SEDIMENT MANAGEMENT WORK GROUP
COMMENTS ON U.S. EPA'S PCB CLEANUP
AND DISPOSAL REGULATIONS

U.S. EPA OPPT-2005-0034
July 15, 2005

Introduction

The Sediment Management Work Group ("SMWG")[1] is pleased to provide comments to the United States Environmental Protection Agency ("U.S. EPA" or "Agency") on potential clarifications, enhancements and efficiencies relating to the remediation and disposal of PCB remediation waste, via the public comment opportunity set forth in the OPPT 2005-0034 docket. The focus of the SMWG's comments will be on the PCB-impacted sediment found in various waterbodies (e.g., lakes, rivers, streams, estuaries, etc.), which is dredged and disposed for purposes of remediation[2].

Executive Summary

With respect to PCB-contaminated sediment which is being remediated by dredging, a crucial issue is whether sampling for disposal characterization purposes should occur in-situ or

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[1] The Sediment Management Work Group is an ad hoc group of industry and government parties actively involved in the evaluation and management of contaminated sediments. (See Exhibit "A" for a list of its Members.) The Group is dedicated to the use of sound science and risk-based evaluation of contaminated sediment management options. The SMWG recognizes that the management of sites involving contaminated sediments frequently involves unique and complex scientific and technical issues, including assessment methodologies and evaluation of risk and risk reduction options. As an active participant in the national discussions on sediment management issues, the SMWG welcomes the opportunity to offer observations and comments on the PCB cleanup and disposal regulations as they relate to contaminated sediment remediation.

[2] Dredging, as one of three primary sediment management options (the other two being capping and monitored natural recovery) is the focus of these comments due to the specific disposal issues covered by Docket No. 2005-0034.

after the sediment has been dredged and dewatered or otherwise processed. This issue has significant technical and cost implications which could jeopardize progress in addressing this nation's contaminated sediment issue. The impetus to suggest that in-situ pre-dredging sampling is necessary for characterization of potential PCB remediation waste apparently is based on a narrow reading of the term "as found" in one section of the TSCA[3] Remediation Waste Rules, but provisions in other sections of the Rule and substantial precedent from completed sediment projects strongly support the approach of utilizing post-dredging characterization for disposal. Characterization sampling of sediment after dredging and dewatering is consistent with sound environmental policy, provides the advantage of being a more accurate characterization of the material to be disposed, does not diminish any environmental benefit or protection compared to in-situ sampling for disposal characterization, avoids using up scarce TSCA disposal facilities unnecessarily and typically is significantly more cost effective.

Regulatory Analysis

The SMWG believes that there is a strong need for a national policy addressing contaminated sediment issues based on sound science and a risk-based methodology. The SMWG supports U.S. EPA's efforts to periodically review and evaluate the continued effectiveness of its regulations. The SMWG is deeply concerned that one of the most common and environmentally sound methods for selecting an appropriate disposal option may be removed from the limited tools available for addressing PCB-impacted sediment. There is an urgent need to resolve this concern under the regulations implementing TSCA.

[3] The Toxic Substances Control Act, 15 USC §§ 2601-2692.

One of the primary issues to be addressed is whether the language in 40 CFR 761.61 (particularly, the reference to concentration of PCBs "as found") precludes the existing environmentally sound procedure of using post-excavation/dredging characterization of the ex-situ material to govern the selection of the appropriate disposal facility. However, the detailed sections of TSCA's Rules and Guidance, which are consistent with other environmental programs such as CERCLA[4], expressly authorize the disposal of PCB-impacted sediment based on post-dredging characterization of the staged dredged material prior to its disposal.

1. As a threshold matter, under the TSCA regulations, sediment does not even become "PCB Remediation Waste" until <u>after</u> it is dredged. The definition of "PCB remediation waste" requires that the waste contain PCBs greater than or equal to 50 ppm. The definition specifically refers to "dredged materials, such as sediments, settled sediment fines, and aqueous decantate from sediment." 40 CFR 761.3. Sediments do not become "dredged material," or produce "settled sediment fines" or "aqueous decantate," until after they have been removed from the aquatic environment. Therefore, the definition means that dredged sediments become "PCB remediation waste" <u>only if the material that has been removed from the aquatic environment</u> exhibits PCB concentrations greater than or equal to 50 ppm. Therefore, since the appropriate time to determine if the PCB-impacted sediment is PCB remediation waste is after dredging, it follows that the appropriate time to sample that sediment for the purpose of disposal characterization. is after it has been dredged and dewatered.

[4] The Comprehensive Environmental Response, Compensation and Liability Act, 42 USC § 9601 et. seq.

2. TSCA regulations expressly recognize the need to handle "multi-phasic" materials by authorizing separate sampling for disposal of each phase 40 CFR 761.1(b)(iii). Sediments in aquatic environments are typically multi-phasic materials, comprised of varying percentages of solids and water. Sediment remediation utilizing dredging is largely a phase separation process, in which a mixture of solids and water is moved from the aquatic environment to a location where further phase separation can occur, and then most of the remaining water is removed from the solids to enable disposal of each phase separately and safely. In the sediment remediation context, therefore, the language cited above authorizes disposal of sediments based on requirements that apply to the solids fraction once the sediment has been dredged and the water component has been removed.

The TSCA regulations provide:

> "Following phase separation, the PCB concentration in each non-liquid phase shall be determined on a dry weight basis and the PCB concentration in each liquid phase shall be determined separately on a wet weight basis." (40 CFR 761.1(b)(4)(iii)) (emphasis added)

In fact, U.S. EPA Guidance expressly authorizes the use of post-separation analysis to drive the disposal decision in its Q&A document:

> "Q: How do I determine the concentration of multi-phasic PCB remediation waste such as sludges?

A: Separate the multi-phasic waste and sample each phase separately. You may either dispose of each phase separately based on the as-found concentration in that phase, or dispose of the waste without separating it based on the highest as-found concentration of any phase." (emphasis added) EPA PCB Q&A at p. 76. See also e.g., 1998 Response to Comments at p. 14.

Therefore, even if the "as found" phraseology is of concern, with respect to contaminated sediment, the TSCA Rules expressly authorize the characterization for disposal after the phases have been separated, which only can occur post-dredging and dewatering. As noted above, sediment is clearly "phasic" and qualifies for post-separation sampling for characterization.

3. Sampling for disposal characterization ex-situ, following de-watering and any other treatment, is more environmentally sound than in-situ sampling because it more accurately reflects the nature and concentration of the actual material to be disposed for several reasons. First, in-situ sampling often consists of data collected many years before the dredging project is implemented and often does not reflect current conditions. Second, contaminated sediment is typically non-homogeneous and extrapolating conclusions can be difficult, and not necessarily representative. Third, sediments in the aquatic environment are often dynamic. Fourth, contaminated sediment chemical concentrations in a given location can

vary over time and attempting to duplicate or verify prior sample results from the same location over time is often not successful. Fifth, neither dry soils nor dewatered sediments awaiting disposal exhibit the same characteristics as in-situ sediments, nor do they present the same difficulties and potential inaccuracies regarding sampling. Sixth, even the most advanced technologies available for removing sediments from the aquatic environment invariably pull sediments from a broad area and are known to leave residuals, thus precluding the precise targeting and removal of specific concentrations of PCBs or the precise transfer of data from in-situ to ex-situ. As a result, varying concentrations of PCBs will be intermingled during dredging. Finally, dredging contaminated sediments is still an inexact technology – there is no guarantee that all contaminated sediment in a waterbody will be removed or that any given in-place historical sediment sample will actually be present in the staging piles awaiting disposal. Therefore, using post-dredging, post-dewatered sediment to characterize whether the material constitutes PCB remediation waste, and if so, the appropriate disposal facility is more accurate, and is preferable.

4. TSCA's underlying "anti-dilution" rule is not in danger of being violated by the post-dredging, post-phase separation characterization approach. Because intermingling of sediments during dredging is unavoidable as sediments are removed, any reductions in PCB concentration are truly incidental to the process and they do not result from an intentional effort to dilute the PCBs that are present. As noted above in Paragraph 3, the dewatering treatment processes employed in PCB-contaminated sediment dredging and disposal remedies which

utilize the ex-situ post-dredging sampling method do not add clean soil or other material surreptitiously to avoid TSCA regulations. This method is scientifically and technically based, and is not an effort to "cheat the system." Moreover, contaminated sediment cleanups, as is the case with many, if not most land-based PCB cleanups, are almost always performed under the watchful eye of U.S. EPA or the equivalent State Agency, pursuant to complex, detailed work plans or designs.

5. In fact, the technique of separating the dredged PCB-containing phases ex-situ meets several of U.S. EPA's policies: (1) it complies with the separation of "phasic waste" under 40 CFR 761.1(a); (2) it ensures compliance with RCRA's ban on liquids in landfills; (3) it typically reduces the volume of material requiring TSCA disposal, thereby avoiding prematurely and unnecessarily using up scarce TSCA landfill space for non-TSCA materials; and (4) fosters CERCLA's § 121 treatment preference as noted below, among others.

6. CERCLA's § 121 remedy selection preferences for reduction of "toxicity, mobility and volume" would be undermined, if not contradicted, by a requirement to dispose dredged PCB materials based on pre-treatment concentrations. Such an anomalous result would be a serious disincentive to expend additional resources to treat contaminated sediment prior to disposal or to develop future innovative treatment technologies.

7. A key regulatory driver with respect to TSCA (as well as CERCLA and other regulatory schemes) is to ensure protectiveness and avoidance of unacceptable

risk exposures[5], which are effectively accomplished by utilizing characterization data after sediment processing and dewatering (phase separation) have occurred, immediately prior to disposal. In fact, TSCA regulations expressly permit U.S. EPA to approve alternative sampling, cleanup or disposal methods that will not present an unreasonable risk of injury to health or the environment (40 CFR 761.61(c)(2)) and expects risk-based approvals to be used for large and complex sites, such as contaminated sediment sites, which are governed by 40 CFR 761.61(c). Consequently, even in the unlikely event a programmatic concern remains with the meaning of the term "as found" in 40 CFR 761.61, the alternative protectiveness standard of 40 CFR 761.61 (c)(2) should be utilized to authorize post-dredging ex-situ sampling of the dewatered sediment to determine whether the material is PCB remediation waste, and, if so, its appropriate disposal.

8. Substantial precedent exists on the validity of characterizing dredged sediment ex-situ and after dewatering in the form of various completed dredging projects including several U.S. EPA-implemented PCB sediment dredging projects. See Exhibit B for a list of examples which the SMWG was able to quickly identify given the short deadline for comment submission.

9. Relying on in-situ sediment data which are unlikely to be consistent with the characteristics of the dewatered ex-situ sediment, resulting in disposal costs which typically are <u>significantly</u> greater than project costs where ex-situ characterization

[5] See, U.S. EPA Preamble to the 1998 TSCA Rule, 63 Fed. Reg. 35384, 35385, (6/29/98).

sampling is utilized and unnecessarily take up space in our scarce TSCA disposal facilities, with no corresponding incremental environmental benefit, would be contrary to Congress' mandate that regulations, such as this one (if applied as contemplated) which are not environmentally cost-beneficial, should be eliminated or modified. (See, E.O. 12866, 58 Fed. Reg. 51735 (Oct. 4, 1993)).

10. PCB-impacted dredged sediments containing less than 50 ppm of PCBs should continue to be considered non-TSCA material, eligible for disposal in Municipal Solid Waste landfills.

11. Although not related to contaminated sediments per se, the SMWG supports USWAG's Comment No. 1 (in its 5/20/2004 Comments to OMB) that the disposal of PCB Remediation Waste should not be determined by the category of clean-up type (e.g. self-implementing vs. Agency oversight). Sound science and policy dictate that the characterization of the material should control its appropriate disposal destination.

Conclusion

The overall TSCA regulations and the substantial precedent from the field in the form of completed PCB dredging projects, strongly support the conclusion that the most appropriate disposal characterization method is ex-situ, following dewatering and other customary sediment treatment/separation technologies. The post-removal characterization approach is based on sound science and environmental policy, is protective and typically will be substantially more cost-effective than relying on in-situ samples. Therefore, the SMWG urges U.S. EPA to amend its regulations or issue guidance expressly specifying the use of post-dredging, ex-situ

characterization samples to determine whether the contaminated sediment constitutes PCB remediation waste, and , if so, to determine the appropriate disposal facility.

Please feel free to contact the SMWG's Coordinating Director, Steven C. Nadeau, at 313.465.7492 or snadeau@honigman.com should you have any questions regarding these comments.

Respectfully submitted,

By: _____

Steven C. Nadeau, Coordinating Director
SEDIMENT MANAGEMENT WORK GROUP

EXHIBIT A

MEMBERSHIP IN THE SEDIMENT MANAGEMENT WORK GROUP

ALCOA, Inc.
Atlantic Richfield (a BP company)
BASF Corporation
Boeing Company, The
Consumers Energy
Dow Chemical Company
E.I. duPont de Nemours and Company
El Paso Corporation
ExxonMobil
General Motors Corporation
Georgia-Pacific Corporation
Glenn Springs Holdings, Inc.
Hercules Incorporated
Honeywell International, Inc.
Monsanto Company
NW Natural
Phelps Dodge Corporation
PPG Industries, Inc.
Sherwin Williams Co.
Tierra Solutions, Inc.
U.S. Steel Group
Viacom
WE Energies
WTM I
American Chemistry Council (ACC)
American Forest & Paper Association
American Gas Association
American Petroleum Institute
Centre for Advanced Analytical Chemistry
Council of Great Lakes Industries (CGLI)
EPRI
International Lead Zinc Research Organization
National Council of Paper Industry for Air & Stream Improvement
Norwegian Institute for Water
U.S. Army Corps of Engineers, Waterways Experiment Station
U.S. Navy Space and Naval Warfare Systems Center, San Diego
U.S. Navy Naval Facilities Eng. Command
Utility Solid Waste Activities Group

EXHIBIT B

PRECEDENT FOR
EX-SITU, POST-DREDGING AND DEWATERING
CHARACTERIZATION FOR DISPOSAL

- Manistique Harbor, MI – U.S. EPA project – CERCLA (1995-2000)
- Cumberland Bay, NY – DEC project NY (1999-2000)
- Fox River, WI – Deposit N Pilot – WDNR project (1998-1999)
- Shiawassee River, WI – PRP Project/WDNR project (2002-2004)
- New Bedford Harbor, MA[❋] - U.S. EPA project (with respect to the desanding operation) (on-going)
- St. Lawrence River, NY – (Reynolds Metals project) (2001)

[❋] The site's ESD provides the option to characterize the sand fraction after it has been dredged and separated.