SECTION 13.0 COORDINATION AND INTEGRATION OF INVESTIGATIONS AND CLEANUP WITH DREDGING ACTIVITIES

Dredging is necessary to maintain waterways and harbors used for waterborne commerce and water-related industry, shipping, and for new port and marina construction in Portland Harbor. In addition to dredging related to federal navigation projects (which is performed by the Corps of Engineers), a number of ports, maritime industries, and private interests perform dredging and dredged material disposal. Consequently, dredging in the lower Willamette River has been a commonplace activity historically and will be ongoing for the foreseeable future.

The goal for coordination between the PHSMP and dredging programs is to provide environmental protection, reduce uncertainties in regulatory activities, ensure continued operation and maintenance of navigation facilities, minimize delays in scheduled maintenance dredging, and assure state and federal cross-program consistency.

Federal and state laws and regulation will determine the type of management required for contaminated dredged material. The goal is to provide environmental protection and consistent cross-program evaluation for reliable and timely reviews and regulatory decisions on dredge projects.

Projects that place dredge material in-water or upland with return water flow will be evaluated under the Clean Water Act, and evaluated for suit-ability using the Dredge Material Evaluation Frame-work (DMEF). Sediments that are unsuitable for in-water unconfined disposal will be evaluated for suitability of disposal in upland or in-water confined disposal locations. These projects will be coordinated with the Corps, EPA, DSL, federal and state natural resource agencies, and DEQ water quality, waste management and cleanup, hazardous, and solid waste divisions. Projects that place dredge material upland with no return water flow will be evaluated under Section 10 of the Rivers and Harbors Act and the applicable solid waste and hazardous waste rules. Additional information on this topic can be found in the Corps/EPA publication *Evaluating Environmental Effects of Dredged Material Management Alter-natives – A Technical Framework.*

13.1 Dredged Material Evaluation Framework

The DMEF was prepared by the Corps, EPA, Washington Department of Ecology, Washington Department of Natural Resources, and DEQ. The DMEF was developed to determine the suitability for unconfined in-water disposal of dredged sediments.

The tiered approach consists of evaluating historic sediment data and information on proximity of sources, and a methodology for determining if additional sampling and testing is required. Depending on the particular project, physical, chemical, or biological testing and/or risk assessment may be required before a decision is made on the suitability of the material for unconfined in-water disposal. For more information on the DMEF and evaluation methodology see the *Dredged Material Evaluation Framework - Lower Columbia River Management Area*.

13.2 Anticipated Dredging Activities

Dredging projects are and will continue to be pro-posed for the area affected by the PHSMP. Predicting the types of projects and quantities and quality of sediments that would be dredged is not possible without information from permit applicants. These projects will be evaluated when the information becomes available in the manner described above.

One proposed project is the Lower Columbia and Willamette River Channel Deepening project being conducted by the Corps and sponsored by seven Lower Columbia River ports. A draft environmental impact statement has been prepared by the Corps and public comments are currently being reviewed. The current schedule for the channel deepening project is as follows:

- June 1999 Final EIS Public Review
- August 1999 Chief of Engineers Report to Congress
- October 1999 Record of Decision
- 2000 Congressional Authorization
- 1999-2001 Preconstruction Engineering & Design
- 2002+ Construction Start

The Willamette River portion of the channel deepening project is being sequenced in its planning and implementation in order to ensure that channel deepening is closely coordinated with the PHSMP.

As more information becomes available on the final plans for channel deepening, PHSMP implementation will be closely coordinated with those efforts.

If a cleanup is pursued at Portland Harbor using CERCLA authority, the ability of the Corps of Engineers to complete any of the above actions will be impacted. Although the Corps could provide support to the U.S. Environmental Protection Agency in CERCLA actions, the U.S. Environmental Protection Agency becomes the lead agency and Corps policy prohibits the use of its Civil Works funding resources within the boundaries of CERCLA sites. Exceptions to this policy would include sites such as the U.S. Moorings, where contamination may result from the Corps' own activity or a specific authorization from Congress. The policy is designed to limit overlap of authority between the agencies.

13.3 Coordination with PHSMP

Successfully carrying out cleanup of contaminated sediments in a working harbor necessitates coordination between cleanup activities, scheduled dredging projects, and other waterfront construction activities. If not carefully coordinated, these various types of projects can conflict with one another in terms of land-use and environmental goals, scheduling, and permitting, and may even result in recontamination of already cleaned-up areas. In Portland Harbor, contaminated sediments exist in areas of the Harbor scheduled for dredging and waterfront improvements. At the same time, not all areas of the Harbor are contaminated. DEQ is building cross-program relationships that build on existing regulatory authorities to allow dredging and construction projects to continue in both clean and contaminated areas of the Harbor, while simultaneously expediting cleanup of sediments and minimizing the potential for recontamination.

13.3.1 Ensuring Regulatory Consistency

Dredging and cleanup programs share certain basic environmental goals. Open-water disposal of dredged material must be protective of the environment, including benthic organisms, fish, wildlife, and humans. Similarly, these pathways are evaluated during a risk assessment at a contaminated sediment site. The goal of both programs is to ensure that any sediments exposed to the environment are safe for all of these receptors. For this reason, both programs require assessment of sediments to ensure that they are neither toxic to benthic organisms nor pose a bioaccumulative risk to higher trophic levels. This consistency in environmental goals will be reflected at the technical level, by using consistent or identical testing and analytical protocols, evaluation procedures, and interpretation criteria. This will avoid undesirable regulatory outcomes, such as material being designated suitable for open-water disposal yet failing cleanup guidelines (or vice versa).

The PHSMP sediment assessment methodology has been designed to ensure that the dredging and cleanup programs remain consistent over time. Sampling and testing protocols already in use in the Pacific

Northwest have been retained and built upon. Particular attention has been paid to consistency with the DMEF. Where technical tools were previously unavailable or incomplete (e.g., freshwater sediment quality guidelines), the PHSMP envisions developing these new tools in cooperation with dredging agencies and parties regulated under both the cleanup and dredging programs. It is anticipated that modifications to testing and analytical protocols, as well as sediment and tissue guidelines, will be coordinated between the cleanup and dredging programs, so that manuals, guidance, and regulatory requirements will be updated in both programs at the same time. In addition to regular work group meetings, annual review meetings to discuss proposed modifications will provide an opportunity for all affected agencies and regulated parties to review, comment, and participate in the development of these tools.

Although many technical aspects of the sediment assessment methodologies are similar, there are legitimate procedural and technical differences that affect how cleanup and dredging evaluations are carried out. Dredging projects often have significant time constraints that necessitate a more streamlined decision-making and permitting process. There may be some differences between the exposure pathways that are normally present at disposal sites and those that may be present at cleanup sites (e.g., disposal sites are normally selected to avoid sensitive habitats). Finally, the sampling design is different –dredged material evaluations are done using core samples that represent barge-loads of material, while risk assessments at cleanup sites are normally more concerned with a spatially detailed assessment of surface sediments. Although cleanup and dredging programs should always be designed to be as similar as possible, some differences will remain that should be taken into account in determining whether there is a legitimate need for a program variance.

13.3.2 Determining Which Regulatory Frame-work to Apply

In Portland Harbor, some dredging projects are anticipated within designated cleanup sites that will be addressed under the PHSMP. In these cases, it is necessary to determine whether to proceed with sediment evaluations under the cleanup or the dredging methodologies. As noted above, these two programs are designed to be as consistent as possible, but have certain procedural and technical differences. However, the underlying concept is that the pro-grams are equally protective of human health and the environment, and which regulatory mechanism to use is largely determined by individual project circumstances. Figure 13-1 provides a framework for determining how to proceed.

Dredging projects have many constraints that may make application of the standard RI/FS framework inappropriate, as there are fewer exposure pathways to evaluate and cleanup alternatives are limited to disposal options. There are often time constraints that preclude the extended negotiations and phased investigations that are characteristic of cleanup sites. In addition, within many designated sites, particularly an area as large and diverse as Portland Harbor, there are areas of sediment that are relatively clean and could qualify for open-water disposal. As a general rule, then, legitimate dredging projects will be allowed to proceed through the open-water disposal evaluation procedures to determine whether some or all of the dredged material management units can be disposed of in open-water environments, prior to designing and conducting sediment remedial investigations for the remaining areas under the cleanup program.

Because some dredging projects are in more advanced stages of planning than others, the question of scheduling will arise. Some areas are dredged frequently, while others may only need dredging every three years, five years, or ten years. Areas subject to periodic maintenance dredging (navigation channels, berths, moorages, docks, and other public and private improvements) will proceed with the presumption that dredging will be the selected action. However, if the next scheduled dredging project is far in the future, dredged material evaluation and disposal may need to be accomplished sooner if required to coordinate with the schedule for remediation of a larger area, or if sediments remaining in place would pose a significant risk to human health or the environment in the interim.

If a new dredging project is proposed but is relatively conceptual and funding is uncertain, it may be more appropriate to continue with the standard RI/FS approach, to ensure timely cleanup of the area. One or more of the following criteria will be used to establish whether a RI/FS should be modified or scheduled around a new (i.e., non-maintenance) dredging project.

- A Corps of Engineers Section 10 permit has been applied for.
- The project has an allocated budget and project manager.
- The project is included in long-term development plans or a programmatic EIS.
- The project is scheduled within a few years.
- Engineering design work is underway or completed.

Figure 13- 1. Dredging Regulatory Framework Decision Process

13.3.3 Modifications to Dredging Projects in Contaminated Areas

If a dredging project is occurring within or partially within a site that has been listed on the ESCI or in a known contaminated site, the following modifications may be appropriate:

- **Site Manager Involvement.** The designated site cleanup manager will be provided the opportunity to be involved in review of the dredging permit and dredged material evaluation. The site manager is often aware of unusual circumstances, site history, or sensitive resources in the vicinity that may be helpful to the permit reviewers. In turn, the site manager needs to be kept informed of project developments that may affect an ongoing RI/FS at the site. In order to avoid impacting the dredging project schedule, the site manager will make every effort to work within the normal permit review timeline.

- **Sampling of Underlying Material.** Dredging and Clean Water Act regulations contain antidegradation provisions designed to prevent worsening of environmental conditions at the project site. If it is determined that contaminated material may be present at depth and dredging may expose underlying material that may cause impacts, then sediments underlying the proposed dredged cut will be sampled to ensure that they are not more contaminated than sediments currently at the surface. In such a case, alternatives may need to be considered, such as dredging to less contaminated sediments or dredging deeper and placing a cap, to avoid long-term environmental impacts at the project site. Confirmatory testing may be necessary to document that the dredged area is now clean.
- **Recontamination Issues.** When dredging in a contaminated area, there may be issues of recontamination from sediments surrounding the dredged area. This is particularly an issue when deeper-draft vessels or new activities are planned in previously unused areas. Side-slope sloughing of contaminated material may also be a problem, both during and after dredging. Project modifications may be necessary to prevent recontamination of dredged areas, including shallower side-slopes, and coordination of project timing with adjacent cleanups.

- **Dredging of Suitable and Unsuitable Material**. In some cases, both suitable and unsuitable sediments may be dredged in close proximity, or in a patchwork arrangement, in areas with borderline or heterogeneous contamination. In these areas, permit conditions will be added to require dredging of contaminated sediments first, with overdredge into clean areas, to ensure that unsuitable sediments are not accidentally disposed of at open-water disposal sites.

- **Permit Conditions.** When dredging highly contaminated material, additional permit conditions may be necessary to ensure protection of the environment during dredging, including additional water quality monitoring during dredging and/or use of alternative dredging technologies (e.g., sealed bucket, hydraulic dredging, silt curtains).

- **Combined Dredging and Cleanup Projects.** Occasionally, a dredging project may encompass a large percentage of a contaminated site requiring cleanup. In these cases, it may be cost-effective to expand the dredging project to accommodate additional material adjacent to the dredging footprint, in order to accomplish a complete cleanup at the site at the same time. Such an expansion is most appropriate if the dredging project encompasses most of the area requiring cleanup, if the dredging proponent is the responsible party for the cleanup, if there is a high risk of recontamination if the remaining cleanup is not completed at the same time, and/or if the responsible parties agree that this approach is more cost-effective than conducting separate projects. Under these circumstances, DEQ's removal authority will be used in conjunction with the normal dredged material permit review process to accomplish a rapid and cost-effective cleanup of the site.

13.3.4 Modifications to the RI/FS Process to Accommodate Dredging Projects

The following modifications to the normal RI/FS process are appropriate when a dredging project is planned within a contaminated site, and the sedi-ments have failed open-water disposal criteria:

- **Use of Removal Authorities and Expedited Decision Process**. The RI/FS is normally designed to evaluate exposed surface sediments at the site, determine if risks to human health and/or the environment exist, and if so, what alternatives are available for reducing those risks. If a dredging project is planned, many of these questions become moot. Risks to the environment at the site will not be present over the long-term, since the sediments will be removed and taken elsewhere. Therefore, complex evaluations of surface sediments and bioaccumulative risks may not be needed. A wide range of remedial alternatives need not be evaluated, since the sediments will necessarily be dredged and confined. The primary question remaining is where and how to dispose of the sediments safely. Because a standard RI/FS is not necessary, it may be more appropriate to use DEQ's cleanup program authorities to accomplish dredging of contaminated sediments that have failed open-water disposal criteria. In such a case, there will already have been a demonstration of risk associated with the sediments, and removal is both appropriate from an environmental perspective and desired by the project proponent.

- **Remedial Design Testing.** Rather than completing an RI/FS (e.g., using the sediment assessment methodology outlined in Appendix G), sampling at the site and/or the disposal area should focus on information needed to design the dredging and disposal project and ensure that contaminants will not be mobilized during dredging or migrate out of the disposal sites. Such testing will be largely project-specific, but may include physical properties of the sediments that affect dredging, settling, and disposal; geotechnical properties of the proposed disposal area, such as load-bearing capacity, earthquake resistance, or slope stability; elutriate testing of sediments to assess contaminant mobility during dredging; contaminant mobility modeling to assess the potential for migration from an in-water disposal site, and/or required testing for upland disposal (e.g., TCLP, TPH).