

Dated: November 10, 1994.

**William Rice,**

*Acting Regional Administrator.*

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#### 40 CFR Part 230

[FRL-5132-4]

RIN 2040-AC14

### Comparison of Dredged Material to Reference Sediment

**AGENCY:** Environmental Protection Agency.

**ACTION:** Proposed rule.

**SUMMARY:** The Environmental Protection Agency (EPA) is proposing to revise the Clean Water Act Section 404(b)(1) Guidelines (Guidelines) to provide for comparison of dredged material proposed for discharge with "reference sediment," for the purposes of conducting chemical, biological, and physical evaluations and testing. Under this proposed revision, the testing provisions of the Guidelines would be improved by directing that dredged material proposed for discharge be compared to reference sediment. "Reference sediment" would be defined as sediment that reflects the conditions at the disposal site had no dredged material disposal ever occurred there. Adoption of the reference sediment approach would allow the regulatory program to better assess the potential cumulative impacts of dredged material discharges, and would make testing of dredged material proposed for discharge in waters of the U.S. more consistent with current methods used for testing dredged material proposed for ocean disposal.

**DATES:** Written comments must be submitted on or before March 6, 1995.

**ADDRESSES:** Written comments should be submitted to: Reference Sediment Docket (4502F), Wetlands and Aquatic Resources Regulatory Branch, U.S. EPA, 401 M Street SW, Washington, DC 20460.

**FOR FURTHER INFORMATION CONTACT:** Details are available from Mr. John Goodin at (202) 260-9910.

#### SUPPLEMENTARY INFORMATION:

##### Statutory and Regulatory Background

The Federal Water Pollution Control Act of 1972 (amended in 1977 as the Clean Water Act) established, in Section 404, a permit program for the regulation of proposed discharges of dredged or fill material into waters of the United States, including wetlands. Section

404(a) authorizes the Secretary of the Army, acting through the Chief of Engineers, to issue permits specifying disposal sites in waters of the U.S. in accordance with regulatory requirements of the Section 404(b)(1) Guidelines (Guidelines). The Guidelines, which were published by EPA as final regulations on December 24, 1980 (45 FR 85336), are the substantive environmental criteria used in evaluating discharges of dredged or fill material under Section 404 of the Clean Water Act.

The Guidelines provide general restrictions at § 230.10 that must be met before a permit can be issued authorizing a discharge of dredged or fill material into waters of the U.S. In order to reach conclusions regarding these restrictions, a variety of factual determinations are made concerning the potential environmental effects of a proposed discharge. Sections 230.60 and 230.61 of the Guidelines outline the chemical, biological, and physical evaluation and testing procedures that are to be used to make several of these determinations. These testing procedures are designed to determine the degree to which the material proposed for discharge may introduce, relocate, or increase the availability of contaminants and how this may impact the aquatic ecosystem and organisms. Section 230.61(c) of the Guidelines outlines procedures for comparing "excavation" and "disposal" sites. This comparison is made to ascertain the potential for adverse environmental impacts at the disposal site due to the proposed discharge of dredged material. Markedly different concentrations of contaminants or toxicological responses of test organisms between sediment from the excavation and disposal sites may indicate the potential for adverse environmental impacts.

A fundamental precept surrounding all evaluations under the Guidelines is that a "discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern." (§ 230.1(c)) The Guidelines require the consideration of both cumulative and secondary effects on the aquatic ecosystem, as part of the factual determinations made to assess compliance (see § 230.11). If repetitive disposal occurs at a site, testing that employs the disposal site as a point of comparison may not facilitate an adequate evaluation of potential cumulative adverse effects, and thus may not provide the comprehensive data desired for factual determinations

and ultimately, Guidelines compliance decisions.

The key standard established in the Guidelines is that dredged material disposal may not have an "unacceptable adverse impact" on the disposal site. As discussed below, use of disposal site sediments as a point of comparison for subsequent evaluations of dredged material proposed for discharge there could contribute to the incremental contamination of the site over time, by continually degrading that point of comparison. This could occur without any of the individual discharges causing an "unacceptable adverse impact."

#### Current Practice

Current practice for most dredged material disposal is to use, to the maximum extent practicable, the same dredged material disposal site for successive discharge activities. In this manner, that portion of the total aquatic ecosystem impacted by dredged material discharges is limited, as is the repetition of associated regulatory procedures (i.e., specification of a disposal site). However, use of sediment from the disposal site as the point of comparison for subsequent evaluations of dredged material proposed for discharge at the same site could result in long term changes in the nature of disposal site, if contaminants incrementally accumulate there. For example, increasingly contaminated sediments could be discharged at a site even though a given discharge might have exceeded the "unacceptable adverse impact" threshold had this discharge been permitted earlier in the life of the disposal site when contamination levels were not as high. In this manner, cumulative adverse effects of individual dredged material discharges at a disposal site may not be adequately assessed.

In addition, using sediment from the disposal site as a point of comparison as currently required under the Guidelines represents an inconsistency between how discharges of dredged material are regulated under the Clean Water Act, which has jurisdiction in waters of the U.S., and the Marine Protection, Research, and Sanctuaries Act, which has jurisdiction in the territorial seas and ocean waters. The latter uses a reference sediment comparison in conducting dredged material testing, whereas the former currently does not. Although the two programs regulate dredged material disposal under different statutes, there is considerable overlap in terms of practical implementation. EPA and the Corps of Engineers support consistent testing that facilitates environmental comparisons

when a number of dredged material disposal alternatives are being considered. Furthermore, consistent testing helps ensure that decisions regarding disposal are not driven by an artifact of different regulations which were envisioned to acquire similar effects information.

#### Definition of Reference Sediment

Today's proposed rule addresses the problem of using the disposal site as a point of comparison for proposed discharges of dredged material by providing for those comparisons to be made to reference sediment instead. The term "reference sediment" is defined as:

sediment that reflects the conditions at the disposal site had no dredged material disposal ever occurred there. Reference sediment serves as a point of comparison to identify potential environmental effects of a discharge of dredged material. Reference sediment shall be collected taking into account the following considerations: (1) to obtain physical characteristics, including grain size, as similar as practicable as the dredged material proposed for discharge, (2) to avoid areas in the immediate vicinity of, including depositional zones of, spills, outfalls, or other significant sources of contaminants, and (3) to be as close as practicable to, and subject to the same hydrologic influences as, the disposal site, but removed from areas which are subject to sediment migration of previous dredged material discharges. If existing information that provides an easy-to-interpret indication of the presence of bioavailable contaminants in the reference sediment and in the sediment from the disposal site waterbody is not available, sediment testing (e.g., toxicity testing) is necessary to ensure that the reference sediment accurately reflects the conditions of the sediment from the disposal site waterbody.

Specifically, § 230.3 of the Guidelines would be amended by adding the above definition of "reference sediment" as paragraph (u), and § 230.61(c) of the Guidelines would be amended by changing two applications of the term "disposal site" to reflect incorporation of the reference sediment approach.

#### Selection of Reference Sediment

The three considerations listed in the definition are designed to ensure that the reference sediment selected has appropriate physical characteristics and accurately reflects the sediment from the disposal site waterbody, absent the influence of previous dredged material discharges. Evaluation of each of these factors is necessary in the selection of an appropriate reference sediment. In light of the many factors that may affect it, the selection of appropriate reference sediment must be identified in the proposed sampling plan for testing associated with a proposed discharge

and approved by the relevant Corps of Engineers District (or State, if they are the permitting authority) in coordination with the EPA Region.

First, the dredged material proposed for discharge and the reference sediment should possess similar physical characteristics, including grain size, which is important from both chemical and biological standpoints. For example, substrate preference of benthic organisms, larval settlement, and contaminant partitioning are specific to geophysical characteristics of the sediment. The presence of contaminants, and their bioavailability to the organisms that come into contact with them, are a direct function of characteristics (e.g., organic carbon in the surrounding sediment) which are often influenced by the grain size of the surrounding sediment.

Second, in selecting reference sediment, efforts should be made to avoid areas in the immediate vicinity of, including depositional zones of, spills, outfalls, or other significant sources of contaminants, in addition to areas that are subject to sediment migration of previous dredged material discharges, to prevent the selection of reference sediment that reflects either an area of increased contamination in a waterbody or reflects the impacts of previous dredged material discharges. In this regard, reference sediments should be substantially free of contaminants. However, it is recognized that a particular waterbody may be influenced by, and its sediments may therefore contain, a variety of chemical constituents or other characteristics, that are the result of natural or non-dredged material disposal influences. Therefore, "substantially free of contaminants" does not equate to "pristine" or "absence of contaminants."

The reference sediment comparison is designed to assess the potential impacts of a proposed discharge relative to the ambient conditions of the waterbody of the proposed disposal site (i.e., "dredged or fill material should not be discharged into the aquatic ecosystem unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact \* \* \* [on] the ecosystems of concern." 40 CFR 230.1(c)). The reference sediment comparison yields data on the proposed discharge's impact at the disposal site, in light of any contaminants already present as the result of non-point runoff, point source discharges, air deposition, and various other sources outside the influence of the dredged material discharger. Thus, a "pristine" standard may not reflect the ambient conditions

of the disposal site, the impacts upon which are to be evaluated under the Guidelines.

Third, selection of reference sediment should be in as close proximity as practicable to the disposal site sediment, while best reflecting the other considerations listed. This helps to maintain control for variables such as hydrologic influences that might otherwise differ between the disposal site and the location from which reference sediment is obtained.

An evaluation of the presence of contaminants is part of the overall evaluation to affirm that the reference sediment is similar to sediment in the disposal site waterbody (absent the impacts of any previous dredged material discharge). In circumstances where existing information that provides an easy-to-interpret indication of the presence of bioavailable contaminants in the reference sediment and in the sediment from the disposal site waterbody is not available, sediment testing (e.g., toxicity testing) is necessary to ensure that the reference sediment accurately reflects the conditions of the sediment from the disposal site waterbody. The evaluation of an appropriate reference sediment provides the basis for a valid demonstration that the reference sediment accurately reflects the characteristics of the sediment at the disposal site waterbody, including specifically an evaluation of the potential presence of contaminants, while providing the necessary flexibility for determining when additional information must be collected to support this demonstration.

A wide variety of site specific circumstances exist that affect what method or methods are appropriate or necessary for demonstrating the selection of suitable reference sediment. For example, in a particular circumstance, the information value of benthic bioassay results may be more useful in affirming an accurate reference sediment in cases where the suite of potential contaminants in the disposal site waterbody is very large, whereas information on several chemical contaminants of concern may be sufficient in other cases. Guidance on recommended methods will be described in the testing manual for proposed discharges of dredged material into waters of the U.S., and will be revised as necessary to ensure that these methods are current and sound. These procedures are intended to ensure that appropriate flexibility is provided to the Corps, or State that has assumed the Section 404 permit program, to require testing on a case-by-case basis where it

may be necessary to affirm the selection of an accurate reference sediment.

### Benefits of Reference Sediment

Although the mention of "reference sediment," *per se*, currently is absent from the Guidelines, this concept is inherent in both the general purpose and specific determinations required by these regulations, and provides the most effective approach to address current shortcomings in the existing testing protocol. Comparison of dredged material proposed for discharge to reference sediment provides a more effective basis for addressing cumulative effects at a site subject to previous disposal because the comparison would be made to sediment which has only been influenced by ambient conditions, i.e., the point of comparison would not be subject to alteration by previous dredged material discharges. As subsequent evaluations of dredged material proposed for discharge at a particular site would be made in comparison to reference sediment, potential difficulties with the use of the disposal site as a point of comparison would be addressed. Furthermore, as the sources of contamination in a waterbody such as agricultural and urban runoff are decreased, the reference sediment, and thus the point of comparison for proposed discharges of dredged material, should reflect this improvement, rather than continuing to reflect past dredged material discharges.

Adoption of the reference sediment approach also establishes greater consistency with testing conducted for the ocean disposal of dredged material. A technically appropriate reference sediment definition that reflects repetitive use site conditions is an important component of the Marine Protection, Research, and Sanctuaries Act's ocean dumping program. The reference sediment approach is integral to this program's testing guidance, "Evaluation of Dredged Material for Ocean Disposal: Testing Manual," commonly known as the Ocean Dumping Testing Manual or Green Book, which was revised and published by EPA and the Corps of Engineers in February 1991. In their review of the Green Book (Science Advisory Board, 1992. Technical review of "Evaluation of Dredged Materials Proposed for Ocean Disposal—Testing Manual." Washington, D.C. EPA-SAB-EPEC-92-014. 20pp.), EPA's Science Advisory Board indicated their support for the reference sediment concept, but noted that reference areas must be better defined and quantified. In their review of a companion draft testing manual for waters of the U.S. (Science Advisory

Board, 1994. "An SAB report: Evaluation of a Testing Manual for Dredged Material Proposed for Discharge in Inland and Coastal Waters." Washington, D.C. EPA-SAB-EPEC-94-007. 16pp.), the Science Advisory Board concluded that "criteria for the selection of reference [sediment] are much too vague and subjective." EPA concurs that these criteria need to be clearly articulated and will revise the draft testing manual accordingly upon final promulgation of this proposed rule. As a practical matter, the reference sediment approach has been used by the ocean dumping program to evaluate hundreds of proposed discharges. This experience has demonstrated the reference sediment approach to be a protective and scientifically defensible means of predicting impacts.

The reference sediment approach has also been applied with similar results in waters of the U.S. where Green Book methods were applied. As noted above, EPA and the Corps are currently developing a Section 404 Testing Manual to detail the technical evaluation and testing requirements outlined in the testing provisions of the Guidelines (§ 230.60 and § 230.61). The draft, entitled "Evaluation of Dredged Material Proposed for Discharge in Waters of the U.S.—Testing Manual (Draft)," adopts the same tiered testing approach as the Green Book. While details of the Section 404 Testing Manual will necessarily be somewhat different from the Green Book, the Green Book's framework and concepts are an appropriate paradigm for use in waters of the U.S. The Section 404 Testing Manual was made available for public review and comment on July 21, 1994 (59 FR 37234).

### Executive Order 12866 and the Regulatory Flexibility Act

Under Executive Order 12866, [58 **Federal Register** 51,735 (October 4, 1993)] the Agency must determine whether the regulatory action is "significant" and therefore subject to OMB review and the requirements of the Executive Order. The Order defines "significant regulatory action" as one that is likely to result in a rule that may:

- (1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, tribal governments or communities;
- (2) Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or

(4) Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined that this rule is not a "significant regulatory action" under the terms of Executive Order 12866 and is therefore not subject to OMB review. Current testing regulations for evaluating potential chemical, biological, and physical impacts of a proposed discharge require comparison of the material proposed for discharge with sediment collected from the disposal site. Under the proposed revisions, the location of the site from which sediment is collected for comparison may differ from current practice. However, this substitution is not expected to impose an additional regulatory burden, as sampling and analysis costs should remain equivalent.

A reference approach could increase the number of cases in which test results indicate an increased likelihood of a toxic or bioaccumulative effect from a proposed dredged material discharge. In a subset of these cases, that increased likelihood could lead to a factual determination regarding potential contaminant effects that is of greater environmental concern. In a subset of these cases, that determination could lead to the use of some management measure (e.g., placement of a "cap" of relatively clean dredged material over the proposed discharge or use of a confined disposal facility) to comply with the Guidelines. In such cases, a regulated party could incur additional expenditures. However, EPA does not anticipate that this circumstance would occur in more than a small number of cases.

A reference approach could increase the efficiency of the dredged material disposal program and lower the costs to the regulated community. In cases where ocean disposal and waters of the U.S. disposal alternatives are considered, evaluation of test results would be based on comparable testing methodologies, thus facilitating the evaluation of disposal alternatives. Furthermore, one reference sediment may accurately characterize a number of potential disposal sites. In such cases, a regulated party could reduce testing expenditures by sampling one reference location and not each disposal site.

The net impact of the above potential effects is not expected to be significant. EPA invites the public to comment on the potential impacts of this proposed rule.

Pursuant to section 605(b) of the Regulatory Flexibility Act, the Environmental Protection Agency certifies that this regulation will not have a significant impact on a substantial number of small entities (see above discussion).

**Paperwork Reduction Act**

Today's rule places no additional information collection or recordkeeping burden on respondents. Therefore, an information collection request has not been prepared and submitted to the Office of Management and Budget under the Paperwork Reduction Act (44 U.S.C. 3501 et seq.). Information collection activities for Clean Water Act section 404 permits are conducted under the U.S. Army Corps of Engineers information collection request number: 0710-003.

**List of Subjects in 40 CFR Part 230**

Environmental protection, Dredged material, Water pollution control, Wetlands.

Dated: December 23, 1994.

**Carol M. Browner,**  
*Administrator, Environmental Protection Agency.*

Accordingly, 40 CFR part 230 is proposed to be amended as follows:

**PART 230—SECTION 404(b)(1) GUIDELINES FOR SPECIFICATION OF DISPOSAL SITES FOR DREDGED OR FILL MATERIAL**

1. The authority citation for part 230 continues to read as follows:

**Authority:** Secs. 404(b) and 501(a) of the Clean Water Act of 1977 (33 U.S.C. 1344(b) and 1361(a)).

2. Section 230.3 is amended by adding paragraph (u) to read as follows:

**§ 230.3 Definitions.**

(u) The term *reference sediment* means a sediment that reflects the conditions at the disposal site had no dredged material disposal ever occurred there. Reference sediment serves as a point of comparison to identify potential environmental effects of a discharge of dredged material. Reference sediment shall be collected taking into account the following considerations:

- (1) To obtain physical characteristics, including grain size, as similar as practicable as the dredged material proposed for discharge,
- (2) To avoid areas in the immediate vicinity of, including depositional zones of, spills, outfalls, or other significant sources of contaminants, and
- (3) To be as close as practicable to, and subject to the same hydrologic

influences as, the disposal site, but removed from areas which are subject to sediment migration of previous dredged material discharges.

If existing information that provides an easy-to-interpret indication of the presence of bioavailable contaminants in the reference sediment and in the sediment from the disposal site waterbody is not available, sediment testing (e.g., toxicity testing) is necessary to ensure that the reference sediment accurately reflects the conditions of the sediment from the disposal site waterbody.

3. Section 230.61 is amended by revising paragraph (c)(1) and the first sentence of paragraph (c)(2) to read as follows:

**§ 230.61 Chemical, biological, and physical evaluation and testing.**

\* \* \* \* \*  
(c) \* \* \*

(1) When an inventory of the total concentration of contaminants would be of value in comparing sediment at the dredging site with sediment at the disposal site, the permitting authority may require sediment chemical analysis. Markedly different concentrations of contaminants between the material from the excavation site and the reference sediment (§ 230.3(u)) may aid in making an environmental assessment of the proposed disposal operation. Such differences should be interpreted in terms of the potential for harm as supported by any pertinent scientific literature.

(2) When an analysis of biological community structure will be of value to assess the potential for adverse environmental impact at the proposed disposal site, a comparison of the biological characteristics between the material from the excavation site and the reference sediment (§ 230.3(u)) may be required by the permitting authority.

\* \* \* \* \*

[FR Doc. 95-00066 Filed 1-3-95; 8:45 am]

**BILLING CODE 6560-50-P**

**40 CFR Part 300**

**[FRL-5127-9]**

**Intent To Delete Crystal City Airport Superfund Site, Crystal City, Zavala County, Texas From the National Priorities List**

**AGENCY:** United States Environmental Protection Agency.

**ACTION:** Intent to delete the Crystal City Airport Superfund site from the

National Priorities List: request for comments.

**SUMMARY:** The Environmental Protection Agency (EPA) Region 6 announces its intent to delete the Crystal City Airport Superfund site from the National Priorities List (NPL) and requests public comment on this action. The NPL constitutes Appendix B of 40 CFR part 300 which is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), which EPA promulgated pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended. EPA and the State of Texas (Texas Natural Resource Conservation Commission) have determined that all appropriate actions under CERCLA have been implemented and that no further cleanup is appropriate. Moreover, EPA and the State have determined that response activities conducted at the site to date have been protective of public health, welfare, and the environment.

**DATES:** Comments concerning this site may be submitted on or before January 30, 1995.

**ADDRESSES:** Comments may be mailed to: Ms. Olivia Rodriguez, Community Relations Coordinator, U.S. EPA, Region 6 (6H-MC), 1445 Ross Avenue, Dallas, Texas 75202-2733, (214) 665-6584 or 1-800-533-3508.

Comprehensive information on this site is available through the EPA Region 6 public docket, which is located at EPA's Region 6 library office and is available for viewing from 8:00 a.m. to 5:00 p.m., Monday through Friday, excluding holidays. The office address is: U.S. EPA, Region 6, Library, 12th Floor, 1445 Ross Avenue, Dallas, Texas 75202, (214) 665-6424 or 665-6427.

Background information from the Regional public docket is available for viewing at the Crystal City Airport Superfund site information repositories located at:

Crystal City Public Library, 101 E. Dimmit, Crystal City, TX 78839.

Environmental Protection Agency, Library, 12th Floor, 1445 Ross Avenue, Dallas, Texas 75202.

Texas Natural Resource Conservation Commission, 12118 North IH-35, Building D, Room 190, Austin, Texas 78753, (512) 239-2920.

**FOR FURTHER INFORMATION CONTACT:** Mr. Ernest R. Franke, Remedial Project Manager, U.S. Environmental Protection Agency, Region 6, 1445 Ross Avenue, Dallas, Texas 75202-2733, (214) 665-8521 or 1-800-533-3508.