusions are now in need of re-evaluation for L-385 as well as for application to general dredging activity. Changes for identified contaminants (Encl. 2) include tentative Maximum Contaminant