DEPARTMENT OF THE NAVY
OFFICE OF THECHIEF OF NAVAL OPERATIONS
2000 NAVY PENTAGON
WASHINGTON DC 20350-2000

IN REPLY REFER TO

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08 FEB 2002

From: Chief of Naval Operations
To: Commander, Naval Facilities Engineering Command

Subj: POLICY ON SEDIMENT SITE INVESTIGATION AND RESPONSE ACTION

End: (1) Navy/Marine Corps Installation Restoration Policy on Sediment Investigations and Response Actions

1. Enclosure (1) is provided in response to concerns received from the field pertaining to investigation and clean up of contaminated sediments. The policy specifies that the source must be identified and controlled before cleanup, the cleanup must be risk-based and have site-specific cleanup goals, and the monitoring criteria for any monitoring plan must be established before the first sample is collected.

2. Enclosure (1) has been coordinated with the Marine Corps. For further information or questions please contact Wanda L. Holmes of my staff at (703) 604-5420 or DSN 664-5420 or email holmes.wanda@hq.navy.mil.

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Subj: POLICY ON SEDIMENT SITE INVESTIGATION AND RESPONSE ACTION

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NAVY/MARINE CORPS INSTALLATION RESTORATION
POLICY ON
SEDIMENT INVESTIGATIONS AND RESPONSE ACTIONS

BACKGROUND

Many Department of the Navy installations are located along water bodies. These water bodies are impacted by a wide range of activities from municipal storm water to private industrial entities. This fact presents the Navy with unique challenges in restoring our Installation Restoration (IR) sites that are adjacent to these waters.

This document provides policy on how sediment investigations and response actions shall be implemented in the IR Program. The investigation and cleanup of sediments cannot be treated like soil investigation and cleanup. Sediment contamination is generally more complex. Therefore, extreme care must go into the planning and design of investigations and any corresponding response action.

APPLICABILITY

Policies and procedures contained herein apply to all site investigations and response actions funded under Environmental Restoration, Navy (ER,N) and Base Realignment and Closure (BRAC).

DEFINITIONS

Navy – Represents both Navy and Marine Corps installation sites within the Environmental Restoration Program.

Sediments - Particulate matter that deposits to the bottom of a water body including, but not limited to lakes, seas, ponds, rivers, streams, harbors and storm drain systems.

Non-Navy Source – Refers to a source of contamination that is not a result of Navy or Marine Corps operations. It is an entity (industrial plant, private or public sector, etc.) not operated by the Navy.

Conceptual Site Models (CSM) – A written or pictorial description of the elements of a site including assumptions about exposure and effect. The CSM identifies known or suspected contaminant sources, release and transport

mechanisms, exposure routes, and receptors. The CSM functions as a dynamic planning tool, helping in the identification of data gaps, site knowledge, and assessment methods.

Watershed Contaminated Source Document (WCSD)- A summary report (2 to 10 pages) on the potential for both Navy and non-Navy sources to have contaminated sediment in the water body adjacent to Navy property. The WCSD briefly identifies potential contaminant sources, releases, transport mechanism, exposure routes, and receptors from Navy and non-Navy sources. The WCSD should include a pictorial Conceptual Site Model. The purpose of this WCSD is to document the existence of other parties who have impacted the sediments. This brief report should be provided to the appropriate regulator.

POLICY

All sediment investigations and response actions must be directly linked to Navy CERCLA/RCRA contaminated releases (BRAC and/or ER,N eligible). Directly linked means that the sediment contamination is scientifically connected to a Navy IR/BRAC site. The project team (Navy Remedial Project Managers, Remedial Technical Managers, Regulators and Contractors) should discuss the desired outcome of each phase of the IR process. If the reasonably anticipated future land of property adjacent to the sediment contamination is known, consider that future land use in the CERCLA process and make the appropriate management decisions. Involve the stakeholders early in the process. Risk management decisions shall be conducted throughout the IR Process. All sediment investigations and response actions shall be scientifically defensible, technically feasible, risk-based, and cost effective. This Policy requires that:

1. All sources shall be identified to determine if the Navy is solely responsible for the contamination.

Many Navy installations are adjacent to water bodies that exhibit complex hydrological and sediment dynamic processes. Sediment dynamics within water bodies can cause commingling of contaminants from various sources. This can make it difficult to distinguish Navy contaminants from those contributed by non-Navy sources within the same watershed, especially in urban and industrial settings.

Thus it will often be critical to generate an understanding of contributing sources and sediment dynamics.

Source identification is very important in determining the Navy's cleanup responsibility and if a site will be re-contaminated after cleanup is complete. The extent of the Navy responsibility shall be determined. Therefore, the project team will generate a Watershed Contaminated Source Document (not a watershed investigation) if there are potentially other non-Navy sources contributing to the contamination of the sediment. All sources of Navy and non-Navy contamination at the site should be identified.

If it is determined that a significant source of contamination is not coming from Navy sources, document the information, inform the regulators (using the WCSD), consult with counsel for appropriate action and inform Naval Facilities Engineering Command (NAVFAC), if necessary.

2. All investigations shall primarily be linked to a specific Navy CERCLA/RCRA site.

Due to the complexity of sediment investigation, characterization must be conducted using planning tools and methods such as Conceptual Site Model (CSM), Data Quality Objectives (DQOs), and problem formulation before any samples are collected. Using these tools to develop sampling plans provides a more scientific approach to focusing the collection of samples. The CSM provides a better understanding of the dynamics of a potentially contaminated site and should be refined as new information is collected. Innovative investigation and interpretation techniques such as modeling, rapid assessment, finger printing and in-situ tools should be utilized to investigate sediments.

Figure 1, Navy IR Sediments Framework, is provided as a guide to conducting site investigations and the selection of the response action. Some ER,N/BRAC funds may be spent initially to determine if a link exists between the offshore area and the contaminated on-shore Navy source (from the site, for the contaminant). However, if it is determined that the primary source of contamination is from non-Navy activities cease the expenditure of ER,N/BRAC funds, consult with counsel for appropriate action, and

inform NAVFAC as necessary. Navy storm water drains, outfalls and other rainwater conveyances that are not directly linked to a Navy CERCLA or RCRA site shall not be investigated using ER,N or BRAC funds.

If it is established that only Navy activities contribute sources to a water body then investigating that water body using a watershed approach (investigating ER,N/BRAC eligible Navy CERCLA/RCRA sites contributing to the water body) may be beneficial and cost effective. ER,N/BRAC funds can be used in this case. Investigating (collecting and analyzing samples) entire watersheds that contain non-Navy sources is not an appropriate use of cleanup funds. Any proposed broad watershed investigations with non-Navy sources and potential cost sharing with non-Navy entities must be approved by Chief of Naval Operations (N45) Office.

3. All sediment investigations and response actions shall be consistent with Navy polices on risk assessment and background chemical levels.

The Navy has issued human health risk assessment, ecological risk assessment, and background chemical levels policies and guidance that shall serve as a guide to determine it there are unacceptable risk within the sediments. These policies/guidance shall be used to determine the risk that the site poses, the risk of the proposed response action alternative and to eliminate chemicals that are not of concern during the risk assessment process.

4. Sediment cleanup goals shall be developed based on site-specific information and shall be risk-based.

Unacceptable risks from contaminants must be directly attributed to a Navy CERCLA/RCRA source. If unacceptable risk to human health and/or the environment is identified, risk-based sediment cleanup goals shall be developed using site-specific information. The cleanup goal must be risk-based and achievable. Ecological screening values must not be used as cleanup goals nor shall cleanup values below background chemical levels be used. Development of cleanup goals should include, but not be limited to, land use and bioavailability.

During the review of the response action alternatives the project team must evaluate the protectiveness of human health and the environment, the short and long term implementation risk, the potential impact to the natural resources, and the potential for sediment to be re-contaminated from non-Navy sources. All reasonably feasible remedies should be evaluated. Natural Recovery/Natural Attenuation of sediments and/or a combination of other cleanup alternatives should be considered. Establishing potential remedial alternative objectives early will allow the collection of specific data (type of samples) during the remedial investigation or feasibility study.

5. The Navy shall not clean up contamination from a non-Navy source where the Navy has not contributed to the risk in sediments. The Navy will not clean up a site before the source is contained. Any potential re-contamination by non-Navy sources shall be documented.

Only sediment sites with known contamination from Navy sources that demonstrate unacceptable risk will be remediated. All Navy sources shall be contained before sediment response actions are initiated. Once the extent of the Navy responsibility has been identified and there is potential re-contamination from non-Navy source(s) it shall be documented in the investigation report, the Record of Decision before any response action is undertaken and in the response action completion report. The information provided in these reports, documents that the Navy has cleaned up its responsibility.

6. A monitoring plan with exit strategies shall be developed before collecting the first monitoring sample.

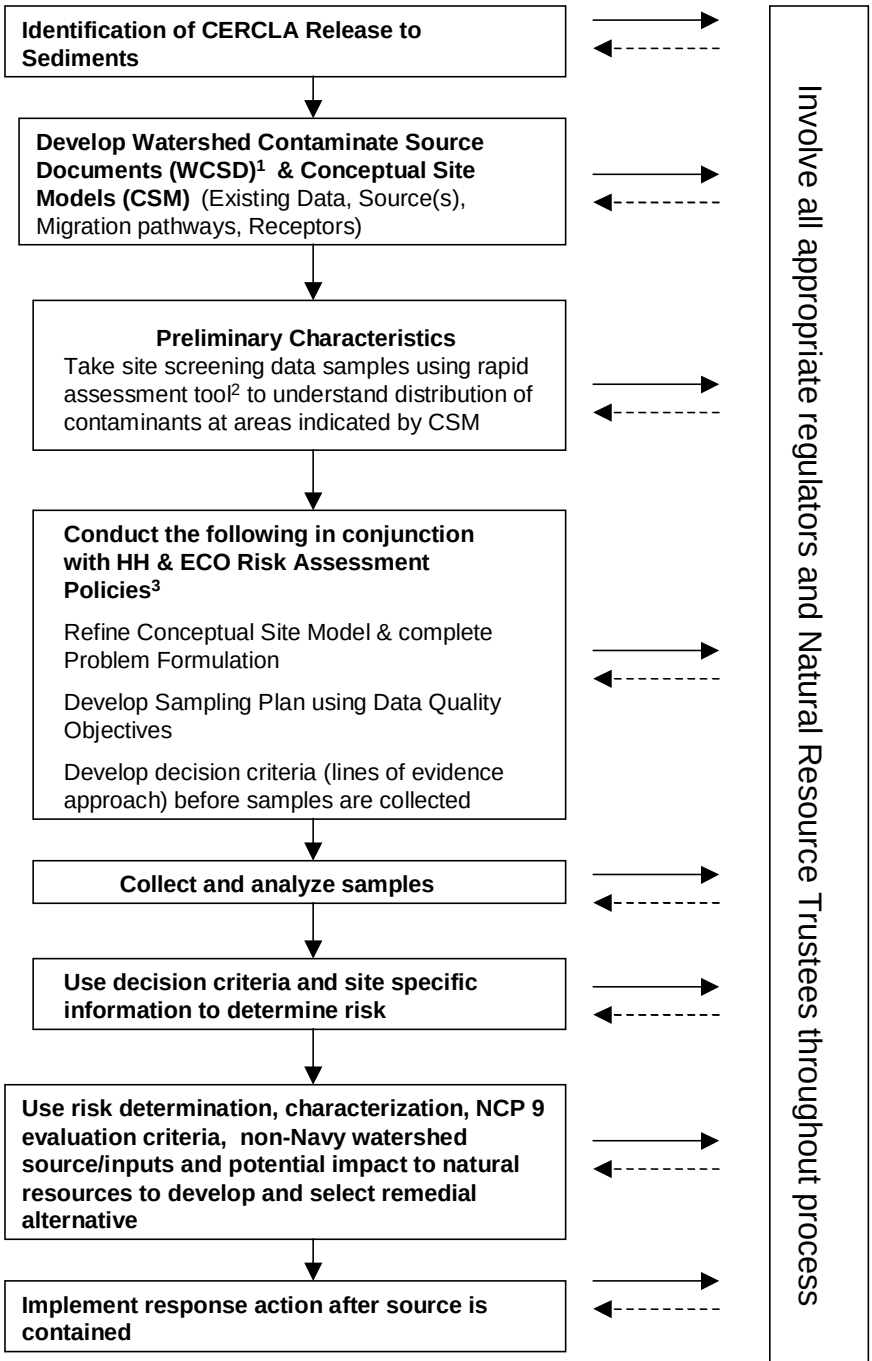
Monitoring is critical to successful implementation of remedies that leave contaminants in place, including monitoring of remedial activities, natural recovery or capping. If a monitoring alternative is selected in conjunction with or in place of a cleanup action a monitoring plan must be completed before the first monitoring sample is collected. The DQO process must be employed to design the monitoring plan. The monitoring plan must have the number, type (biota or bulk chemistry),

location, and duration of all samples. Exit strategies must be included in all monitoring plans.

CONCLUSION

Careful thought must go into the planning and design of investigations and the response actions for sediments. Source identification, Conceptual Site Models, problem formulation and DQOs must be utilized in the characterization of the site. Identification of all potential sources, both Navy and non-Navy, is essential to the decision-making process. The remedial alternative selected shall be risk-based and the Navy source should be contained before the commencement of the sediment remediation.

Navy IR Sediments Framework



Notes:
1. WCSD is only conducted when there are non-Navy/Marine Corps sources.
2. A percentage of rapid assessment samples may need lab confirmation.
3. CNO Human Health Risk Assessment & Ecological Risk Assessment Policies.

Figure 1