

- 1/1/97-3029

INSTALLATION RESTORATION PROGRAM



**Marine Corps Base,
(MCB)
Camp Lejeune**

**Atlantic Division,
Naval Facilities
Engineering Command**



EXPEDITED STUDY, DESIGN, AND CLEANUP

This Fact Sheet outlines recent successes of accelerating the study, design, and remediation of Installation Restoration (IR) Program sites at Marine Corps Base (MCB), Camp Lejeune, North Carolina. By expediting the study and design phases, the timeframe to reach remediation has been significantly decreased, and remediation has been initiated and/or completed at six sites within four years.

Background

In October 1989, MCB Camp Lejeune was placed on the National Priorities List (NPL). The U.S. Department of the Navy (DoN), USEPA Region IV, and the North Carolina Department of Environment, Health, and Natural Resources (DEHNR) signed a Federal Facilities Agreement (FFA) in February 1991. The purpose of the FFA is to ensure that environmental impacts associated with past and present activities at MCB Camp Lejeune are thoroughly investigated in a timely manner. If necessary, appropriate CERCLA response/RCRA corrective action alternatives are developed and implemented as necessary to protect the public health, welfare, and the environment. The FFA identified 34 sites that need to be investigated and potentially remediated in accordance with CERCLA.

Planning

The sites identified under the FFA were evaluated with respect to their location, potential for risk to human health and the environment, types of contamination, and disposal methods. Sites with similarities were grouped together to form 13 Operable Units (OUs). By combining the IR sites into OUs, the study and remediation could be conducted more efficiently from both a cost and time factor. A Site Management Plan (SMP) was developed. The SMP outlines a 5-year action plan for investigating and remediating sites identified under the FFA. Under the IR Program, a typical ("generic") timeframe to achieve cleanup is approximately 65 months. The FFA identified a more aggressive schedule: approximately 53 months to reach the cleanup phase.

Expedited Procedures

Spurred on by a nation-wide interest in spending less time and money on study and more effort on site cleanup, the IR Project Team focused on ways to expedite cleanup. The team is comprised of the following members:

- ❖ *LANTDIV Environmental Quality Division*
- ❖ *USEPA Region IV*
- ❖ *NC Department of Environment, Health and Natural Resources (NCDEHNR)*
- ❖ *MCB Camp Lejeune IR Division*
- ❖ *Baker Environmental, Inc. (Design A/E)*
- ❖ *OHM Remediation Corporation (remediation contractor)*

The project team identified a number of activities or tasks which contributed to lengthy studies. Two of the most significant tasks were the timeframe and number of technical review periods (approximately one-third of the total

**Expedited Procedures
Continued**

timeframe was for government review periods), and the impact of conducting two- or three-phased field programs. The project team identified a number of actions to significantly reduce the overall timeframe to achieve cleanup. These actions included:

- ❖ Conducting team scoping meetings during preparation of RI/FS Project Plans;
- ❖ Implementing Removal Actions during the RI;
- ❖ Conducting single-phase RIs involving a single field event and report rather than the traditional multiphase field program;
- ❖ Improving the efficiency and costs of field investigations by utilizing field screening technologies;
- ❖ Conducting project review meetings with the agencies to resolve comments;
- ❖ Initiating the Proposed Remedial Action Plan and Record of Decision during the FS;
- ❖ Initiating the design phase during the FS phase; and
- ❖ Obtaining input from the Remedial Action Contractor (RAC) prior to construction.

By implementing the above actions, the timeframe to reach cleanup has ranged from 24 months to 39 months, as shown below on Table 1.

Project	Development of Project Plans	RI/FS	Design	Total Duration (months)
Generic IR Project	10	40	15	65 ⁽¹⁾
Generic FFA Project	10	28	15	53 ⁽²⁾
OU No.1- Interim Removal Action	0	12	14	24 ⁽³⁾
OU NO.1- Final RI/FS	10	17	12	36 ⁽³⁾
OU. No.2	9	17	13	39
OU No.3	9	15	0 ⁽⁴⁾	24
OU No.5	10	17	5 ⁽⁵⁾	27 ⁽³⁾
OU No.10 - Interim Removal Action	4	12	5	20 ⁽³⁾
⁽¹⁾ Based on Navy/Marine Corps IR Manual ⁽²⁾ Based on MCB Camp Lejeune FFA Schedule ⁽³⁾ Total duration is less than cumulative duration since the design was initiated prior to completion of the RI/FS ⁽⁴⁾ Design phase was not required—no action was the selected alternative ⁽⁵⁾ Design for a time-critical removal action was completed during the RI/FS phase				

Partnering

Partnering is a management tool that focuses on team building. In 1994, a Partnership was formed between the team members as a means of improving the efficiency and effectiveness of the team. The team's charter is straightforward: Remove MCB Camp Lejeune from the National Priorities List (NPL) by executing an effective program for prompt environmental restoration in accordance with the FFA.

Successful Projects

OU No. 1 consists of three sites which encompass approximately 200 acres. Much of the area is the industrial center for MCB Camp Lejeune. Previous IR Program studies revealed significant shallow groundwater contamination. The contaminated shallow groundwater posed a potential migration risk to potable supply wells. Based in part on the existing data, an interim remedial action to mitigate further migration of the plume was initiated. The interim ROD was signed within 14 months and construction activities were initiated 10 months later. During the interim remedial action design phase, the final RI/FS and ROD were initiated and completed only 12 months later. The following actions contributed to this expedited cleanup:

- ❖ Initiating the design two months prior to signing the interim Record of Decision;
- ❖ Completing the interim FS without the need to perform additional investigations; and
- ❖ Initiating the PRAP and ROD concurrently with the development of the FS.

OU No. 2 consists of three sites which encompass approximately 210 acres. Most of the area was used for the disposal (burial) of debris, pesticides, solvents, and PCBs, while other portions of the area were used for open storage. The primary problems associated with this operable unit include: buried drums, significant shallow and deep groundwater contamination; and soil contaminated with pesticides and PCBs. While the RI/FS progressed, a non-time-critical removal action was conducted to remove the surficial drums and buried drums, which posed a risk to human health and to the groundwater. The RI/FS was completed in 26 months and the design was completed in 13 months.

The following project activities expedited the project schedule:

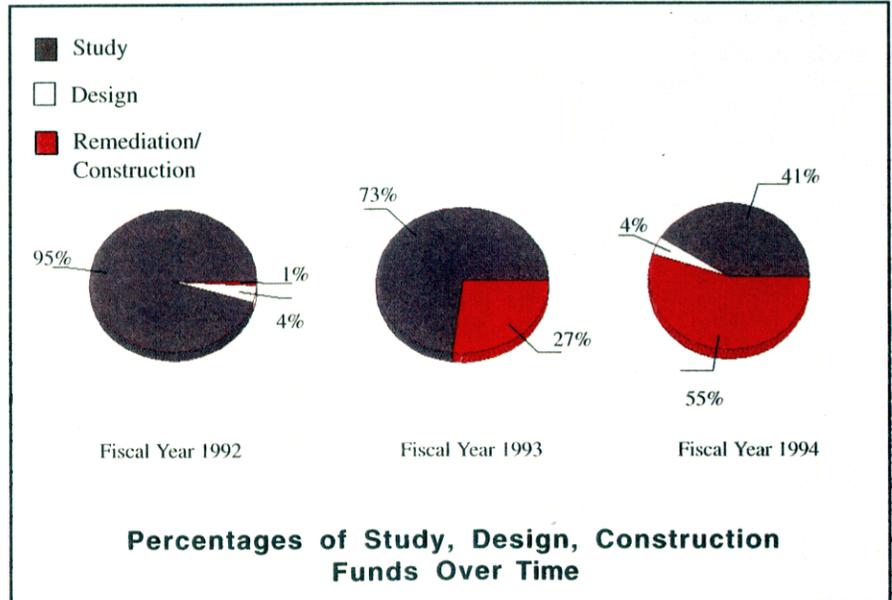
- ❖ Implementing a non-time-critical removal action during the RI/FS;
- ❖ Developing the PRAP and ROD concurrent with the FS;
- ❖ Completing the RI field investigation in a single phase, which resulted in fewer technical documents for review; and
- ❖ Fast tracking the design by involving the remedial action contractor.

OU No. 10 is a fuel farm which services the Camp Geiger area of MCB Camp Lejeune. Due to the historical operation of this facility, groundwater and soil are contaminated with total petroleum hydrocarbons and solvents. Because a number of studies were conducted at this site, sufficient information existed to recommend and implement an interim removal action for contaminated soils. The interim RI/FS was completed in 15 months, including the signing of the interim ROD. The design was initiated prior to signing the ROD and completed in approximately 5 months.

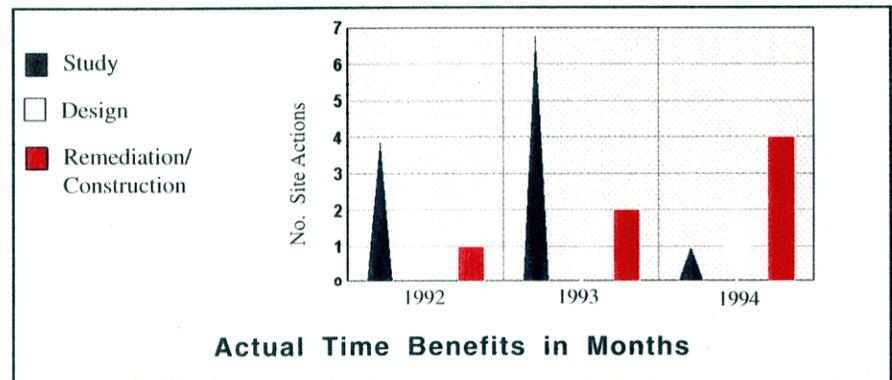
While the interim action for soil was being implemented, a second interim action was conducted for onsite groundwater contamination. This was necessary since the extent of groundwater contamination was both extensive and technically complex. Rather than wait for the entire groundwater study to be completed, the groundwater problem was separated as "onsite," and "offsite" in order to expedite the cleanup. The onsite groundwater problem was addressed by initiating an interim remedial action while further studies were conducted for the offsite groundwater problem.

More cleanup, less study

A typical IR project takes 65 months to reach the construction phase while under the current FFA, a typical IR project takes approximately 53 months to complete. The partnering approach, streamlined review periods, and the use of interim and time-critical removal actions resulted in significant time savings and corresponding cost reductions. The three pie charts below illustrate the percentage of DERA funds spent on study, design and construction. A dramatic increase in the design and construction, and decrease in study spending is evident.



The graph below illustrates the increase of design and remediation activities over the last three years and the corresponding reduction of studies. Clearly, the unique partnering approach at MCB Camp Lejeune has provided timely, quality environmental solutions to the IR Program sites. The table below illustrates the actual time benefits from the expedited study, design, and remediation process.



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