

**Audit**



**Report**

OFFICE OF THE INSPECTOR GENERAL

**DEFENSE BASE REALIGNMENT AND CLOSURE  
BUDGET DATA FOR THE RELOCATION OF THE  
UNITED STATES NAVAL SHIP MERCY TO THE  
NAVAL SUBMARINE BASE SAN DIEGO, CALIFORNIA**

Report No. 97-076

January 22, 1997

**Department of Defense**

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### **Acronyms**

BRAC  
MILCON

Base Realignment and Closure  
Military Construction



**INSPECTOR GENERAL**  
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January 22, 1997

**MEMORANDUM FOR UNDER SECRETARY OF DEFENSE (COMPTROLLER)  
ASSISTANT SECRETARY OF THE NAVY (FINANCIAL  
MANAGEMENT AND COMPTROLLER)**

**SUBJECT:** Audit of Defense Base Realignment and Closure Budget Data for the Relocation of the United States Naval Ship Mercy to the Naval Submarine Base San Diego, California (Project No. 7CG-5002.05)

## **Introduction**

We are providing this report for your information and use. The audit was required by Public Law 102-190, "National Defense Authorization Act for Fiscal Years 1992 and 1993," December 5, 1991. Enclosure 1 provides details on the history of the Defense base realignment and closure (BRAC) process and on our auditing and reporting requirements.

This report is one in a series about FY 1998 BRAC military construction (MILCON) costs. The report provides results of the audit of project P-124T, "United States Naval Ship Mercy Pier Renovation," at the Naval Submarine Base San Diego, California, that was proposed as a result of the relocation of the United States Naval Ship Mercy (the Mercy).

## **Audit Results**

The Navy properly planned, programmed, and documented the FY 1998 BRAC MILCON requirement of \$896,000 for project P-124T for the renovation of Pier 5002 at the Naval Submarine Base San Diego in accordance with Navy criteria and public law.

## **Audit Objectives**

The overall audit objective was to determine the accuracy of BRAC MILCON budget data. The specific objectives were to determine whether the proposed project was a valid BRAC requirement, whether the decision for MILCON was supported with required documentation including an economic analysis, and whether the economic analysis considered existing facilities. Another objective was to assess the adequacy of the management control program as it applied to the overall audit objective. The management control program will be discussed in a summary report on FYs 1997 and 1998 BRAC MILCON budget data.

## **Scope and Methodology**

**Scope of This Audit.** We examined the FY 1998 BRAC MILCON budget request and related documentation regarding the relocation of the Mercy to the Naval Submarine Base San Diego. We reviewed the supporting documentation

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for project P-124T valued at \$896,000. We did not use computer-processed data or statistical sampling procedures to conduct this audit. See Enclosure 1 for the overall scope of the audit of BRAC MILCON costs.

**Audit Period, Standards, and Locations.** This economy and efficiency audit was conducted from September through October 1996 in accordance with the auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD. We visited or contacted individuals and organizations within DoD. Further details are available upon request.

## **Prior Audits and Other Reviews**

Three summary reports have been issued for the audits of BRAC budget data for FYs 1992 through 1996. These reports list individual projects. Since April 1996, numerous additional audit reports have been issued that address DoD BRAC budget data for FYs 1997 and 1998. Details on these reports are available upon request.

## **Project Background**

The Mercy is a floating surgical hospital staffed with 1,300 medical and support personnel. The primary mission of the Mercy is to provide combat surgical and medical care to deployed forces. The ship has a total patient capacity of 1,000 beds, 12 operating rooms, radiological services, medical laboratories, an optometry lab, a pharmacy, a morgue, and two oxygen producing plants.

The Mercy is 894 feet long, 106 feet wide, and has a draft (depth below the water line) of 32 feet 10 inches. A deep draft ship has a water line depth requirement of at least 30 feet when berthed. Therefore, the Mercy is considered to be a deep draft ship.

## **Discussion**

**BRAC MILCON Requirements.** Project P-124T is an FY 1998 BRAC MILCON project to renovate existing Pier 5002 at the Naval Submarine Base San Diego. The project will alter a submarine berthing pier which includes replacing an existing wood fendering system with buckling columns and extending the steam pipeline. Project P-124T is estimated to cost \$896,000. The Mercy is relocating because of the closure of its current berthing location, the Naval Medical Center Oakland, California.

**Fendering System Requirement.** The Mercy has a requirement for 12 rubber fenders when the ship is berthed at Pier 5002. A fender provides protection to a pier when a ship is being berthed. Additionally, the pier will require associated site demolition and cast-in-place concrete elements during renovation.

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**Justification for the Fendering System.** The number of fenders and associated pier renovation improvements required for berthing the Mercy were computed by the architect-engineer contractor, Blaylock Engineering Group, San Diego, California. The number of required fenders attached to the pier was based on the amount of kinetic energy that each fender could absorb. Kinetic energy is generated by measuring "berthing forces" (when the ship is being docked) and by "mooring forces" (when the ship is docked and wave or wind forces move the ship). Without any available naval criteria, the architect-engineer contractor developed the physical requirements for the number of fenders to be installed at Pier 5002. The Navy reviewed and approved the contractor's design on October 30, 1996.

**Fendering Cost Requirement.** Blaylock Engineering Group estimated the fender cost for project P-124T to be \$14,681 each, for a total cost of \$176,172. In addition, site demolition associated with constructing the fendering system is estimated to cost \$30,800 and the cast-in-place concrete is estimated to cost \$21,715. The entire fendering system is estimated to cost \$228,687. Cost estimates for the fendering system were supported and consistent with the contractor's design.

**Steam Pipeline Extension.** The steam pipeline was planned to be extended 1,400 linear feet at an estimated cost of \$340 per linear foot, totaling \$476,000.

**Justification for the Steam Pipeline.** The Navy properly justified the requirement for the steam pipeline extension at the Naval Submarine Base San Diego. The Navy determined that the existing steam pipeline could be extended from adjoining Pier 5000 and connected to the Mercy at Pier 5002. This option is less costly than installing a new steam boiler and pipeline terminus at Pier 5002. We measured the distance from the steam pipeline terminus at Pier 5000 to where the steam pipeline will connect with the Mercy at Pier 5002. The Navy properly calculated the steam pipeline extension length requirements.

**Cost of the Steam Pipeline Extension.** Cost certification for the steam pipeline portion of project P-124T was provided to the Navy by the Southwest Division, Naval Facilities Engineering Command, San Diego, California. The Southwest Division initially certified the cost for project P-124T when the project funds were programmed in FY 1996. The project was subsequently postponed to FY 1998.

**Alternative Berthing Location for the Mercy.** The only deep draft capable ports for berthing the Mercy in the San Diego area are the Naval Station San Diego, California (the Naval Station), and the Naval Submarine Base San Diego. We reviewed the proposed alternative of berthing the Mercy at the Naval Station. We reviewed dredging plans that would be required if the Mercy were berthed at the Naval Station. The Naval Submarine Base San Diego does not require dredging to berth the Mercy.

**Validation of Dredging Cost.** Naval Station dredging costs for the Mercy are estimated to be \$2.85 million. This estimate was based on recent dredging contracts for similar work from the Southwest Division, Naval Facilities Engineering Command. Therefore, the dredging cost estimate of \$2.85 million was reasonable. The additional dredging cost to berth the Mercy at the Naval Station would make this alternative cost prohibitive.

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## Summary

The Navy properly justified the project requirements for FY 1998 project P-124T. Project requirements were supported with accurate cost data. An evaluation of an alternative berthing location proved that the Naval Submarine Base San Diego is the most cost effective location for berthing the Mercy.

## Management Comments

We provided a draft of this report on December 17, 1996. Because the report contains no findings or recommendations, comments were not required, and none were received. Therefore, we are publishing this report in final form.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. Wayne K. Million, Audit Program Director, at (703) 604-9312 (DSN 664-9312) or Mr. Nicholas E. Como, Audit Project Manager, at (703) 604-9215 (DSN 664-9215). Enclosure 2 lists the distribution of this report. The audit team members are listed inside the back cover.



David K. Steensma  
Deputy Assistant Inspector General  
for Auditing

Enclosures

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## Background of Defense Base Realignment and Closure

**Commission on Defense Base Closure and Realignment.** On May 3, 1988, the Secretary of Defense chartered the Commission on Defense Base Closure and Realignment (the Commission) to recommend military installations for realignment and closure. Congress passed Public Law 100-526, "Defense Authorization Amendments and Base Closure and Realignment Act," October 24, 1988, which enacted the Commission's recommendations. The law also established the Defense Base Closure Account to fund any necessary facility renovation or MILCON projects associated with BRAC. Public Law 101-510, "Defense Base Closure and Realignment Act of 1990," November 5, 1990, reestablished the Commission. The law also chartered the Commission to meet during calendar years 1991, 1993, and 1995 to verify that the process for realigning and closing military installations was timely and independent. In addition, the law stipulates that realignment and closure actions must be completed within 6 years after the President transmits the recommendations to Congress.

**Required Defense Reviews of BRAC Estimates.** Public Law 102-190, "National Defense Authorization Act for Fiscal Years 1992 and 1993," December 5, 1991, states that the Secretary of Defense shall ensure that the authorization amount that DoD requested for each MILCON project associated with BRAC actions does not exceed the original estimated cost provided to the Commission. Public Law 102-190 also states that the Inspector General, DoD, must evaluate significant increases in BRAC MILCON project costs over the estimated costs provided to the Commission and send a report to the congressional Defense committees.

**Military Department BRAC Cost-Estimating Process.** To develop cost estimates for the Commission, the Military Departments used the Cost of Base Realignment Actions computer model. The Cost of Base Realignment Actions computer model uses standard cost factors to convert the suggested BRAC options into dollar values to provide a way to compare the different options. After the President and Congress approve the BRAC actions, DoD realigning activity officials prepare a DD Form 1391, "FY 1998 Military Construction Project Data," for each individual MILCON project required to accomplish the realigning actions. The Cost of Base Realignment Actions computer model provides cost estimates as a realignment and closure package for a particular realigning or closing base. The DD Form 1391 provides specific cost estimates for an individual BRAC MILCON project.

**Limitations and Expansion to Overall Audit Scope.** Because the Cost of Base Realignment Actions computer model develops cost estimates as a BRAC package and not for individual BRAC MILCON projects, we were unable to determine the amount of cost increases for each individual BRAC MILCON project. Additionally, because of prior audit efforts that determined potential problems with all BRAC MILCON projects, our audit objectives included all large BRAC MILCON projects.

## Background of Defense Base Realignment and Closure

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**Overall Audit Selection Process.** We reviewed the FY 1998 BRAC MILCON \$354.3 million budget submitted by the Military Departments and the Defense Logistics Agency. We excluded projects that were previously reviewed by DoD audit organizations, unless the projects were subsequently modified by the Military Departments. We grouped the remaining BRAC MILCON projects by location and selected all projects in the budget. We also reviewed those FY 1997 BRAC MILCON projects that were not included in the previous FY 1997 budget submission, but were added as part of the FY 1998 BRAC MILCON budget package.

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## **Audit Team Members**

This report was prepared by the Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD.

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