Audit Report

BULK FUEL INFRASTRUCTURE MAINTENANCE, REPAIR, AND ENVIRONMENTAL PROJECT REVIEW PROCESS: PACIFIC

Report No. D-2001-040 January 30, 2001

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Acronyms

DESC	Defense Energy Support Center
DLA	Defense Logistics Agency
MAJCOM	Major Command
MILCON	Military Construction
MR&E	Maintenance, Repair, and Environmental
PACOM	U.S. Pacific Command
JPO	Joint Petroleum Office

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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January 30, 2001

MEMORANDUM FOR COMMANDER IN CHIEF, U.S. PACIFIC COMMAND
ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)
DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Audit Report on Bulk Fuel Infrastructure Maintenance, Repair, and Environmental Project Review Process: Pacific
(Report No. D-2001-040)

We are providing this report for your information and use. This report is one in a series about bulk fuel storage and delivery systems infrastructure requirements. We considered management comments on a draft of this report when preparing the final report.

The Headquarters, Air Force, Pacific Air Forces, Pacific Command, and Defense Logistics Agency comments conformed to the requirements of DoD Directive 7650.3; therefore, additional comments are not required.

Questions on the audit should be directed to Ms. Deborah L. Carros at (703) 604-9217 (DSN 664-9217) or Mr. Wayne K. Million at (703) 604-9312 (DSN 664-9312). See Appendix B for the report distribution. The audit team members are listed inside the back cover.

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Office of the Inspector General, DoD

Report No. D-2001-040 **January 30, 2001**
(Project No. D1999CG-0088.005)

Bulk Fuel Infrastructure Maintenance, Repair, and Environmental Project Review Process: Pacific

Executive Summary

Introduction. This report is one in a series that addresses the accuracy and reliability of maintenance, repair, environmental (MR&E), and military construction requirements for bulk fuel storage and delivery systems infrastructure. The Defense Energy Support Center, Defense Logistics Agency, provides fuel to DoD customers and is responsible for budgeting and funding military construction and maintenance and repair projects, including environmental projects, at all DoD fuel terminals.

Objectives. Our overall objective was to evaluate the accuracy and reliability of DoD MR&E and construction requirements for bulk fuel storage and delivery systems infrastructure. Specifically, this audit evaluated maintenance and repair project requirements to replace a fuel pipeline system located at Misawa Air Base, Japan. We also reviewed the adequacy of the management control program as it applied to the audit objective.

Results. Headquarters, Pacific Air Forces, personnel approved a bulk fuel-related MR&E project at Misawa Air Base but could not demonstrate that project requirements were properly validated. As a result, the Defense Energy Support Center approved a $1.13 million MR&E project that may not have been necessary to support operational requirements. In addition, unless the Air Force, the U.S. Pacific Command Joint Petroleum Office, and the Defense Energy Support Center take corrective action to improve the project requirements review and validation process, additional funds could be used on nonessential or unnecessary projects in the future. In July 2000, Defense Energy Support Center personnel canceled the project before any funds had been spent. For details of the audit results, see the Finding section of this report. See Appendix A for details on the management control program.

Summary of Recommendations. We recommend that the Civil Engineer, Headquarters, Pacific Air Forces, establish procedures for reviewing fuel-related MR&E project requirements in accordance with Air Force engineering guidance. We also recommend that the Deputy Chief of Staff (Installations & Logistics), Headquarters, Air Force, establish guidance for managing overseas fuel-related MR&E projects for which Defense Energy Support Center programs and budgets. In addition, we recommend that the Joint Petroleum Officer, U.S. Pacific Command, and the Director, Defense Energy Support Center, establish procedures to validate MR&E project requirements in accordance with DoD guidance.

Management Comments. The Civil Engineer, Headquarters, Pacific Air Forces, nonconcurred with the finding and recommendation, stating that the MR&E project at Misawa Air Base was reviewed and validated using procedures established in Air Force technical guidance. The Civil Engineer acknowledged that the validation process was not documented and also recognized that improved documentation was necessary. The Civil

Engineer stated that they would document the validation process and specifically address procedures for annotating project operational and technical evaluations. The Deputy Chief of Staff (Installations & Logistics), Headquarters, Air Force, agreed to revise the Air Force instruction on fuels management. The Joint Petroleum Officer, U.S. Pacific Command, nonconcurred with the finding and recommendation, stating that the MR&E project review process works and follows DoD 4140.25-M guidelines. The Joint Petroleum Officer stated that the Misawa MR&E project requirement was valid when initially submitted and subsequently canceled during project revalidation. The Joint Petroleum Officer stated that he will document existing procedures to validate MR&E requirements in accordance with DoD 4140.25-M. The Defense Logistics Agency, Defense Energy Support Center, nonconcurred with the recommendation, stating that the Defense Energy Support Center had an effective process in place to review and evaluate MR&E projects and that DoD 4140.25-M did not need revision. The Defense Logistics Agency stated that the Defense Energy Support Center relied on the expert opinions of Service engineers and programmers for validation information. The Defense Energy Support Center confirmed the replacement requirement for the Misawa MR&E project by working with Pacific Air Forces engineers. The Defense Energy Support Center will revise its internal procedures, however, to direct that the design/construction agent determine the most economic solution to MR&E requirements. A discussion of the management comments is in the Finding section of the report, and the complete text is in the Management Comments section.

Audit Response. Although the Civil Engineer, Headquarters, Pacific Air Forces; the Joint Petroleum Office, U.S. Pacific Command; and the Defense Logistics Agency nonconcurred with the recommendations, their planned corrective actions satisfy the intent of the recommendations.

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Background

This report is one in a series being issued by the Inspector General, DoD, addressing DoD maintenance, repair, environmental (MR&E), and military construction (MILCON) requirements for bulk fuel storage and delivery systems infrastructure. The Defense Energy Support Center (DESC), Defense Logistics Agency (DLA), is responsible for budgeting and funding MILCON and MR&E projects for DoD bulk fuel terminals worldwide.

DESC is responsible for DoD fuel inventory management, including procurement and sales, and environmental oversight. Fuel-related infrastructure requirements are funded by DLA from two different funding sources. Maintenance and repair projects are funded through the Defense Working Capital Fund, which is a revolving fund that is continually replenished by a surcharge added by DLA to the sale price of fuel. Renovation and major construction projects are funded from the DLA allocation of MILCON appropriations.

The Military Departments are responsible for the operation of the bulk fuel facilities under their cognizance. The Military Departments are also responsible for reviewing, validating, and prioritizing MR&E projects before submitting the projects to DLA for review and funding.

Objectives

Our overall objective was to evaluate the accuracy and reliability of DoD MR&E and MILCON requirements for bulk fuel storage and delivery systems infrastructure. Specifically, this audit evaluated maintenance and repair project requirements to replace a fuel pipeline system located at Misawa Air Base, Japan. We also reviewed the adequacy of the management control program as it applied to the audit objective. See Appendix A for a discussion of the audit scope and methodology and the review of management control program.

Validation of Bulk Fuel Delivery System Maintenance and Repair Requirements

Headquarters, Pacific Air Forces, personnel approved a bulk fuel-related MR&E project at Misawa Air Base but could not demonstrate that project requirements were properly validated. This condition occurred because:

- Headquarters, Pacific Air Forces, personnel did not adequately consider and document inherently obvious, more economical options before submitting the project to DESC for approval in accordance with Air Force engineering guidance;
- Air Force guidance was inadequate on managing fuel-related MR&E projects for which DESC programs and budgets;
- U.S. Pacific Command Joint Petroleum Office (PACOM JPO) personnel did not validate the project requirement in accordance with DoD guidance; and
- DESC personnel did not validate the project requirement in accordance with DoD guidance.

As a result, DESC approved a $1.13 million MR&E project that may not have been necessary to support operational requirements. The project was subsequently canceled in July 2000. In addition, unless the Air Force, PACOM JPO, and DESC take corrective action to improve the project requirements review and validation process, future additional funds could be used on nonessential or unnecessary projects.

Policy Guidance

DoD guidance prescribes policy for bulk fuel storage and delivery systems infrastructure and documents the processes and assigns responsibilities for managing the infrastructure. Air Force guidance for programming and managing fuel-related maintenance and repair projects was limited to civil engineering managers and did not address requirement validation or documentation maintenance.

DoD Directive 4140.25, "DoD Management Policy for Energy Commodities and Related Services," April 20, 1999. DoD Directive 4140.25 prescribes DoD policy for energy and related programs (for example, petroleum, natural gas, coal, and propellants). The Directive states that the programs shall support DoD peacetime and wartime missions and permit successful and efficient deployment and employment of forces. The Directive also states that DoD Components shall minimize inventories consistent with peacetime and contingency needs.

Defense Logistics Agency Responsibilities. The Director, DLA, is responsible for planning, programming, and budgeting for facility maintenance and repair; environmental compliance of petroleum storage and distribution

facilities; and construction of new permanent storage and distribution facilities. DLA is required to coordinate these functions with the Services and combatant commanders.

Military Department Responsibilities. The directive states that the Military Departments are responsible for the operation of petroleum facilities under their cognizance.

DoD 4140.25-M, "DoD Management of Bulk Petroleum Products, Natural Gas, and Coal," June 1994. DoD 4140.25-M (the DoD Manual) implements DoD Directive 4140.25, prescribes policy guidance, and assigns functional responsibilities for the integrated materiel management of bulk petroleum products and associated bulk fuel storage facilities. The objective of integrated materiel management is to purchase, store, and distribute bulk petroleum products in an economic and efficient manner. The DoD Manual states that the Combatant Command Joint Petroleum Offices and the Service control points are responsible for MILCON and MR&E project review and validation, as well as for developing consolidated project priority lists. The Joint Petroleum Offices are responsible for overseas projects. The Joint Petroleum Offices and the Service control points forward candidate projects and consolidated project priority lists to DESC. The DESC reviews, validates, programs, and budgets for approved projects. The DLA must review project documents and approve or disapprove funding requests for repair projects greater than $750,000. The DoD Manual prescribes the annual cycle for MR&E project submissions to DESC.

Air Force Engineering Technical Letter 99-6, "Programming Fuels Projects," December 10, 1999. Engineering Technical Letter 99-6 (the Technical Letter) provides guidance to civil engineering managers who program and manage fuel-related MR&E, minor construction, and MILCON projects where funding is the responsibility of the DESC. The Technical Letter states that base civil engineers must prepare MR&E documentation and that the documentation must "explain the project and the need . . . . Where there are obvious, less expensive options, explain why they were not used. Minor construction projects should have an economic analysis attached when there may be options." The Technical Letter instructs base personnel to submit MR&E projects to major command (MAJCOM) engineering personnel who review the documents for completeness and forward them to DESC.

Misawa Air Base Facility

Misawa Air Base is the only combined joint Service installation in the Western Pacific. Misawa Air Base is the home of the 35th Fighter Wing, Pacific Air Forces, and hosts a variety of associate Army, Navy, Marine Corps, and Japan Air Defense units. Headquarters, Pacific Air Forces, is the MAJCOM and is located at Hickam Air Force Base, Hawaii.

The bulk fuel storage facility at Misawa Air Base included 12 bulk fuel tanks distributed between two tank farms. Rail car systems were used to resupply the fuel. Fuel was transferred between the tank farms and the rail car system by three

6-inch above ground pipelines at one tank farm and two 6-inch above ground pipelines at the other.

Pipeline Replacement Project

Misawa Air Base civil engineering personnel established a maintenance and repair requirement to replace the fuel pipelines between the tank farms and the rail car system because of corrosion. Engineering personnel initiated a MR&E project by preparing a DD Form 1391* that documented the requirement to replace:

- three 6-inch, above ground pipelines to the rail car system with three 6-inch carbon steel, underground pipelines, at one tank farm, and
- two 6-inch, above ground pipelines to the rail car system with one 6-inch carbon steel, underground pipeline at the other tank farm.

The scope of the project also included providing cathodic protection, associated distribution system equipment, and site improvements.

Base Level Documentation of Project Requirements. The base civil engineers prepared the MR&E project document submission (DD Form 1391), but the documentation did not provide information to justify pipeline replacement over repair, a more obvious, less expensive option. In addition, the project documentation did not include an economic analysis. The Technical Letter states that base civil engineers must explain why obvious, less expensive options are not used and include an economic analysis when there may be options. Although base civil engineers documented and submitted the project requirement, engineering personnel opinions varied on whether pipeline replacement or repair was necessary. The engineering personnel could not provide documentation to support the requirement for replacement instead of repair, or to indicate that they had considered and rejected pipeline repair before establishing the replacement requirement. Base civil engineering personnel submitted the MR&E project to the MAJCOM for review.

MAJCOM Review of MR&E Projects. MAJCOM engineering and logistics personnel stated that they reviewed and validated MR&E projects, but did not have documented procedures.

MAJCOM Project Review Process. MAJCOM engineering and logistics personnel described the following process for MR&E project review and validation.

- Installation personnel initiated MR&E project requirements, prepared the DD Form 1391 and supporting project

*DD Form 1391, "FY __ MILITARY CONSTRUCTION PROJECT DATA" is the standard form prescribed by DoD 4140.25-M for MILCON and MR&E project submissions.

documentation, prioritized the installation projects, and submitted project documentation to MAJCOM engineering personnel.

- MAJCOM engineering and logistics personnel reviewed project documentation for accuracy and validate project requirements, prioritized the projects for the entire MAJCOM, and submitted the project documentation to the PACOM JPO.

- PACOM JPO prepared and submitted a project prioritization list for each subunified command and submitted the list to the subunified command for review and approval. The sub-unified commands reviewed and approved the project prioritization list or responded with requests for changes. PACOM JPO performed a final prioritization list and submitted it to DESC for approval.

MAJCOM engineering and logistics personnel stated the following information regarding the review process.

- They validated projects by reviewing the DD Form 1391 for the project.

- MAJCOM engineers were aware of the physical condition of the fuel infrastructure at PACAF installations.

- MAJCOM logisticians were aware of the operating condition and mission requirements of the installations.

- They questioned project requirements when unclear, but they had no documentation to indicate that DD Form 1391s were reviewed or that questions were asked and answered.

- They meet annually to validate and prioritize the MR&E projects submitted by each base in response to the annual DESC data call. The engineers added that project validation and prioritization was based, in part, on periodic infrastructure assessments performed by MAJCOM engineers and logistics personnel.

- They also based project validation and prioritization on a working knowledge of maintenance and repair issues at the MAJCOM installations.

MAJCOM Review of Pipeline Replacement Project. MAJCOM engineering and logistics personnel stated that they reviewed and validated all MR&E project requirements submitted by Pacific Air Forces installations, but they did not have any supporting documentation to indicate that the pipeline replacement requirement had been reviewed or validated. MAJCOM engineering personnel stated that they reviewed and submitted the pipeline replacement project to the PACOM JPO based on a worst-case scenario. MAJCOM

engineering personnel planned to determine the specific requirements for repair or replacement after DLA funding approval during the project design phase. MAJCOM engineering personnel submitted the project to the PACOM JPO as part of the FY 2000 MR&E program.

PACOM JPO Prioritized MR&E Projects. The DoD Manual states that the Combatant Command JPO is responsible for MR&E project review and validation, as well as for developing consolidated project priority lists for overseas projects. The PACOM JPO personnel stated that they do not validate MR&E projects and do not have the civil engineering expertise to perform validation. PACOM JPO personnel stated that they relied on project requirement validation at the MAJCOM and installation levels because installation and MAJCOM personnel had the engineering expertise and continually coordinated fuel facilities issues and requirements. PACOM JPO included the pipeline replacement project in the consolidated project prioritization list for the sub-unified command (U.S. Forces Japan) review. The JPO submitted the project to DESC for approval in response to the FY 2000 MR&E data call.

DESC Reviewed and Approved Project Requirements. DESC did not validate the pipeline replacement project in accordance with the DoD Manual. DESC personnel stated that there were more than 1,000 MR&E projects, and they did not have the manpower to validate all of the requirements. DESC personnel stated that they thoroughly reviewed project documentation but relied on the requirement validation performed by the MAJCOM. DESC personnel stated that they had reviewed the Misawa project submission and documented DESC questions and issues in the DESC MR&E project database, in accordance with established procedures. DESC personnel stated that major commands and installations needed to address DESC questions documented in the database before project consideration for approval.

DESC Response to Pipeline Project Submission. DESC instructions for MR&E project submittals states that the DESC MR&E database tracks and manages projects and environmental requirements, and assists with budget formulation. The instructions state that projects are entered into the database when initially received. In cases where DESC had questions, concerns, or disagreed with the technical approach recommended by the customer, the issue was documented in the database comments field and communicated to the customer. DESC received the Misawa MR&E project and entered the project data into the DESC MR&E database on June 18, 1999, with the following questions and comments.

1. Project scope includes C.P. [cathodic protection], but no line item in cost estimate. Please provide detailed cost estimate for further clarification of work classification.
2. Project as written includes over $750,000 in repair...Project must go to DLA for approval.
3. There are no design costs on the DD1391, why?
4. Can the P/L [pipeline] be restored without complete replacement. Please provide more detailed justification.

MAJCOM Revised Project Documentation. MAJCOM engineering personnel submitted a revised DD Form 1391 in August 1999 in response to

DESC comments. Revisions included cathodic protection and design cost estimate line items. The folowing comments were added.

> The pipeline cannot be restored to safe operating condition. Maintenance costs continue year after year to accomplish spot fixes along the length of the pipe, not just in a few identifiable areas. During this maintenance, the paint and corrosion is stripped off back to bare metal and then repainted. Eventually, the walls of the pipes and joints will fail catastrophically. They need to be buried for not only operational safety and environmental protection, but also force protection. Such protection was justified for cut-and-cover tanks at Misawa vs. above ground tanks in the recent MILCON submittal, and although some of the information regarding the current threat is classified, the increased costs in the MILCON were supported due to the threat level at Misawa. By burying the lines, the pipes will be protected from such threat.

MAJCOM civil engineers did not have any documentation to support the comments added to the DD Form 1391. MAJCOM civil engineers stated that installation personnel did not have the capability to analyze the strength characteristics of the existing pipe and acknowledged that analysis was necessary to determine whether repair or replacement was necessary. The civil engineers stated that they planned to have the architectural engineer contractor perform the analysis to determine whether repair or replacement was the most economic solution. An architectural engineer contract would not be awarded, however, until after DESC approved the requirement to replace the pipeline and DLA approved project funding.

DESC Approved Project and Submitted to DLA for Funding Approval. The DESC personnel approved the pipeline replacement project on May 18, 2000. The DESC personnel stated that they did not validate the project requirement and that project approval relied on the MAJCOM requirement validation. The DESC general engineer for the project stated that validation of the requirement to replace or repair the pipeline would involve measuring and testing the pipeline to determine pipeline thickness. DESC submitted the project to DLA for funding approval because project estimated costs exceeded the $750,000 threshold for DESC funding approval.

Pipeline Project Cancellation Recommended

MAJCOM personnel conducted an infrastructure assessment and program review at Misawa Air Base in April 2000. The assessment determined that the MR&E pipeline replacement requirement was no longer necessary because of new MILCON requirements to consolidate bulk fuels operations by relocating all tankage in tank farm one to tank farm two. The MILCON project was approved as part of the Japanese Facilities Improvement Program. As a result, MAJCOM engineering personnel recommended cancellation of the MR&E project. Accordingly, DLA canceled the project in July 2000 before any funds were spent.

Air Force Guidance on Fuel-Related MR&E Projects

Air Force guidance on managing overseas fuel-related MR&E projects for which DESC programs and budgets was inadequate. Air Force guidance for facility construction projects addresses only MILCON and minor construction. Maintenance and repair was not included in the scope of the instruction. In addition, Air Force guidance for maintenance and repair was limited to appropriated funded projects and did not address projects funded by the Defense Working Capital Fund through the DLA MR&E program. The Headquarters, Air Force Civil Engineer Support Agency, issued guidance (the Technical Letter) to civil engineering managers in December 1999 for programming and managing fuel-related maintenance and repair projects. The guidance specifically addresses "fuel-related MR&E, minor construction, and MILCON projects where funding is the responsibility of the DESC," and states that MAJCOM engineering personnel must review project documentation for completeness. However, the Technical Letter did not address project requirement validation. Details of the Technical Letter were discussed in the Policy Guidance section on page 2 of this report.

Air Force Instruction 32-1021, "Planning and Programming of Facility Construction Projects," May 12, 1994. Air Force Instruction 32-1021 provides guidance and procedures for developing projects for facilities obtained through MILCON and minor construction. Air Force Instruction 32-1021 states that MAJCOMs will review and validate facility requirements and cost estimates for facilities obtained through MILCON and for minor construction projects. Real property maintenance funded construction is excluded from the scope of the instruction.

Air Force Instruction 32-1032, "Planning and Programming Appropriated Funded Maintenance, Repair, and Construction Projects," September 1, 1999. Air Force Instruction 32-1032 provides guidance and instruction for planning and programming minor military construction projects and real property maintenance and repair projects using funds available for operation and maintenance. Air Force Instruction 32-1032 states that MAJCOMs will review and validate facility requirements and cost estimates for facilities obtained through operation and maintenance funded unspecified minor construction and real property maintenance and repair projects.

Summary

MAJCOM engineering personnel coordinated with MAJCOM logistics personnel to review MR&E project requirements for completeness. However, neither Misawa Air Base personnel nor MAJCOM personnel were able to provide any documentation on procedures followed to assess or validate those requirements. In addition, MAJCOM personnel approved replacing the pipeline but had not validated that pipeline replacement was necessary before submitting the project to DESC for approval. Furthermore, neither the PACOM JPO nor the DESC validated the project requirement in accordance with DoD guidance. DoD regulations for managing overseas MR&E projects do not provide guidance or

assign responsibilities below the Combatant Commander, JPO level. At a minimum, JPO and DESC personnel should have verified that the project requirements were adequately validated before requesting approval.

Air Force guidance on the subject was incomplete and did not address requirement validation for fuel-related projects at the MAJCOM and installation levels. Although MAJCOM personnel acknowledged responsibility for reviewing and validating project requirements before requesting DESC funding approval, review efforts were not documented. Questions documented by DESC on the pipeline project indicated that project requirement information was incomplete. Unless clear, relevant guidance is established and effectively implemented, the Air Force cannot ensure that MR&E project requirements at overseas activities are properly validated to promote the economic and efficient use of funds.

We commend MAJCOM personnel for their infrastructure assessment efforts, which identified unnecessary project requirements and led to project cancellation before funds were spent. MAJCOM must implement procedures, however, to ensure that project requirements are adequately validated before submission to DESC for approval and funding. While the periodic infrastructure assessments are invaluable to reviewing requirements, some Pacific Air Forces installations have not been assessed in almost 5 years. The MAJCOM needs procedures to ensure that all project requirements are adequately validated. The MAJCOM-level validation process is critical for ensuring that only validated MR&E requirements are forwarded to DESC for approval.

Recommendations, Management Comments, and Audit Response

1. We recommend that the Civil Engineer, Headquarters, Pacific Air Forces, establish procedures for reviewing fuel-related maintenance, repair, and environmental project requirements in accordance with Air Force Engineering Technical Letter 99-6, "Programming Fuels Projects," December 10, 1999. The procedures should address consideration and documentation of alternative options when appropriate.

Management Comments. The Civil Engineer, Headquarters, Pacific Air Forces, nonconcurred, stating that the maintenance, repair, and environmental project at Misawa Air Base was reviewed and validated using procedures established in Air Force technical guidance. The Civil Engineer described the procedures that were followed to validate the project. The Civil Engineer acknowledged that the validation process was not documented and recognized that improved documentation was necessary. The Civil Engineer stated that they would document the validation process and specifically address procedures for annotating project operational and technical evaluations.

Audit Response. Although the Civil Engineer, Headquarters, Pacific Air Forces, nonconcurred, actions planned by the Civil Engineer to document the validation

process and operational and technical evaluations for each project satisfies the intent of the recommendation. No additional comments are required.

2. We recommend that the Deputy Chief of Staff (Installations & Logistics), Headquarters, Air Force, establish guidance for managing overseas fuel-related maintenance, repair, and environmental projects for which Defense Energy Support Center programs and budgets. The guidance should specifically address policies and procedures for validating maintenance, repair, and environmental project requirements from an operational, as well as technical, requirement perspective.

Management Comments. The Deputy Chief of Staff (Installations & Logistics), Headquarters, Air Force, concurred, stating that all actions will be completed by April 30, 2001.

3. We recommend that the Joint Petroleum Officer, U.S. Pacific Command, establish procedures to validate maintenance, repair, and environmental project requirements in accordance with policies outlined in DoD 4140.25-M, "DoD Management of Bulk Petroleum Products, Natural Gas, and Coal," June 1994. At a minimum, procedures should verify whether adequate project requirement validation was performed by the major command sponsoring the project.

Management Comments. The Joint Petroleum Officer, U.S. Pacific Command, nonconcurred, stating that the maintenance, repair, and environmental project review process works and follows DoD 4140.25-M guidelines. The Joint Petroleum Officer described the review process and responsibilities of the major command, the Joint Petroleum Office, and Defense Energy Support Center. The Joint Petroleum Officer stated that the Misawa maintenance, repair, and environmental project requirement was valid when initially submitted and subsequently canceled during project revalidation. The Joint Petroleum Officer also stated that the audit presumed the process was broken based on the review of a single project. The Joint Petroleum Officer noted that they will document procedures to validate maintenance, repair, and environmental requirements in accordance with DoD 4140.25-M.

Audit Response. Although the Joint Petroleum Officer, U.S. Pacific Command, nonconcurred, actions planned by the Joint Petroleum Officer to document maintenance, repair, and environmental requirement validation procedures in accordance with DoD guidelines satisfies the intent of the recommendation. No additional comments are required.

4. We recommend that the Director, Defense Energy Support Center, establish procedures to validate maintenance, repair, and environmental project requirements in accordance with policies outlined in DoD 4140.25-M, "DoD Management of Bulk Petroleum Products, Natural Gas, and Coal," June 1994. At a minimum, the procedures should verify whether adequate project requirement validation was performed by the Joint Petroleum Office sponsoring the project.

Management Comments. The Director, Defense Energy Support Center, nonconcurred, stating that an effective process was in place to review and evaluate maintenance, repair, and environmental projects and that a revision of DoD 4140.25-M was not required. The Director, Defense Energy Support Center, stated that the process was not singular in nature, but involved coordination from the base level up to the theater command, and input from the various levels could affect project approval or rejection. The Director, Defense Energy Support Center, further stated that they rely on the expert opinions of Service programmers and engineers for validation information. The replacement requirement for the Misawa maintenance, repair, and environmental project was confirmed by working with major command engineers. The Defense Energy Support Center will revise its internal procedures to direct that the design/construction agents determine the most economic solution to maintenance, repair, and environmental requirements.

Audit Response. Although the Director, Defense Energy Support Center, nonconcurred, actions planned to revise internal procedures will formally task the design/construction agents to review projects for the most economic solutions to maintenance, repair, and environmental requirements. Those actions satisfy the intent of the recommendation. No additional comments are required.

Appendix A. Audit Process

Scope

Work Performed. We reviewed DoD and Air Force guidance for validating bulk fuel-related infrastructure project requirements and conducted on-site visits to determine whether the guidance was adequately implemented. We reviewed documentation for FY 1996 through June 2000 used to support current MILCON and MR&E projects at Misawa Air Base, Japan. Additionally, we reviewed the methods used to prepare supporting documentation for MILCON and MR&E project requests.

DoD-Wide Corporate Level Government Performance and Results Act (GPRA) Coverage. In response to the GPRA, the Secretary of Defense annually establishes DoD-wide corporate level goals, subordinate performance goals, and performance measures. This report pertains to achievement of the following goals and performance measures.

- **FY 2000 DoD Corporate Level Goal 2:** Prepare now for an uncertain future by pursuing a focused modernization effort that maintains U.S. qualitative superiority in key warfighting capabilities. Transform the force by exploiting the Revolution in Military Affairs, and reengineer the Department to achieve a 21st century infrastructure. **(00-DoD-2).**
- **FY 2000 Subordinate Performance Goal 2.3:** Streamline the DoD infrastructure by redesigning the Department's support structure and pursuing business practice reforms. **(00-DoD-2.3).**
- **FY 2000 Performance Measures 2.3.1:** Percentage of the DoD Budget Spent on Infrastructure. **(00-DoD-2.3.1).**

General Accounting Office High-Risk Area. The General Accounting Office has identified several high-risk areas in the DoD. This report provides coverage of the Defense Infrastructure high-risk area.

Methodology

Use of Computer-Processed Data. We did not use computer-processed data to perform this audit.

Audit Type, Dates, and Standards. We performed this economy and efficiency audit from June 2000 through October 2000, according to auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD. Accordingly, we included tests of management controls considered necessary.

Contacts During the Audit. We visited or contacted individuals and organizations within DoD. Further details are available on request.

Management Control Program Review

DoD Directive 5010.38, "Management Control (MC) Program," August 26, 1996, and DoD Instruction 5010.40, "Management Control (MC) Program Procedures," August 28, 1996, requires DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

Scope of the Review of the Management Control Program. We reviewed the adequacy of the Pacific Air Forces management controls over bulk fuel storage and delivery systems infrastructure MR&E projects. Specifically, we reviewed management controls over the review and validation process for bulk fuel infrastructure MR&E project requirements. Because we did not identify a material management control weakness, we did not assess management's self-evaluation.

Adequacy of Management Controls. The management controls for MR&E projects were adequate in that we identified no material management control weaknesses.

Prior Coverage

Inspector General, DoD, Report No. D-2001-006, "Bulk Fuel Storage Requirements for Maintenance, Repair, and Environmental Projects at Fort Hood, Texas," October 23, 2000.

Inspector General, DoD, Report No. D-2001-003, "Bulk Fuel Storage and Delivery Systems Infrastructure Military Construction Requirements for Japan," October 12, 2000.

Inspector General, DoD, Report No. D-2000-164, "Bulk Fuel Storage and Delivery Systems Infrastructure for Yakima Training Center, Washington," July 20, 2000.

Appendix B. Report Distribution

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    Commander, United States Forces Japan

Other Defense Organizations

Director, Defense Logistics Agency
Director, Joint Staff

Non-Defense Federal Organization

Office of Management and Budget
General Accounting Office

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on Government Management, Information, and Technology, Committee on Government Reform
House Subcommittee on National Security, Veterans Affairs, and International Relations, Committee on Government Reform

U.S. Pacific Command Comments

COMMANDER IN CHIEF, U.S. PACIFIC COMMAND
(USCINCPAC)
CAMP H.M. SMITH, HAWAII 96861-4028

J42
4140
Ser:
27 DEC 2000

To: Director, Contract Management Directorate 400 Army-Navy Drive Arlington, VA, 22202-2884 (Attn: Mr. Paul Granetto)

Subj: DRAFT REPORT D2001-003, OCTOBER 13, 2000

Encl: (1) Management Comments

1. The U. S. Pacific Command non-concurs with the findings and recommendations of draft report. The maintenance, repair and environmental (MR&E) review and funding process is complex, however, adequate guidance exists, as substantiated by the ultimate cancellation of the fuels project detailed in this report. Management comments are enclosed.

2. Questions, if any, should be directed to the USCINCPAC project officer, Lt. Col. King, J422 at DSN (315) 477-1168 or commercial (808) 477-1168. The USCINCPAC audit liaison point of contact is Mr. Wayson Lee, J053 at DSN (315) 477-1182 or classified email (leewc000@hq.pacom.smil.mil).

RONALD L. LOWE
Major General, USA
Deputy Chief of Staff

12/13/00

USCINCPAC/J4 Management Comments (MC): Draft Report D2001-003
Bulk Fuel Storage and Delivery Systems Infrastructure Requirements for Japan.

Report Objective: Evaluate accuracy and reliability of DoD documentation regarding Maintenance, Repair and Environmental (MR&E) and Military Construction (MILCON) for bulk fuel delivery systems.

Overall report Assessment: Non-concur with the findings and recommendations for the following reasons:

a. The MR&E process works as delineated in Chapter 8 of DoD 4140.25-M, DoD Management of Bulk Petroleum Products, Natural Gas, and Coal. The project was cancelled, as appropriate, due to the procedures that currently exist. The process works as follows: the Defense Fuel Support Point or service unit identifies and properly documents a maintenance or repair project and forwards it to its MAJCOM or Service Control Point for review. At the MAJCOM, the project is validated for necessity and reviewed for completeness and appropriateness of the suggested solution. The MAJCOM also ensures sponsorship justification is adequately addressed. After MAJCOM review, the project moves to the Joint Petroleum Office (JPO) to ensure the project supports strategic plans and existing OPLANs. The JPO also prioritizes all projects received from service components before forwarding to DESC. Finally, after JPO review, the project moves to DESC for a final review for completeness, validation and funding. DESC-Pacific can also assist JPO validation during the project aggregation/prioritization phase. It should also be noted that once DESC funds the design for a project, the design agent is also encouraged to offer additional cost effective alternatives. To compel management at every level to validate project requirements is redundant and unnecessary. For the Misawa project in question, at the time the project was initially submitted the requirement was valid. The MAJCOM revalidated the project when requested by DESC and subsequently cancelled the requirement as a result of a subsequent MILCON project.

b. The report finds fault with the entire USPACOM MR&E process based on the review of a single project (which represents less than 1% of USPACOM MR&E projects). A single project may not be representative of the overall program process success or failure.

Finding: The audit report objective states; "Our overall objective was to evaluate the accuracy and reliability of DoD MR&E (maintenance, repair, environmental), and construction requirements for bulk fuel storage and delivery systems infrastructure. Specifically, this audit evaluated maintenance and repair project requirements to replace a fuel pipeline system located at Misawa Air Base,

Prepared by: David King, Col (Sel), USAF
J422, 477-1168

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Japan." This gives the impression that DoD IG reviewed this project only. However, the background states; "This report is one in a series being issued by the Inspector General, DoD, addressing DoD maintenance, repair, environmental (MR&E), and military construction (MILCON) requirements for bulk fuel storage and delivery systems infrastructure." To put this in prospective, DoD IG determined 1 project of 291 (.3 percent) or $1.13 million of $163.4 million (.7 percent) was not properly validated.

Facility	Projects	Estimates
NAF Atsugi, Japan	12	$2,741,000
Eielson AFB, AK	51	$13,611,000
Elmendorf AFB, AK	8	$4,079,000
Hickam AFB, HI	23	$9,536,000
MCS Iwakuni, Japan	12	$3,530,000
Misawa AB, Japan	14	$3,833,000
FISC Pearl Harbor, HI	60	$98,744,000
FISC Yokosuka, Japan	74	$24,901,000
Yokota AB, Japan	17	$4,442,000
Total	291	$163,417,000

Based on this review of one Air Force Initiated project, less one percent of all PACOM petroleum projects, DoD IG presumes the validation process is broken. This does not comply with the Government Auditing Standards (GAO Yellow Book), Chapter 7, Reporting Standards for Performance Audits, paragraph 7.60 which states; "The information presented should be sufficient to convince the readers to recognize the validity of the findings, the reasonableness of the conclusions, and the benefit of implementing the recommendations."

In closing, however, it should be noted that the Joint Petroleum Office will work to document currently institutionalized procedures, which functionally validate Maintenance, Repair, and Environmental procedures, to policy guidelines outlined in DOD 4140.25-M.

Prepared by: David King, Col (Sel), USAF
J422, 477-1168

Pacific Air Forces Comments

DEPARTMENT OF THE AIR FORCE
PACIFIC AIR FORCES

MEMORANDUM FOR CONTRACT MANAGEMENT DIRECTORATE
OFFICE OF THE INSPECTOR GENERAL, DOD

8 JAN 2001

FROM: HQ PACAF/CE
25 E St Ste D306
Hickam AFB HI 96853-5412

SUBJECT: DOD IG Audit Report of Bulk Fuel Infrastructure Maintenance, Repair, and Environmental Project Review Process (D1999 D000CG-0088.005)

1. We non-concur with your finding that PACAF did not properly validate a bulk fuel-related project at Misawa Air Base and your recommendation that we establish procedures to validate projects. This project was validated using established, effective procedures, which were explained to your staff during their visit and are outlined in our attached response.

2. We share your concerns about the possibility of improperly allocating scarce resources. For this reason, we take great care in reviewing and validating or invalidating each project submitted by PACAF bases. The multiple step validation process outlined in our response ensures a thorough review by users, technical engineers, and programmers. We are confident this process prevents potentially invalid projects from receiving funds.

3. Should your staff require further information, please do not hesitate to contact us.

WILLIAM J. DRAKE, Colonel, USAF
Deputy Civil Engineer

Attachment:
PACAF Response

Final Report Reference

PACAF response to DoD (IG) Draft Audit Report on Bulk Fuel Infrastructure Maintenance, Repair, and Environmental Review Process: Pacific (Project No. D1999-D000CG-0088.005, previously 9CG-5049.05)

FINDING (P. 2):

" Headquarters, Pacific Air Forces, personnel approved a bulk fuel-related MR&E project at Misawa Air Base but could not demonstrate that project requirements were properly validated. This condition occurred because Headquarters, Pacific Air Forces, personnel did not adequately consider and document inherently obvious, more economical options before submitting the project to DESC for approval in accordance with Air Force engineering guidance."

RECOMMENDATION (P. 10):

Page 9

"We recommend that the Civil Engineer, Pacific Air Forces establish procedures for reviewing fuel-related maintenance, repair, and environmental projects in accordance with Air Force Engineering Technical Letter 99-6, *Programming Fuels Projects*, December 10, 1999. The procedures should address consideration and documentation of alternative options when appropriate."

PACAF/CE RESPONSE:

Nonconcur. Procedures are in place for reviewing and validating projects in accordance with Engineering Technical Letter (ETL) 99-6. The MR&E project at Misawa Air Base was reviewed using these procedures and, as a result, the project was determined to be valid and a design plan was established to determine the most economical option to meet the validated requirements.

ETL 99-6, Paragraph 4.3 states PACAF's responsibility: "MAJCOMs task bases for the MILCON and MRE programs based on the DESC call. Bases send the MILCON and MRE submissions to the MAJCOM CE Programming Office and usually the MAJCOM CE Fuels Engineer. MAJCOM reviews the documents for completeness and forwards them to DESC." PACAF has procedures in place to meet this responsibility and the Misawa project was reviewed and validated using these procedures.

The Misawa AB MRE project reviewed in the Audit Report was project QKKA 97-1075, "Replace 6-Inch Fuel Transfer Lines". The PACAF established procedures to review and validate this project are as follows:

1. At PACAF's request, the Misawa AB Wing Commander submitted project 97-1075's DD Form 1391 among his proposed FY99/00 DESC MRE program to PACAF on 25 Nov 97.

2. The DD Form 1391 was reviewed by a PACAF DESC MRE Program Review Board consisting of three offices. The Command Logistics Fuels Operations Manager, PACAF/LGS, reviews the project from a "fuels operational" point of view to validate there is an operational and mission requirement for the project. The Command Fuels

Engineer, PACAF/CEC, validates from an "engineering" point of view to ensure the project engineering scope will meet the requirements. The Command Facilities Programmers, PACAF/CEP, reviews the 1391 from a "programming" point of view to ensure compliance with programming rules. This review was conducted by a meeting held where all offices review the 1391 simultaneously to discuss the project, consult with the base if necessary, and make a decision to validate or invalidate the project. Misawa Project 97-1075 was validated by all offices and approved for forwarding to DESC.

3. With the Misawa project approved by the PACAF Review Board, it was forwarded to the Pacific Joint Petroleum Office, USCINCPAC/J42, as part of the PACAF FY00 MRE Program Submittal.

These established procedures, which are still used today, validated Misawa Project 97-1075. Specifically, the operational "need" to have fuel transfer lines to offload fuel from the rail car system to the two tank farms was reviewed and determined to still be valid. The current transfer lines were determined to be severely corroded and requiring repair. It was also determined and validated that the temporary "victaulic" type joints needed to be replaced with permanent welded joints to avoid leaks. The review also determined the existing lines are at high risk of attack by "enemies, terrorists, vandals, etc." as described in Annex S of the USAF War and Mobilization Plan 1 (WMP-1). A design requirement to increase infrastructure protection and improve mission survivability was determined to be valid.

The Base and MAJCOM engineers' initial assessment determined that the inherently obvious option to meet all these validated requirements to fix the corrosion, replace the joints, and increase infrastructure protection was by burying new transfer pipes underground. Thus the 1391 submitted to DESC indicated this option. However, it may be determined during the design phase, using the extended testing and design capabilities of an outsourced engineering firm with expertise in POL infrastructure design, that a more economical option exists. The engineering firm will look at the underground pipe installation option in detail as well as other options such as concrete enclosure, and also take into account other considerations, such as maintenance impacts resulting from each option. After detailed analysis of each option, the engineering firm will produce detailed cost estimates. With this information, the Base can select and MAJCOM can approve the most economical option that meets the validated requirements and then request funding from DESC.

This review process and analysis is conducted on every PACAF MRE project submitted each year. These procedures ensure each requirement is validated as a "need" to accomplish the mission and the course of action taken is the most economical while still meeting the requirements. We acknowledge this process has not been written and formally published. We also recognize that better written documentation is a necessary area of improvement. We will document this validation process in writing, which will include a new procedure to annotate on each projects' Form 1391 that operational and technical evaluations have been completed.

Department of the Air Force Comments

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

0 5 JAN 2001

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING
OFFICE OF THE INSPECTOR GENERAL
DEPARTMENT OF DEFENSE

FROM: HQ USAF/ILEP/ILSP

SUBJECT: Audit Report on Bulk Fuel Infrastructure Maintenance, Repair, and Environmental Project Review Process: Pacific, Project No. D1999-D000CG-0088.005 (Your Memo, 6 Nov 00)

This is in reply to your memorandum requesting the Assistant Secretary of the Air Force (Financial Management and Comptroller) provide Air Force comments on the subject report.

We concur with your recommendation to establish guidance for managing overseas fuel-related maintenance, repair, and environmental projects for which Defense Energy Support Center programs and budgets. We recognize there are shortfalls with existing guidance for such projects. We intend to alleviate these shortfalls.

Specifically, we intend to modify paragraph 1.6 of Air Force Instruction (AFI) 23-201, *Fuels Management*, to require operational validation by MAJCOM Fuels Management and documentation of the results of such validation on the DD Form 1391. We anticipate publishing an interim change to the AFI by 31 Mar 01.

Furthermore, we intend to modify Engineering Technical Letter 99-6, *Programming Fuels Projects*, to require 1) coordination of projects with the MAJCOM Fuels Management Office, 2) technical validation of fuels project, 3) documentation on the DD Form 1391 that the operational and technical evaluations of the project were completed or if not completed, a short explanation of future plans to complete whatever aspect of evaluation remains. We anticipate publishing this change by 30 Apr 01.

If you have any questions or concerns with our comments, please contact Maj Scott Bridgeman, AF/ILEP, 703-604-3627.

DAVID W. DEFOLIART, Colonel, USAF
Chief, Programs Division
DCS/Installations & Logistics

MICHAEL R. VAN HOUSE, Colonel, USAF
Chief, Supply/Fuels Policy & Procedures
Directorate of Supply

Defense Logistics Agency Comments

DEFENSE LOGISTICS AGENCY
DEFENSE ENERGY SUPPORT CENTER
8725 JOHN J. KINGMAN ROAD, SUITE 4950
FORT BELVOIR, VIRGINIA 22060-6222

IN REPLY REFER TO DESC-DI

JAN 19 2001

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE

THROUGH: DLA Logistics Operations Internal Review Office, J-308

SUBJECT: Draft Report on Bulk Fuel Infrastructure Maintenance, Repair, and Environmental Project Review Process: Pacific (Project No. D1999D000CG-0088.005)

Attached are our revised comments on the subject draft report after your meeting with our Director of Facilities and Distribution Management. Please contact Ms. Emilia Snider at (703) 767-9671 or by e-mail at esnider@desc.dla.mil if you have any questions.

S. D. FUNK
CAPT, SC, USN
Deputy Director

Attachment

Federal Recycling Program Printed on Recycled Paper

Subject: Draft Report on Bulk Fuel Infrastructure Maintenance, Repair, and Environmental (MR&E) project Review Process: Pacific (Project No. D1999 D000CG-0088.005; formerly Project No. 9CG-5049.05)

Finding: Headquarters, Pacific Air Forces, personnel approved a bulk fuel-related MR&E project at Misawa Air Base but could not demonstrate that project requirements were properly validated. DESC approved a $1.3 million MR&E project that may not have been necessary to support operational requirements. (See page 2 of draft report)

Recommendation No. 4: Director, Defense Energy Support Center, establish procedures to validate maintenance, repair, and environmental project requirements in accordance with policies in DoD 4140.25-M (See page 10 of draft report).

DLA Comments: Non-concur with the recommendation. Although the Inspector General for the office of the Secretary of Defense has recognized the potential problems and complexities that exist with managing a facilities maintenance and repair program for a critical logistics component, the Defense Energy Support Center (DESC) already has an effective process in place to review and evaluate submitted projects. This process is not singular in nature, but involves numerous activities from the base level up to the theater command. Projects are initiated and reviewed through this chain. At any one point, input can be added that may change the final decision on whether a project is approved or not approved. The project at Misawa AB discussed in the report was ultimately cancelled before DESC provided any funding in support for either design or construction. It was cancelled after all parties were allowed to contribute input and evaluation was made from a more comprehensive theater view. The bottom line is that the process worked.

Project validation takes place on several levels during this process and the following levels are specific to this project. Level 1 would be at the local level (Misawa AB), where the appropriate question is: is the project necessary for local support and is the proposed solution reasonable? Level 2 would be at the PACAF level, where the appropriate question is: is the project necessary for continued Service support? Level 3 would be at the CINCPAC level, and would ask: is the project necessary to support theater objectives and what is its relative priority? Level 4 would be at the DESC level, and here the appropriate question is: is the project required from a logistics support perspective to assure the first three levels of support and are there other ways to provide that logistical support?

DESC relies on the expert opinions of the Service Engineers and Programmers at all levels to provide information for validation. By working with the Service's MAJCOM engineering group, DESC confirmed "replacement is necessary". It should be emphasized that this project was displaced by a greater Military Construction (MILCON) project rather than being found unnecessary or overpriced. The process did work and DESC continues to believe that DoD 4140.25-M, chapter 8, project validation process is appropriate and does not need revision on the basis of this finding.

However, for the sake of assuring the proper economic outcome for DoD, DESC will revise its internal procedures to direct the most economic project solution be pursued by the design/construction agent when funding projects.

( ) Ongoing. Estimated completion Date:
(X) Considered Complete.

Action Officer: Mohammed Yousuf, DESC-FE, (703) 767-8292, DSN 427-8292
Approval: John Bartenhagen, Director, DESC-F, (703) 767-9360, DSN 427-9360

Audit Team Members

The Contract Management Directorate, Office of the Assistant Inspector General for Auditing, DoD, prepared this report. Personnel of the Office of the Inspector, DoD, who contributed to the report are listed below.

Paul J. Granetto
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Deborah L. Carros
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