



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
OREGON OPERATIONS OFFICE
811 S.W. 6th Avenue
Portland, Oregon 97204

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MEMORANDUM

SUBJECT: Region 10 Response to CSTAG Recommendations on the Portland Harbor Contaminated Sediment Superfund Site

FROM: Chip Humphrey, Remedial Project Manager
EPA Region 10

TO: Stephen J. Ells (EPA Headquarters) and John C. Meyer (EPA Region 6)
Co-chairs, Contaminated Sediments Technical Advisory Group (CSTAG)

THRU: Sylvia Kawabata, Unit Manager
Site Assessment/Cleanup Unit 2

We appreciate the opportunity to work with the CSTAG on the Portland Harbor Superfund Site and for the comments and recommendations CSTAG provided to assist the project team in addressing the 11 principles for contaminated sediment sites. Our responses to CSTAG's recommendations are provided below. We will continue to consider these recommendations as the investigations continue, as the conceptual site model is refined, and as remedial alternatives are developed and evaluated.

Principle #1, Control Sources Early

- **The CSTAG commends the project team for developing the Joint Source Control Strategy. The CSTAG recommends that an additional effort be made to evaluate at least qualitatively the relative contribution of contaminant releases from each major upland/on-shore source to human health and ecological risks in the ISA. A prioritization scheme should also be developed in order to identify and classify the largest contaminant contributions and the most significant transport pathways (e.g., groundwater, bank erosion, overland flow, etc.). This information coupled with the results of a screening risk assessment could be used to prioritize any upland source control actions and in-river interim actions that may be warranted.**

Regional response: A key aspect of the Oregon Department of Environmental Quality's (ODEQ) upland site investigations is to evaluate contaminant discharges to the river via a number of pathways (e.g., stormwater, overland run off, groundwater discharge). The goal of the

investigations is to identify facilities where early source control measures are required, and these measures are generally carried out as interim removal actions. The Joint Source Control Strategy will outline the process to prioritize individual facilities/source control actions within the overall site. A qualitative evaluation of risks from upland sources is completed as part of this prioritization process. After the remaining Round 1 data has been submitted and evaluated, we will consider looking at the upland facilities as a whole for contaminants that contribute to site wide risk (e.g., bioaccumulative chemicals) in addition to evaluating individual facilities for localized effects. In addition, the Conceptual Site Model is being revised to provide the qualitative evaluation of the upland sites for specific sections of the river.

- **The CSTAG recommends that there be better coordination and more collaboration between the EPA and State Superfund programs and the other EPA and State programs (e.g., TMDL, NPDES, RCRA, OPA) relating site investigations with possible cleanup/abatement options. Consider the effectiveness of voluntary programs and whether enforcement action is necessary. It is important to know the extent of the current and expected future NPDES discharges in order to understand and consider the extent of recontamination of potentially remediated sediment areas.**

Regional response: Region 10 acknowledges that collaboration and coordination with other EPA and State programs is critical to a successful, effective source control process and will work towards increased coordination. Region 10 also agrees that inter-agency and inter-program coordination is needed to address the complex issues of stormwater contaminant transfer, and we are working to see how future NPDES permits in Portland Harbor could be revised to help achieve this goal.

A good example of effective collaboration is how the City of Portland and ODEQ's cleanup program have coordinated investigations for stormwater discharges within the site. This collaboration has led to identification of new sources within individual stormwater drainage basins and further work to evaluate these sources and control them, if necessary. Follow-up work is also being coordinated with ODEQ's hazardous waste technical assistance program.

Region 10 also acknowledges the use of water quality authorities as a tool for controlling sources. Examples include the use of narrative and numeric water quality standards to make source control decisions; coordinating data collection efforts with the 303(d) listing to allow use of the TMDL process when appropriate (including addressing chemicals for which there are in-water sources as well as watershed based sources); and the use of NPDES permitting authorities, orders in lieu of permits and the City of Portland (MS4) permit to require certain monitoring and control measures.

- **If or when it becomes apparent that there will be upland source control actions,**

develop a comprehensive baseline monitoring program in order to gather data that can be used to evaluate the effectiveness of the source control actions in mitigating contaminant loading and subsequent risks in the ISA. This should include establishing background contaminant concentrations (including non-site related anthropogenic and naturally occurring compounds) upstream of the site in relevant media such as sediment, surface water, and/or resident aquatic biota.

Regional response: Region 10 agrees and notes that the Joint Source Control Strategy will identify minimum requirements for monitoring source control measures that will be applied on a facility by facility basis and evaluated as part of the RI/FS to evaluate the effectiveness of source control actions. Background contaminant concentrations for the site will be established during the in-water RI/FS process. ODEQ will be establishing background concentrations for individual upland facilities as necessary.

Principle #2, Involve the Community Early and Often

- **Consider establishing a local repository for site-related documents of interest to the community that is in a public space convenient for most stakeholders.**

Region 10 agrees with CSTAG's comment. The information repositories at the Main Multnomah County Library and the St. Johns branch have been re-stocked with Portland Harbor information, and a new location at the northwest Portland branch library was recently established at the request of community members.

- **Continue to use the site webpage to post all important site updates and information. This could include the electronic data (e.g., Query Manager/Marplot) used in GIS data presentations and evaluations.**

Regional response: Comment Noted. The Portland Harbor web site has been evaluated and the content is being expanded and improved during December 2003. The project team is planning to work with the Region 10 webmaster in early January on a major overhaul of the web site to improve ease of use, appearance and functionality.

- **Consider whether additional outreach is needed for transient and immigrant individuals that have frequent contact with the river flood plain.**

Regional response: Region 10 is currently revising the community relations plan and will include outreach to recent immigrants, and working with Oregon Department of Human Services on determining the transient populations, their locations, and their activities associated with the river. Outreach to transient and immigrant populations has been a continuing challenge for the project team since the inception of the project. When fish tissue data becomes available early

next year, special outreach efforts will include placing ads in publications targeted to Hmong, Russian, and Spanish speaking populations and other populations that may be identified by community groups and neighborhood associations. The St. Johns Neighborhood Association sponsored a meeting on Portland Harbor about a year ago for which EPA provided a Hmong interpreter and the association provided a Spanish translator. We will be seeking opportunities to do similar meetings in the future.

Principle #3, Coordinate with States, Local Governments, Tribes, and Natural Resource Trustees

- **Understanding the impact of ongoing releases from upland sources to the in-river sediments and the predicted effectiveness of any planned upland source control actions is critical to evaluating the effectiveness of any in-river remedial alternatives. The CSTAG recommends that there be increased coordination and collaboration between EPA and the State, who has the lead for the upland source control actions. This is especially important in understanding the potential current and future impacts of groundwater releases on any future in-river remedial actions.**

Regional response: Region 10 is continuing to work with ODEQ regarding upland source control issues, including impacts of groundwater releases and the future effectiveness of source control measures. The LWG provided a groundwater data report that summarized groundwater information from individual upland facilities. EPA is directing the LWG to incorporate the groundwater information into the Conceptual Site Model revision that is being planned for Spring of 2004.

- **Work with the tribes to establish tribal fish ingestion rates appropriate for the site.**

Regional response: Region 10 is currently discussing tribal fish ingestion rates with the tribes.

- **Consolidate and evaluate historical data collected at the site from numerous sources (e.g., Corps of Engineers, universities, USGS, EPA/WED-Corvallis, USFWS, NOAA).**

Regional response: Historic data was evaluated as part of the LWG's revised Draft RI/FS Work Plan submission. The data has also been consolidated in the Query Manager data base, which allows government agencies, the tribes and the public to review and evaluate the data. As new studies become available, the data base will be updated.

- **Keep the Corps of Engineers' navigational dredging team informed of site activities and data, and work with them to coordinate the timing and extent of any planned navigational dredging of the shipping channel in the ISA.**

Regional response: The project team will continue to work with the Corps of Engineers on dredging activities in the Portland Harbor area. EPA, ODEQ and the Corps signed a letter agreement to promote coordination and collaboration among the agencies on RI/FS, maintenance dredging, and navigation dredging activities in the lower Willamette River. The project team works directly with the EPA Region 10 representative on the Northwest Regional Dredging Team, which was formed in April 2002 to facilitate resolution of local and regional dredging/sediment issues, and the Regional Sediment Evaluation Team, which was formed to revise the existing regional Dredge Material Evaluation Framework (DMEF). Revision of the DMEF is a key element in planning future navigational dredging of the shipping channel. The project team is also working to improve coordination between the RI data gathering activities and planned data gathering for potential navigation dredging, as well as ongoing maintenance dredging activities, in the study area.

Principle #4, Develop and Refine a Conceptual Site Model that Considers Sediment Stability

- **The CSTAG supports the site’s Conceptual Site Model (CSM) and the team’s efforts to use multiple types of data to characterize the sediments in the ISA. Understanding the stability of the surficial and subsurface sediments is likely to be a critical factor in evaluating potential remedial options for this site.**

Regional response: Region 10 agrees with this comment.

- **As more contaminant data on flood plain soil, groundwater, sediment, surface water and biota become available, the site team should revise the CSM and use it to identify the major risk drivers, to assess the important sources and sinks, and to evaluate the effects that future upland source control actions may have on reducing in-river exposures to biota.**

Regional response: Region 10 will be directing the LWG to provide an updated CSM this spring to incorporate the recent compilation of groundwater data throughout the ISA and will also include more recent sediment and biota data. The CSM will include information on contaminant sources and sinks, affected media, migration pathways, and receptors. A primary objective of the CSM is to provide information on contaminant sources and pathways to guide future data collection and the evaluation of local effects, site-wide effects and watershed-based effects.

Principle #5, Use an Iterative Approach in a Risk-Based Framework

- **No new large-scale sampling events should be performed until all stakeholders have had the opportunity to evaluate the results of the LWG’s first two rounds of sampling. These data should be used to determine if there any sediment “hot spots”**

that present very high risks or act as large continuing sources of contamination to the ISA that may warrant in-river early actions.

Regional response: Region 10 intends to evaluate all available Round 1 data before Round 2 sampling begins and will consider if additional early actions are appropriate. Round 1 (and 1A) included fish tissue, co-located sediment, and physical system data collection. Round 2 is being planned to include comprehensive sediment chemistry and benthic toxicity sampling. Round 1 sediment chemistry and physical system data was evaluated by EPA, ODEQ, the tribes and trustees in developing Round 2 sampling plans, but EPA has not yet received validated data for all fish tissue. The validated fish tissue data is expected to be available prior to implementation of the Round 2 data collection.

- **Although a streamlined RI/FS for the in-river sediments may be appropriate, the CSTAG is concerned that the reduction in risks from controlling ongoing upland sources may not be fully understood at the time the sediment RI/FS is completed.**

Regional response: Region 10 shares the concern and is working with ODEQ for aggressive source control.

- **The potential for recontamination of any remediated areas should be considered in light of the timing of any planned remedial actions within the in-water ISA and/or in upland areas.**

Regional response: Comment noted. Recontamination potential is contemplated in the RI/FS Work Plan and is considered when determining whether an early action is appropriate. It will also be a key element of implementing early actions. For example, Region 10 and the Port of Portland recently signed an AOC for an early action at Terminal 4, Slips 1 and 3, that includes provisions for evaluating the potential for recontamination. The feasibility study will also consider recontamination potential in evaluating the timing of cleanup actions.

Principle #6. Carefully Evaluate the Assumptions and Uncertainties Associated with Site Characterization Data and Site Models

- **The CSTAG recommends that additional data be collected to further understand sediment stability. This may entail collecting sufficient subsurface cores in order to more fully characterize the nature and extent of recent and historic contamination throughout the ISA and measuring the critical shear stress for resuspension using an in situ device at several locations throughout the ISA.**

Regional response: EPA recently directed the LWG to submit a Round 2 field sampling plan that includes collection of subsurface cores samples throughout the ISA to further understand the

nature and extent of recent and historic contamination and support the hydrodynamic modeling process.

- **The Project Team should obtain additional technical expertise to review the PRP's modeling proposal and to evaluate the existing data, as well as any future data, on sediment stability that can be used to predict long-term sediment movement.**

Regional response: The Region has obtained additional technical expertise to review the draft hydrodynamic model, including EPA's ERD, for this site and will utilize this resource in the future.

- **In areas where contaminant concentrations are relatively low but close to levels that might trigger remedial action, the CSTAG recommends a careful evaluation of analytical detection limits and associated data uncertainty.**

Regional response: Comment noted. Region 10 is currently reviewing the QAPP for the Round 2 field sampling and may require special sampling and analytical techniques to obtain the necessary detection limits.

- **It is important that the degree of uncertainty associated with the key studies and data are documented and incorporated in future site decisions.**

Regional response: Comment noted. This is part of the RI/FS process

- **Since there appears to be several distinct areas of elevated sediment contamination, consider using smaller, discrete sediment management areas in developing risk assessment scenarios and in assessing additional data needs.**

Regional response: Region 10 agrees with this comment. Region 10 has directed the LWG to describe the process in which sediment management areas would be used. EPA will also be evaluating distinct areas of elevated sediment contamination as potential candidates for early actions.

- **The CSTAG recommends that more consideration be given to identifying and evaluating spatial and temporal changes in contaminant water column concentrations near the expected upland source areas, possibly using caged or indigenous bivalves or semi-permeable membrane devices (SPMDs). Bivalves and SPMDs can have significant advantages over collecting discrete large volume water samples because they continuously uptake water and concentrate the contaminants to levels that are easier to quantify. ORD can provide advice on this approach if necessary.**

Regional response: Agreed. Region 10 is currently reviewing the FSP for surface water and will consider using bivalves and SPMDs in addition to high volume sampling techniques.

Principle #7, Select Site-specific, Project-specific, and Sediment-specific Risk Management Approaches that will Achieve Risk-based Goals

- **If the baseline risk assessment demonstrates that human health and/or ecological risks are unacceptable, remedial action objectives and goals need to developed that are appropriate for the site. Due to the industrial nature of the site, it may be difficult to predict reliably the effectiveness of all upland source control actions in stopping or reducing all significant releases to the river.**

Regional response: Agreed. Comment noted.

Principle #8, Ensure that Sediment Cleanup Levels are Clearly Tied to Risk Management Goals
The CSTAG will evaluate this principle later in the process.

Principle #9, Maximize the Effectiveness of Institutional Controls and Recognize their Limitations

- **Use the results from the round 1 and round 2 data to evaluate the appropriateness of the current fish consumption advisories.**

Regional response: Region 10 agrees with this recommendation and is working closely with ATSDR and the Oregon Department of Human Services (ODHS) as fish tissue data becomes available. ODHS issued a fish advisory in December 2001 for the entire main stem of the Willamette River based on the presence of mercury, PCBs, chlorinated pesticides and dioxin in fish tissue. Once the validated fish tissue data from Round 1 is submitted by the PRPs, EPA will be working closely with ODHS to review the data with respect to the current health advisory and ODHS will update/revise the advisory as necessary. ODHS will also review the information to determine if a more formal Public Health Consultation is warranted.

Principle #10, Design Remedies to Minimize Short-term Risks while Achieving Long-term Protection The CSTAG will evaluate this principle later in the process.

Principle #11, Monitor During and After Sediment Remediation to Assess and Document Remedy Effectiveness The CSTAG will evaluate this principle later in the process.

If you have any questions or would like a clarification on any of these responses, please call Chip Humphrey at (503) 326-2678 or Tara Martich at (206) 553-0039.

cc: Sylvia Kawabata, Region 10
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