DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

CECW-OD

OCT 28 1998

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS

SUBJECT: Use of Sediment Quality Guidelines (SQGs) in Dredged Material Management Decision-Making

1. References:

a. USACE/USEPA, 1992, " Evaluating Environmental Effects of Dredged Material Management Alternatives - A Technical Framework, " EPA 842-B-92-008, Washington, D.C.

b. USACE/USEPA, 1991, "Evaluation of Dredged Material Proposed for Ocean Disposal-Testing Manual," EPA 503/8-91/001, Washington, D.C.

c. USACE/USEPA, 1998, "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.-Testing Manual," EPA 823-B-98-004, Washington, D.C.

d. USACE, 1998, Technical Note, "Use of Sediment Quality Guidelines (SQGs) in Dredged Material Management," EEDP-04-29, USAEWES, Vicksburg, MS

e. USEPA, 1997, "The Incidence and Severity of Sediment Contamination in Surface Waters of the United States, Volume 1: National Sediment Quality Inventory, Appendix B," EPA 823-R-97-006, Office of Science and Technology, Washington, D.C.

2. The guidance contained in this memorandum applies to all testing and assessment of dredged material disposal activities in aquatic, wetland, or upland environments undertaken or regulated by the U.S. Army Corps of Engineers.

3. Background.

a. As mandated under the Section 404 of the Clean Water Act (CWA) and Section 102 of the Marine Protection Research and Sanctuaries Act (MPRSA), the Corps is required to employ an effects-based testing protocol when dredged material is proposed for open water placement, or those instances when placement in an upland environment results in effluent discharge through a weir back into waters of the United States. The Corps has expanded upland dredged material testing protocols to consider the potential contaminate loss pathways of the dredged material placed at the upland site.

b. Recently, a number of alternative sediment assessment methodologies have been developed using a variety of approaches with wide ranges of scientific uncertainty, predictability, and regulatory reliability. Some regulatory agencies and the Environmental Protection Agency (EPA) regional offices have requested use of those approaches to make dredged material management regulatory decisions. While those approaches may have regulatory use by other agencies, the Corps will not use them to make pass/fail regulatory decisions in administering our responsibilities under the CWA and MPRSA. Reference (d) provides an assessment of those known approaches and their limitations.

c. The environmental quality of sediments proposed for navigation dredging has been judged by use of physical, chemical, and biological analyses for over 30 years. Early approaches used chemical specific numerical criteria for each individual chemical found in sediments. This approach was found to have no scientific basis and offered no environmental protection, as the technique did not consider the complex biogeochemical nature of sediments. As such, about 25 years ago, assessment techniques were developed to determine the potential for adverse environmental impacts using "effects based" testing. The "effects based" approach relies on a preponderance of evidence derived from biological, physical and chemical assessments. Effects assessments are ecologically relevant as shown in references (a) through (d). The referenced "effects based" testing offers a level of environmental protection commensurate with that mandated by the CWA and MPRSA. The implementing regulations under those statutes have a sound scientific basis and the necessary field validation.

d. Reference (d) provides guidance to Corps field offices on the technical context in which SQG's, including Equilibrium Partitioning-based Sediment Quality Guidelines (ESG's), referred to as Equilibrium Partitioning (EQP) in reference (d), are to be used in dredged material evaluations. It describes many SQGs and presents their technical limitations. Reference (d) also describes the use of SQG's as a Tier 1 or Tier 2 (reference (b) and (c)) screen for effects based testing. SQGs may identify those situations in which higher tier effects based testing may be used to assess sediment acceptability. The limitations also make SQGs by themselves technically unacceptable for making definitive determinations of adverse impacts of sediments to the receiving environment. Case-specific direct biological effects testing (reference (b) and (c)) provides the comprehensive and technically sound basis for making compliance determinations under the CWA and MPRSA.

4. It is the policy of the Corps that SQGs may be used only as an initial screen for determining if higher "effects based" tiers are needed. If available SQGs and other information indicates that there is no "reason to believe" contaminants are present, no further chemical or toxicological evaluations at higher tiers are necessary pursuant to references (b) and (c). If the sediments are contaminated through application of the "reason to believe", process or SQGs are exceeded, effects-based testing at higher tiers would be necessary. It is the policy of the Corps that SQGs cannot be used deterministically in dredged material management decision making.

5. This guidance may be periodically updated as the state-of-the-science advances. Copies of this guidance and references (a) through (d) are available over the Internet at the Dredging Operations Technical Support home page (http://www.wes.army.mil/el/dots/). Reference (e) can be obtained from the EPA Office of Science and Technology. Policy questions should be directed to Mr. Joe Wilson, Dredging and Navigation Branch, CECW-OD, (202) 761-8846. Direct technical questions to Dr. Bob Engler at Environmental Laboratory, Waterways Experiment Station, CEWES-EE-DP, (601) 634-3624.

FOR THE COMMANDER:

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