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

IN REPLY REFER TO

5090
N45C/N4U732343
23 April 2004

From: Chief of Naval Operations, Environmental Readiness Division (N45)
To: Distribution

Subj: POLICY FOR OPTIMIZING REMEDIAL AND REMOVAL ACTIONS UNDER THE ENVIRONMENTAL RESTORATION PROGRAMS

Ref: (a) Management Guidance for Defense Environmental Restoration Program (DERP), September 2001
(b) Navy/Marine Corps Installation Restoration Manual, June 2001
(c) Navy Guidance for Optimizing Remedial Action Operation (RAO), April 2001
(d) Navy Guide to Optimal Groundwater Monitoring, January 2000
(e) Navy Guidance for Optimizing Remedy Evaluation, Selection and Design, April 2004

Encl: (1) Navy/Marine Corps Policy for Optimizing Remedial and Removal Actions, April 2004

1. Enclosure (1) establishes procedures for optimizing the screening, evaluation, selection, design, and implementation for long-term operation and management of response actions conducted under the Environmental Restoration (ER) Program, which includes the Installation Restoration (IR) and Munitions Response (MR) Programs. This policy is to be applied to both remedial and removal actions. Implementation of this policy will ensure that the Navy/Marine Corps consistently monitors, tracks, and reports the optimization efforts for all ER sites.

2. Section 20 of reference (a) requires the Department of Defense (DoD) Components to continually evaluate remedies. This policy will ensure that all remedies are continually evaluated. Reference (b) outlines the process the Navy/Marine Corps follows in implementing the ER Program. References (c) through (e) provide specific guidance for meeting the requirements of enclosure (1).

Subj: POLICY FOR OPTIMIZING REMEDIAL AND REMOVAL ACTIONS UNDER THE ENVIRONMENTAL RESTORATION PROGRAMS

3. This policy has been coordinated and concurred with by the Marine Corps.

4. This policy will be included in the next revision to reference (b). It will also be available on the N45 website (http://web.dandp.com/n45/index.html) under Environmental Restoration/Training, References.

5. My point of contact concerning this policy is Mr. Dave Olson, N45C, (703) 602-2571, DSN: 332-2571 or email at david.l.olson@navy.mil.

William G. Mattheis
WILLIAM G. MATTHEIS
Acting

Distribution:
CMC (LFL)
COMNAVFACENGCOM WASHINGTON DC (ENV)

Copy to:
DASN(E)
COMNAVFACENGCOM WASHINGTON DC (18)
NAVFAC EFD PACIFIC PEARL HARBOR HI (18)
NAVFAC EFD SOUTHWEST SAN DIEGO (18)
NAVFAC EFD SOUTH CHARLESTON SC (18)
NAVFAC EFA CHESAPEAKE WASHINGTON DC (18)
NAVFAC EFA NORTHEAST PHILADELPHIA PA (18)
ENGFLDACT WEST DALY CITY CA (18)
NAVFAC EFA NORTHWEST POULSBO WA (09E)
ENGFLDACT MW GREAT LAKES IL (18)
NFESC PORT HUENEME CA (ESC41)
COMNAVREG NE GROTON CT (N8)
COMNAVREG MIDLANT NORFOLK VA (910)
COMNAVREG SE JACKSONVILLE FL (N4)
NTC GREAT LAKES IL (N45)
NETC PENSACOLA FL (OS441)
COMNAVRESFOR NEW ORLEANS LA (N464)
COMNAVREG SW SAN DIEGO CA (N4)
COMNAVREG PEARL HARBOR HI (N465)
COMNAVMARIANAS GU (N45)
COMNAVREG NW SEATTLE WA (N45)

Navy/Marine Corps Policy for Optimizing Remedial and Removal Actions At all Installation Restoration and Munitions Response Program Sites

April 2004

Background

As the Navy/Marine Corps have progressed through implementation of the Installation Restoration (IR) Program and begun the Munitions Response (MR) Program, many sites have advanced through the remedy evaluation, selection, design, and construction phases and are undergoing Remedial Action Operation (RAO) and Long Term Management (LTMgt). This has shifted a growing proportion of the available Environmental Restoration Navy (ER,N) and Base Realignment and Closure (BRAC) funds to these long-term site cleanup commitments. Continued monitoring of these remedies has indicated that some remedies selected are not meeting cleanup objectives as planned. Further evaluation of specific sites has revealed several areas where optimization efforts could be applied to ensure the most appropriate remedies are screened, evaluated, selected, designed, and properly operated/maintained, and that options are available to modify systems to ensure cleanup objectives are met in a timely, cost effective manner. These results prompted the need for further optimization direction. Section 20 of the Management Guidance for Defense Environmental Restoration Program (DERP), September 2001, requires the Components to continually optimize remedies. This policy outlines the Navy/Marine Corps efforts to be conducted to ensure all remedies are continually optimized through evaluation of all available data at each phase of the project.

Applicability

This policy applies to all response cleanup actions conducted at Navy/Marine Corps IR and MR Sites. It applies equally to response actions at active installations as well as closing installations. The procedures outlined in this policy and the referenced guidance documents are to be used during the following phases:

- Feasibility Study and/or Engineering Evaluation/Cost Analysis
- Record of Decision and/or Action Memorandum (Remedy Selection)
- Remedial Design

- Remedial and/or Removal Action Construction
- Remedial/Removal Action Operation
- Long Term Management

The principles of this policy will also apply to any other sub-phases or related phases, including RCRA corrective actions, which accomplish the goals of the phases listed above.

Policy

1. Planning, Design, and Construction - During the planning stages of the remedial and/or removal action processes, the guidance outlined in the Navy Guidance for Optimizing Remedy Evaluation, Selection and Design (April 2004) shall be followed. This guidance document applies, at a minimum, to the following phases of the cleanup program:

- Feasibility Study and/or Engineering Evaluation/Cost Analysis
- Record of Decision and/or Action Memorandum (Remedy Selection)
- Remedial Design

This guidance document could also be referenced during the Remedial and/or Removal Action Construction phase. Applicability during this phase will likely be due to changed conditions found during construction.

Following this guidance during these phases of the cleanup process will ensure that the most appropriate response actions are screened, evaluated, selected, and designed for each Navy/Marine Corps IR and MR Site.

Special Technical Issue: Since 1998, Navy, other DoD Components, and the Environmental Protection Agency (EPA) have been conducting evaluations of the effectiveness of "pump and treat" systems to address groundwater contamination. Consensus of all parties is that pump and treat systems are rarely the optimal alternative for groundwater response actions. Therefore, any plans to install new pump and treat systems on Navy and Marine Corps installations requires approval from Headquarters (HQ) at the Naval Facilities Engineering Command (NAVFAC). This requirement applies to all "pump and treat" systems (remedial and removal actions) where groundwater is removed from the sub-surface by pumping or other means, treated above ground in any way, and discharged in any way (i.e. off site disposal, sewer systems, re-injected, etc.). In order to receive the NAVFAC HQ approval, the IR Manager shall forward a summary of the site background, the conceptual site model (CSM), the remedial action objectives, a listing of the technologies screened for the site, a summary of the alternatives analysis, and a statement of why "pump and treat" is the most appropriate technology to be used at the site, including a life cycle cost analysis (net present value and total site cost) and exit

strategy. NAVFAC HQ will provide a written approval/disapproval response to the IR Manager based on review of this submittal.

2. Operation - Following completion of the construction of the remedial/removal system (for sites where the remedial action objective is not achieved at the completion of the remedial action construction phase), operation of the remedial/removal system commences. The performance of these systems should be evaluated at least annually to measure progress toward the remedial action objective. The Navy Guidance for Optimizing Remedial Action Operation (RAO), April 2001, shall be followed for optimizing the RAO phase of the process and the Navy Guide to Optimal Groundwater Monitoring, January 2000 shall be followed to optimize any groundwater monitoring program(s) (if part of the remedy selected).

Following this guidance document during the RAO phase will ensure that the remedy is operating efficiently and as designed. Spatial and temporal trend analysis of data will help assess system performance and its ability to effectively treat the target area and contaminants. Data analysis shall be used to determine when each technology has reached its effective use, when it is time to transition a remedy to a sequential phase, determine whether a remedy needs to be modified or replaced with a more effective system, and when remedial objectives have been met.

3. Long Term Management - When the remedial action objectives have been met and the Response Complete (RC) milestone has been reached, there may be a need for further long term management (LTMgt) to ensure the remedy remains protective if the cleanup levels achieved do not allow for unrestricted use of the property. The Navy Guide to Optimal Groundwater Monitoring, January 2000 shall be followed for the groundwater monitoring portion of the LTMgt phase. NAVFAC is also working on some additional LTMgt guidance documents to address other aspects of the LTMgt phase, which shall be followed when complete.

Following these guidance documents will ensure that the LTMgt requirements are achieved in a cost effective manner. Periodic evaluation of these requirements and site conditions will ensure that sites in this phase ultimately receive Site Closeout status, thus allowing the site to eventually be used for unrestricted use.

4. Tracking and Reporting - A new module has been added to the Navy's NORM database. RPMs shall update the information semi-

annually to track optimization efforts through all phases of the cleanup process. The Navy will use this data to report on our efforts to continuously optimize our remedies. Specific guidance for inputting data into NORM shall be provided in future NAVFAC HQ Budget Guidance documents.