Audit Report

OFFICE OF THE INSPECTOR GENERAL

THE CHEMICAL STOCKPILE DISPOSAL PROGRAM

Report No. 95-045 November 29, 1994

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Acronyms

ANCDF	Anniston Chemical Agent Disposal Facility
APBA	Acquisition Program Baseline Agreement
ASA(IL&E)	Assistant Secretary of the Army (Installations, Logistics and Environment)
ASARC	Army Systems Acquisition Review Council
COEA	Cost and Operational Effectiveness Analysis
CONUS	Continental United States
CSDP	Chemical Stockpile Disposal Program
CSSR	Cost and Schedule Status Report
DAB	Defense Acquisition Board
DAES	Defense Acquisition Executive Summary
GAO	General Accounting Office
JACADS	Johnston Atoll Chemical Agent Disposal System
MDAP	Major Defense Acquisition Program
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
OT&E	Operational Test and Evaluation
OVT	Operational Verification Test
PDA	Program Decision Authority
PUDA	Pueblo Depot Activity
SAR	Selected Acquisition Report
TEMP	Test and Evaluation Master Plan
TOCDF	Tooele Chemical Agent Disposal Facility
USD(A&T)	Under Secretary of Defense for Acquisition and Technology

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November 29, 1994

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY

SUBJECT: The Chemical Stockpile Disposal Program

We are providing this report for your information and use. The report addresses the Defense Acquisition Board review process for the Chemical Stockpile Disposal Program. We also assessed the Army Systems Acquisition Review Council's oversight of the program and the adequacy of documentation prepared for its reviews. The Under Secretary of Defense for Acquisition and Technology; the Assistant to the Secretary of Defense for Atomic Energy; and the Assistant Secretary of the Army (Installations, Logistics, and Environment) provided comments on the draft report and those comments were considered in preparing the final report. As a result, we revised Recommendation 1.b.and deleted Recommendations 2.a., 2.b., and 3.

Comments on a draft of this report conformed to the requirements of DoD Directive 7650.3 and were responsive to the intent of the recommendations; therefore, no additional comments are required.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Mr. John A. Meling, Program Director, at (703) 604-9091 (DSN 664-9091) or Mr. Brian M. Flynn, Project Manager, at (703) 604-9076 (DSN 664-9076). The distribution of this report is listed in Appendix D.

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Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 95-045 November 29, 1994
(Project No. 3AE-0063)

THE CHEMICAL STOCKPILE DISPOSAL PROGRAM

EXECUTIVE SUMMARY

Introduction. In 1985, Public Law 99-145 directed the Department of Defense to destroy the stockpile of unitary lethal chemical agents and munitions that existed at the time. The stockpile consisted of 32,000 agent tons of live chemical weapons. The Department of the Army has program management responsibility for chemical demilitarization. On-site incineration is being conducted at Johnston Atoll in the South Pacific and planned at eight storage sites in the Continental United States. The first facility in the Continental United States is at Tooele Army Depot, Utah, and the contract for the second facility at Anniston Army Depot, Alabama, has been delayed pending approval of the Resource Conservation and Recovery Act permit from the State of Alabama. The Army estimated procurement costs of $2.2 billion with total program costs of $8.6 billion by Program completion in 2004. The Defense Acquisition Board had scheduled a program review for February 15, 1994, which was subsequently taken off the Defense Acquisition Board schedule and replaced by an informational briefing for the Under Secretary of Defense for Acquisition and Technology.

Objectives. Our overall objective was to evaluate the effectiveness of the Defense Acquisition Board review process for major Defense acquisition programs. The Chemical Stockpile Disposal Program (CSDP) is one program in the overall audit, "The Defense Acquisition Board Review Process--FY 1994." The audit assessed compliance with provisions of the modified Army Systems Acquisition Review Council process and internal controls related to the audit objectives.

Audit Results. The CSDP could significantly benefit from disciplined program management provided in accordance with DoD acquisition policies. The DoD management did not consider the CSDP to be an acquisition program, but rather an on-going chemical destruction program principally involved with building facilities for the incineration of chemical agents. However, the CSDP meets the prerequisites for the major Defense acquisition program designation. In particular, program management should consider alternatives for meeting disposal requirements through formal cost and operational effectiveness analysis, a formal developmental and operational test program, approval of an acquisition program baseline, and improved contractor cost and schedule control. The CSDP had not met the limited program documentation requirements, criteria, and baselines established for the program by the Army. The lack of effective acquisition program management has resulted in increased cost, schedule, and performance risks associated with fulfilling the CSDP mission.

Internal Controls. The audit did not identify material internal control weaknesses. Existing controls, when properly implemented, were sufficient to correct the deficiencies noted. The internal controls assessed are further discussed in Part I of this report.

Potential Benefits of Audit. Potential benefits from this audit are nonmonetary. The recommendations will strengthen management controls over program cost, schedule, and performance. Potential Benefits Resulting from Audit are shown in Appendix B.

Summary of Recommendations. We recommended that the Under Secretary of Defense for Acquisition and Technology designate the Chemical Stockpile Disposal Program an Acquisition Category ID major Defense acquisition program; schedule a Defense Acquisition Board Milestone III, Production Approval, Review; and require a dedicated phase of initial operational test and evaluation. To support that decision, we recommended a formal cost and operational effectiveness analysis of chemical agent destruction alternatives and validation of the contractor cost and schedule control systems.

Management Comments. On July 5, 1994, the Deputy for Chemical and Biological Matters, Office of the Assistant to the Secretary of Defense for Atomic Energy, provided comments to our recommendations and forwarded comments from the Director, Acquisition Program Integration for the Under Secretary of Defense for Acquisition and Technology; the Director, Program Analysis and Evaluation; the Assistant Secretary of the Army (Installations, Logistics, and Environment); and the Director, U.S. Army Chemical Materiel Destruction Agency. On August 11, 1994, the Principal Deputy Under Secretary of Defense for Acquisition and Technology informed the Inspector General, Department of Defense, that he did not intend to add the Chemical Demilitarization Program to the Major Defense Acquisition Program list but the Deputy Secretary of Defense has asked that the Defense Acquisition Board periodically conduct Defense Executive Reviews of the Chemical Demilitarization program in the same manner that the Defense Acquisition Board reviews the non-major defense acquisition Biological Defense program. The comments and the Deputy Secretary's direction were responsive to the intent of the recommendations; therefore, no additional comments are required.

Audit Response. As a result of comments, we revised Recommendation 1.b. and deleted Recommendations 2.a, 2.b., and 3.

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Part I - Introduction

Background

In 1985, Public Law 99-145 directed the Department of Defense to destroy the stockpile of unitary[1] lethal chemical agents and munitions based on concerns of stockpile deterioration. The stockpile consists of 32,000 agent tons of artillery projectiles, mortars, mines, rockets, bombs, and bulk containers of nerve and blister agents located at Johnston Atoll in the South Pacific and at eight chemical storage sites in the Continental United States (CONUS). On-site destruction of those chemical weapons is scheduled for completion by December 2004 based on Chemical Weapons Convention considerations. The Army estimated a program life-cycle cost of $8.6 billion. As part of the program, the Army has built an assembly and incineration facility at Johnston Atoll in the South Pacific and another in Tooele, Utah.

In 1986, the Department of the Army established the Office of the Program Manager for Chemical Demilitarization and placed it under the oversight of the Assistant Secretary of the Army (Installations, Logistics and Environment) (ASA[IL&E]). The program manager is responsible for developing and executing an environmentally safe demilitarization program through the Chemical Stockpile Disposal Program (CSDP) and the Non-Stockpile Chemical Materiel Program.[2]

The Under Secretary of Defense for Acquisition and Technology (USD[A&T]) is responsible for implementing Office of Management and Budget Circular A-109, "Major Systems Acquisition," April 5, 1976, and approves and enforces acquisition policies in DoD Directive 5000. 1, "Defense Acquisition," and DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991.

According to the Office of Management and Budget Circular No. A-109, a major system is defined as a:

> Combination of elements that will function together to produce the capabilities required to fulfill a mission need. The elements may include, for example, hardware, equipment, software, construction, or other improvements or real property. Major system acquisition programs are those programs that (1) are directed at and critical to fulfilling an agency mission, (2) entail the allocation of relatively large resources, and (3) warrant special management attention.

DoD Instruction 5000.2 defines a major Defense acquisition program (MDAP) as a program that the Secretary of Defense estimated would require an eventual total expenditure for research, development, test, and evaluation of more than

[1]The term unitary distinguishes a single chemical loaded in munitions or stored as a lethal materiel. Binary munitions contain two relatively safe chemicals only forming a lethal agent after the munition is fired or released.

[2]This Program is responsible for reclamation, recovery, and disposal of chemical agents and contaminated materiel, to include former production facilities.

$300 million (based on FY 1990 constant dollars) or an eventual total expenditure for procurement of more than $1.8 billion (based on FY 1990 constant dollars). A program that meets the dollar threshold of a major acquisition program is categorized as an Acquisition Category I program. The milestone decision authority is the USD(A&T) who conducts formal milestone and program reviews through the Defense Acquisition Board (DAB) review process unless the USD(A&T) delegates decision authority to the Service Secretary or Service acquisition executive. Formal milestone and program reviews are conducted in accordance with DoD Instruction 5000.2. The reviews are designed to evaluate MDAPs and make recommendations to the Defense or Service acquisition executive to verify that programs are ready to proceed to more advanced stages of development or production before receiving acquisition executive approval.

Objectives

The original overall audit objective was to evaluate the DAB review process for the CSDP. In the absence of DAB oversight, we assessed the Army Systems Acquisition Review Council (ASARC) oversight of the program and the adequacy of documentation prepared for the ASARC reviews. Further, we assessed applicability of and compliance with DoD Directive 5000.1, "Defense Acquisition"; DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures"; and DoD Manual 5000.2-M, "Defense Acquisition Management Documentation and Reports," February 23, 1991. Additionally, we reviewed applicable internal controls.

Scope and Methodology

We performed this program audit from August 1993 through February 1994 and reviewed records dated from 1988 through February 1994 relating to the CSDP. We performed this audit in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD, and accordingly included such tests of internal controls as were deemed necessary. We discussed issues related to the CSDP and the ASARC process with Office of the Secretary of Defense (OSD), the Army CSDP Management Office, and Army personnel responsible for the preparation and review of required documents and reviewed documentation available at each of those organizations. We did not place material reliance on computer-processed data to support the finding and recommendations in this report. Appendix C lists organizations visited or contacted.

Internal Controls

We assessed internal controls related to the Chemical Stockpile Disposal Program management and the oversight process the DAB and ASARC used. Those controls and procedures are specified in DoD Directive 5000.1 and DoD Instruction 5000.2. The audit did not identify any material internal control weakness as defined in DoD Instruction 5010.38, "Internal Management Control Program," April 14, 1987. Existing internal controls, when properly implemented, were sufficient to preclude the deficiencies noted in this report.

We did not examine the effectiveness of implementing the DoD Internal Management Control Program for DAB programs as part of this audit because our objectives were limited to the CSDP. The CSDP was not designated or managed as an MDAP, and program management was not assessed as part of the applicable internal management control program based on acquisition policy applicable to MDAPs. Corrective actions taken to implement the recommendations in this report will result in the CSDP being included in the applicable internal management control programs. Therefore, separate audit recommendations are not provided to address the existing internal management control programs. We will include an overall assessment of internal management controls in our summary report on the effectiveness of the DAB process. A copy of the final report will be provided to senior officials responsible for internal controls in the Office of the Secretary of Defense and Military Departments.

Prior Audits and Other Reviews

The General Accounting Office has issued four reports on the CSDP since May 24, 1990, and the Army Audit Agency issued a report on February 8, 1993. Those reports are synopsized in Appendix A.

Other Matters of Interest

Certification Required by the National Defense Authorization Act for FY 1989. On August 25, 1993, the Secretary of Defense certified that the Operational Verification Test (OVT) of the Johnston Atoll facility was successfully completed. Certification was based on Government and contractor testing and analysis, conducted from July 1990 through March 1993. Public Law 100-456 required completion of OVT to validate the reverse assembly and incineration process and system design before proceeding with test activities at seven of the eight CONUS chemical stockpile disposal facilities planned for construction.

Cryofracture Facility Expected by the National Defense Appropriations Committee Conference Report for FY 1993. The Army is expected to build a cryofracture disassembly and incineration facility in lieu of the reverse assembly and incineration facility at the Pueblo Depot Activity, Colorado, unless "overwhelming evidence" supports presenting a contrary position to Congress. As a result of a Special ASARC review on October 4, 1993, ASA(IL&E) recommended that the reverse assembly and incineration process be employed at the Pueblo facility, based on cost and schedule risk factors.

Alternative Technology Evaluation Required by the National Defense Authorization Act for FY 1993. The Secretary of the Army was required to report to Congress by December 31, 1993, and before construction of new facilities, on the potential alternatives to the use of the Army's reverse assembly and incineration process for the disposal of chemical agents and munitions. The Secretary recommended that the CSDP should continue without deliberate delay with utilization of the reverse assembly and incineration technology based on a report by the Committee on Alternative Chemical Demilitarization Technologies of the National Research Council and recommendations by the National Academy of Sciences. Due to a publishing delay of the National Research Council's report, the Army's report to Congress was not delivered until April 1994.

Certification Required by the National Defense Authorization Act for FY 1994. The Secretary of Defense certified on December 30, 1993, that operation of the first CONUS facility at Tooele, Utah, would not endanger the health, safety, or welfare of the surrounding community. This certification lifted the prohibition on full systemization testing at Tooele, needed for scheduled operations starting in March 1995. The systemization process tests each piece of equipment and related process individually and later collectively using non-toxic agents and munitions.

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Part II - Finding and Recommendations

Acquisition Management of the Chemical Stockpile Disposal Program

The CSDP could significantly benefit from disciplined program management provided in accordance with DoD acquisition policies. The DoD had not designated or managed the CSDP as a major Defense acquisition program, and critical elements of effective DoD program management were not being employed. DoD management did not consider the CSDP to be an acquisition program, but rather an on-going chemical destruction program principally involved with building facilities for the incineration of chemical agents. However, the CSDP meets the prerequisites for the Major Defense Acquisition Program designation. In particular, program management could be improved by consideration of alternatives for meeting disposal requirements through conduct of a formal Cost and Operational Effectiveness Analysis, conduct of a formal developmental and operational test program, approval of an acquisition program baseline, and improvements in contractor cost and schedule control. The CSDP had not met the limited program documentation requirements, criteria, and baselines established for the program by the Army. The lack of more effective acquisition program management has resulted in increased cost, schedule, and performance risk associated with fulfilling the CSDP mission.

Background

Program Growth. The CSDP has experienced significant delays and increased costs since it began in 1985. The Army's life-cycle-cost estimate nearly doubled by 1988 from $1.7 billion to $3.1 billion. In March 1992, the ASARC approved a FY 1992 program life-cycle-cost estimate of $7.9 billion and footnoted an additional $1.1 billion in potential costs. In August 1993, the Army's Cost and Economic Analysis Center identified probable life-cycle-costs of $8.6 billion, and the estimate was expected to go higher. In the mean time, the stockpile elimination deadline had slipped 10 years from its original date of 1994 to 2004. The Army attributed the additional cost to unanticipated program requirements, higher costs for materials and wages, and technical and programmatic delays. Schedule slippage was attributed to initial unrealistic milestone schedules and subsequent management decisions to meet those schedules that were part of Public Law. This significant cost growth and schedule slippage warrant additional management attention and institution of the discipline associated with acquisition program management, including rigorous analysis and testing to reduce program risk.

Management Improvements. To address cost, schedule, and performance concerns, the Army acted to improve overall management of the CSDP. On October 7, 1991, the Assistant Secretary of the Army (Research, Development and Acquisition) authorized the ASA(IL&E) to participate in all CSDP programmatic acquisition functions and designated the ASA(IL&E) as the CSDP

decision authority. Subsequently, on January 14, 1992, the ASA(IL&E) directed the CSDP be managed as an Army cognizant acquisition program under the purview of the ASARC, using modified procedures and program documentation requirements to incorporate some of the same management controls used for MDAPs. In addition, the Army realigned the program contracting function and established the U.S. Army Chemical Materiel Destruction Agency to centralize all DoD chemical warfare destruction under the cognizance of one organization that included the CSDP and the Non-Stockpile Chemical Materiel Program.

Program Funding and Life-Cycle Cost. The Defense Chemical Agent and Munitions Destruction Appropriation and the Army Military Construction Appropriation primarily fund the CSDP. The Program Manager for Chemical Demilitarization managed the funds except the Corps of Engineers managed the Army Military Construction funds under programmatic direction and approval of the Program Manager for Chemical Demilitarization. The table shows CSDP life-cycle costs as submitted to the ASARC on October 4, 1993. Generally, those costs reflect the President's FY 1994 funding profile through program completion in FY 2004.

Program Life-Cycle Cost Summary
(dollars in millions)

Appropriation/ Budget Activity	Prior Years	FY 1993	FY 1994-FY 1999	FY 2000-FY 2004	Total Cost
Research and Development	$ 50	$ 7	$ 0	$ 0	$ 57
Procurement	480	245	1,293	144	2,162
Operations and Maintenance	767	262	1,939	2,101	5,069
Military Construction	281	15	947	0	1,243
Total	$1,578	$529	$4,179	$2,245	$8,531

Of particular interest is that procurement funding of $2.2 billion in then-year dollars was required to purchase and install incineration equipment for all facilities. This amount equated to about $2.0 billion in FY 1990 constant dollars, clearly meeting the dollar threshold of $1.8 billion in FY 1990 constant dollars to designate the CSDP as an MDAP.

Acquisition Milestones

Army system acquisition policy and procedures state that the ASARC is the decision review body for the acquisition of major systems. It is convened at formal milestones or other program reviews to provide information and develop

recommendations for the Army acquisition executive decisions. DoD Instruction 5000.2 defines formal program milestones as those that start with a new acquisition program at Milestone I, Concept Demonstration Approval, and that eventually are followed by:

Milestone II, Development Approval
Milestone III, Production Approval
Milestone IV, Major Modification Approval

Milestone I serves as the basis for starting the Demonstration and Validation Phase of the acquisition process, Milestone II for the Engineering and Manufacturing Development Phase, Milestone III for the Production and Deployment Phase, and Milestone IV for the Operational and Support Phase.

The Army organized the CSDP into three acquisition phases that are similar to formal milestone decision points described above. Those phases are development of technology and processes for demilitarization; design, construction, and operation of a prototype destruction facility; and construction and operation of the demilitarization facilities at the eight CONUS sites. The acquisition strategy involves design, construction, equipment acquisition, equipment installation, systemization, training, operations, site closure and cleanup, and assistance in the integration of those efforts. Our analyses of the program's acquisition strategy identified all significant characteristics of a MDAP. The Army approved an equivalent of formal Milestone II decision with construction of the Johnston Atoll Chemical Agent Disposal System (JACADS) "prototype" facility in 1985 and continued the development phase with the approval of the Tooele Chemical Agent Disposal Facility (TOCDF) at Tooele, Utah, in 1989. The acquisition strategy report submitted for the October 4, 1993, ASARC supports this conclusion. It states:

> The prototype phase of development occurred at the JACADS in the Pacific. . . . As an analogy, the TOCDF approximates a Low-Rate Initial Production contract in that program requirements dictated contract award prior to final design and that the lessons learned at TOCDF are being incorporated into future contracts. . . . The ANCDF [Anniston Chemical Agent Disposal Facility] is considered the first production facility of the CSDP.

When those decisions were made, the Army used a nonmajor acquisition program review forum to advise the ASA(IL&E). The CSDP is approaching the equivalent of a formal Milestone III, Production Approval, review with the anticipated award of a systems contract for the ANCDF.

Modified ASARC Procedures

The ASARC process contains many elements of the DAB process for program milestone reviews. On January 14, 1992, the ASA(IL&E) signed a memorandum to the Secretary of the Army that sought endorsement of modified ASARC procedures for the CSDP to include a tailored list of participants, a

streamlined reporting structure, and reduced documentation requirements for those aspects of the program that were not weapon related such as the intelligence report and the live fire test and evaluation report. The memorandum also stated that the ASA(IL&E) and the Vice Chief of Staff of the Army would jointly approve all approval documents. The ASA(IL&E) would approve program documents including the acquisition strategy report, the mission-need statement, operational requirements document, integrated program summary, budget cost estimate, acquisition program baseline agreement, and all program plans as required. The Deputy Under Secretary of the Army for Operations and Research was designated to approve the test and evaluation master plan (TEMP) on behalf of the ASA(IL&E). The ASA(IL&E) adopted three types of ASARC reviews: a decision review to approve major program milestones, a program review to fully assess program status, and a special review conducted as needed. The memorandum directed that

> The first ASARC Decision Review will be conducted to consider release of the request for proposal for the ANCDF systems contract to be followed by another ASARC after completion of OVT at the JACADS facility to consider the release of request for proposals for systems contracts at the six remaining sites. This ASARC may include the award of the ANCDF systems contract if timing allows, however, additional milestones may be conducted prior to award of other systems contracts.

The first ASARC was convened March 19, 1992. The Acquisition Decision Memorandum dated April 22, 1992, approved the release of the ANCDF request for proposal and exit criteria for the next Decision Review ASARC. The exit criteria included completion of OVT; approval of the Acquisition Program Baseline Agreement (APBA) by June 29, 1992; and development of a mission-need statement, operational requirements document, and a test and evaluation master plan.

The next ASARC was a Special Review conducted October 4, 1993, to decide between the reverse assembly and incineration process and the cryofracture disassembly and incineration process for the Pueblo Depot Activity (PUDA) chemical agent disposal facility. That review was scheduled to also address the completion of OVT and approve program documentation, but those activities were eliminated from the objectives subsequent to a program status review conducted on April 16, 1993. At that time, the Director, U.S. Army Chemical Materiel Destruction Agency, argued that:

- o securing an ASARC decision to endorse CSDP plans in view of the results of OVT was premature;

- o those decisions would be overshadowed by the expectation of the Alternative Technology Report from the National Research Council; and

- o convening an ASARC with more than one complex subject area decision could divert attention from the main objective of securing a decision on cryofracture technology use within the CSDP.

The decision to review the APBA and program documents was again deferred to the next Decision Review ASARC. As of November 1994, a Decision Review ASARC paramount to Milestone III Approval has not been conducted and applicable program documentation has not been approved by the program decision authority (PDA). In our opinion, those documents are essential to good program oversight by the PDA and need to be developed early in the program. The Army is to be given credit for raising the level of management oversight for the CSDP, that is, from Army in-process reviews used for non-major systems acquisition programs to the ASARC process used for MDAPs. Also the increased involvement of the USD(A&T) has enhanced the program's visibility and adherence to the strict principles of acquisition program management.

Acquisition Program Baseline

Criteria. Acquisition program baselines include cost, schedule, and performance objectives for the program. The milestone decision authority approves program baselines at milestone reviews. Each milestone should have a baseline. The objectives should evolve from broad, general objectives at Milestone I to system-specific, detailed requirements at Milestone III. They must meet or exceed the established threshold (minimum acceptability) and, in the case of performance, should represent an operationally meaningful, cost-effective, and affordable increment in capability.

Proposed Acquisition Program Baseline. The ASARC received a proposed APBA for discussion on March 19, 1992. It contained key performance, schedule, and cost parameters as agreed to by the Program Manager for Chemical Demilitarization and the PDA. The intent of the APBA was to enhance program stability by providing the program manager with the flexibility to execute program decisions within the boundaries established by the baseline and provide a critical reference point for measuring and reporting the status of program implementation. It also should provide measures for operational test and evaluation by an independent tester. The Acquisition Decision Memorandum dated April 22, 1992, provided that approval of the APBA be completed by June 29, 1992, before the next Decision Review ASARC. A Special Review was to be convened to revise the APBA before the June deadline. The latter action never occurred and a baseline agreement has not been approved as of November 1994. The lack of approved cost, schedule, and performance baselines was symptomatic of the review process being applied to the CSDP.

Acquisition Program Management Reporting. Measuring and reporting the status of the CSDP to Congress in terms of approved acquisition program cost, schedule, and performance baselines is not being accomplished similar to MDAPs reported in Defense acquisition executive summaries (DAES) and selected acquisition reports (SAR). CSDP reporting is accomplished through annual reports developed by the program office; analysis by Mitre, a not-for-profit corporation contracted by the Army to evaluate and report program test

results; and testimony by Army and DoD officials before congressional committees. As a result, overall program cost, schedule, and performance data are being reported annually and not relative to a fixed baseline. Additionally, exception reporting is not being required where potential breaches of fixed baselines are evident because the CSDP lacks an approved APBA. Exception reporting is critical to timely management action to correct deficiencies.

If designated as a major Defense acquisition program, the CSDP baselines would have been incorporated in the DAES and SAR reports. The USD(A&T), with input from staff and Military Departments, designates programs for DAES and SAR reporting. As a minimum, DAES reports are submitted to the Office of the USD(A&T) quarterly. The SARs are submitted to Congress annually and selected programs more frequently. Both reports present total costs for all years against an established APBA as projected through the end of the program. The area of total program cost reporting is significant since the Army cost position for the CSDP recommended by the U.S. Army Cost and Economic Analysis Center on August 17, 1993, shows life-cycle cost estimates are not complete, but would be required to be if MDAP reporting were implemented.

A number of unknown costs still exist in the CSDP and initial identification of costs show those costs are rising. For instance, facility closure costs of $53.7 million for all facilities in FY 1991 rose to $323.7 million in FY 1992, which did not include Phase II expenditures needed to raze the plants and restore the site to its original condition. Phase II costs are still undefined, as well as the scope of costs associated with the Federal Emergency Management Agency's emergency preparedness program mandated for each community surrounding the chemical storage sites. According to the FY 1992 life-cycle-cost estimate, those costs are $491.3 million. Approximately $2.2 billion of the estimated life-cycle costs of $8.6 billion is outside the Army FY 1994 Program Objective Memorandum. In our opinion, this portion of the program shows significant cost risk and needs to be reported more thoroughly and frequently against a fixed baseline for performance measurement purposes, than in the annual report to Congress. Designating the CSDP as a DAES- and SAR-reportable acquisition program will achieve that objective.

Production Baselines. The PDA has not established a production baseline for the Anniston and subsequent facilities to be constructed. Instead, the Army established a programmatic baseline based on JACADS incorporating the lessons learned from OVT and the Tooele site experience to update the plans for the future sites. The Army contends that facility construction schedules and changes to the JACADS are largely dependent upon approval of state environmental permits and congressional approval for the Army's chemical and munitions destruction program. We agree that establishing a production baseline has been made more difficult by those concerns. Nevertheless, in our opinion, once facility construction dates are set, baselines of cost, schedule, and performance of each facility should be applied and deviation reporting implemented in order to measure the programs progress and results of testing.

Performance Baselines. CSDP performance has been reported in terms of achieved throughput rates as a percentage of JACADS equipment design rates and facility operational availability during a given period. Nevertheless, no

performance baseline has been established as a measure of performance mandating further improvement before proceeding to the next acquisition phase. As an example, on the last phase of OVT for the destruction of 105-mm M60 projectiles containing blister agent, MITRE reported that:

> the average throughput rate, for the full-rate portion of the projectile test, was 31.4 projectiles per hour. This rate was 56 percent of the full-rate throughput goal, which was 56 projectiles per hour. . . . The calculated operational availability of JACADS for projectile processing was 48 percent for the full rate phase of the projectile test.

On May 5, 1993, the Acting ASA(IL&E) testified before Congress that "the performance of the plant improved drastically during the last week of OVT. . . . and although the overall destruction rate was somewhat disappointing, of greater importance was that JACADS fully demonstrated that it could effectively destroy chemical weapons safely while meeting all environmental requirements." Nevertheless, poor system availability and throughput rates have a fiscal consequence. For instance, in March 1992, the life-cycle-cost estimate included a moderate risk amount of 25 percent, which is $285 million in cost of operations due to lower than expected reliability, availability, and maintainability rates. Further, Mitre's Test Directive for OVT dated March 1989 states, "Although process operability and production rates are less important than safety or environmental protection, substantially reduced production would adversely affect the operating cost of destroying the CONUS stockpile." If the goals for overall production rates (due to either lower than expected processing rates or to excessive downtime) for each test are not met, it may be necessary to correct the problem before operation of CONUS facilities.

Further, the proposed parameters do not include system component-specific performance requirements. Mitre's report dated May 1993 provides an example of a potential component-specific performance parameter. It stated:

> Requirements are parameters that are mandated by the U.S. Environmental Protection Agency, Occupational Safety and Health Administration regulations, or by Army policy. An example of a requirement is the maximum allowable emissions for particulates from the deactivation furnace system as stated in the Resource Conservation and Recovery Act permit. The permit allows a maximum allowable stack concentration for agent in the stack emissions of 1.0 unit, which equates to a ceiling value of 0.03 milligrams per cubic meter of blister agent. The requirement for evaluating stack emissions was based on the more restrictive Army goal, which specifies that there be no quantifiable emission of chemical agent from the stack.

According to this example, the deactivation furnace system component of the chemical disposal facility would then have a system characteristic performance threshold of allowing only 0.03 milligrams per cubic meter of blister agent and a performance objective of no quantifiable emission of chemical agent from the stack. Such a threshold and objective could then be used for test and evaluation as well as system performance reporting to management. In our opinion, the Army has not sufficiently quantified performance parameters to establish an effective baseline for performance measurement of CSDP component systems.

Other CSDP safety and environmental requirements are of paramount importance and, therefore, should be part of the production performance baseline as a means of measuring the program's performance. Those requirements are located in Federal and state environmental permits that specify a range for each parameter necessary for allowing plant operations. Noncompliance is documented and submitted to the Environmental Protection Agency. Draft performance parameters in the APBA are awaiting approval by the PDA.

Major Acquisition Program Requirements

Cost and Operational Effectiveness Analysis. The Army has not conducted a formal cost and operational effectiveness analysis (COEA) or updated equivalent analyses on the CSDP in support of a Milestone III, Production Approval, review.

DoD Instruction 5000.2 states:

> At Milestone III, Production Approval, the analysis may be only an update of the Milestone II, Development Approval. However, if there have been major performance or cost changes during Phase II, Engineering and Manufacturing Development, a new analysis may be required.

The Army Record of Decision signed by the Under Secretary of the Army on February 23, 1988, stated that on-site incineration would be used to destroy chemical munitions and agents based on analysis of risk associated with moving chemical stockpiles to national and regional destruction sites through populated areas. The CSDP Implementation Plan dated March 15, 1988, stated an analysis of chemical agent destruction technologies was conducted in 1982 and no attempt has be made to reassess all potential disposal processes because to do so would not be cost-effective or beneficial. However, in 1992, Congresss directed the Army and the National Research Council review and report on alternatives to reverse assembly and incineration technology.

Also, the Implementation Plan chose the JACADS reverse assembly and incineration technology for the on-site destruction of chemical agents, but required continued development of cryofracture disassembly and incineration technology as a back-up. However, the Defense Appropriations Committee Conference Report for FY 1993 stated that Congress expects the Army to proceed with the cryofracture facility at PUDA, Colorado, unless "overwhelming evidence" to support a contrary position is submitted to Congress. In preparation for an ASARC decision on what chemical agent destruction process would be implemented at PUDA, the Program Manager for Chemical Demilitarization in 1992 tasked Mitre to provide an independent assessment of the two technologies and evaluate the risks associated with building a first generation cryofracture incineration demonstration plant versus a third generation JACADS reverse assembly plant at PUDA.

Mitre published its report in June 1993 and concluded:

> that because the JACADS reverse assembly and incineration technology was more mature based on construction of the Johnston Atoll and Tooele facilities and results of testing, that cost, schedule, and environmental compliance were at greater risk for a cryofracture and incineration facility, and that the quality of worker training would be higher for the JACADS facilities.

Subsequently, on October 4, 1993, the ASA(IL&E) agreed with the Mitre report and recommended the implementation of the JACADS process at the Pueblo Depot Activity, but not before the completion of a Site-Specific Environmental Impact Statement, Record of Decision by the Secretary of the Army, and findings released by the Committee on Alternative Chemical Demilitarization Technologies of the National Research Council that included an analysis of cryofracture technology. In our opinion, the Army should stay abreast of potential alternatives to disposal processes in use and, if necessary, do appropriate cost and effectiveness analyses. Additionally, the National Defense Authorization Act for FY 1993 required the Army to report on the potential alternatives to the use of the reverse assembly and incineration process for the disposal of chemical agents to include an analysis of the report and recommendations of the Committee on Alternative Chemical Demilitarization Technologies of the National Research Council. The Army received the report from the National Research Council in February 1994 and submitted its analysis of the report and recommendations to Congress in April 1994.

The Army analysis required by Congress may not meet the formal requirements for an updated COEA considering cost alternatives for the CSDP to identify the most cost-effective method to develop and construct the remaining plants. Congressional guidance is less than that required by DoD Instruction 5000.2. DoD Instruction 5000.2 states analysis of a full range of alternatives should be considered by comparing them to current system baseline capability and by establishing measures of effectiveness to assess alternatives. The report by the National Research Council covered a wide range of alternatives to chemical agent destruction by reverse assembly and incineration that was analyzed by the Army. However, the Army is only required to consider low-volume sites[3] if the Secretary of the Army decides that chemical agent destruction by an alternative technology is significantly safer and equally or more cost-effective than the JACADS reverse assembly and incineration method. Therefore, the Army is only required to analyze three of the seven remaining facilities to be built. But, upon congressional notification, the other four sites could be considered for an alternative technology plant as well. In our opinion, to achieve the most cost-effective combination of assets to fulfill the mission need, a full range of disposal system alternatives and all possible site locations must be explored using measures of effectiveness to assess each possibility.

Cost and Schedule Control. On major Defense acquisition programs, periodic assessments of contractor cost and schedule performance are required. The

[3]Site contains less than 5 percent of the total United States stockpile of unitary chemical weapons.

purpose of cost and schedule control systems is to provide contractor and Government program managers with performance data to monitor execution of their program. Reporting of data is accomplished through cost performance reports and cost and schedule status reports (CSSR). The CSDP Acquisition Strategy, dated April 17, 1992, states all CONUS facility contracts after the TOCDF contract will include requirements for regular cost performance reports. Cost performance reports provide detailed contract cost and schedule performance information and are designed to provide early indicators of problems and the effects of management actions taken to resolve them.

The prime contractor's computerized management system for the TOCDF must be capable of submitting monthly CSSRs. The contractor prepares those reports and provides summarized cost and schedule performance information for program management purposes during the systemization and operations phase of the contract. However, before contractor and Government management can rely on data provided by those systems, DoD Instruction 5000.2 states that an in-plant demonstration review must verify that the contractor is operating systems that meet the DoD criteria for cost and schedule control systems. Recurring evaluations of the effectiveness of the contractor's policies and procedures will also be performed to ensure that the contractor's system continues to meet the cost and schedule control system criteria. Those review activities are generally organized into an overall surveillance plan. Although the contract was awarded in September 1989, a demonstration review had not been conducted. Also, on July 28, 1993, a cost and systems analysis review team from the U.S. Army Armament, Munitions and Chemical Command noted a lack of reviews and recommended that a CSSR implementation review be performed on the remaining portion of the contract as soon as practical and that monthly independent analyses be performed on the CSSRs. Our evaluation of the cost and schedule control system identified other weaknesses as well.

o No Memorandum of Agreement among the program office, project office, and administrative contracting officer identified management responsibilities for cost and schedule oversight.

o The contract lacked a requirement for surveillance reviews to ensure continued compliance with the approved cost and schedule control systems description.

o No surveillance plan was being developed.

Without system validations and an appropriate level of surveillance, contractor cost and schedule data may not be reliable for purposes of making contractor payments or programmatic decisions. Those deficiencies at the TOCDF and similar potential weaknesses at future CSDP facilities could be precluded by requiring system validation and surveillance.

Program Test and Evaluation. The fundamental purpose of test and evaluation is to identify the areas of risk to be reduced or eliminated. As a system undergoes design and development, the emphasis in testing moves gradually from development test and evaluation, which is concerned chiefly

with the attainment of engineering design goals, to operational test and evaluation (OT&E), which focuses on operational effectiveness, suitability, and supportability.

Development Tests. In 1970, obsolete chemical agent and munitions were disposed of by ocean dumping and open-pit burning. Development efforts to neutralize and incinerate chemical agents were also conducted at Rocky Mountain Arsenal, Colorado, and Pine Bluff Arsenal, Arkansas. In 1979, development of demilitarization technology continued using the Chemical Agent Munitions Disposal System facility at the Tooele Army Depot, Utah. This facility helped develop the reverse assembly and incineration process that formed the basis for the JACADS. It also conducted tests on the cryofracture disassembly and incineration process in addition to development work conducted at the contractor's plant beginning in 1986.

Operational Verification Tests. The OVT Test Directive stated that the purpose of OVT was to evaluate JACADS overall performance while recording the production rates attained. The test was designed to demonstrate that the basic JACADS process operating in sustained operation could meet expectations for safety, environment, and process performance for similar plants in CONUS to include equipment design, performance of personnel, and the effectiveness of JACADS operating procedures for the safe and efficient disposal of munitions and agents. However, Mitre admitted the degree of difference between JACADS at Johnston Atoll operations and those CONUS facilities will affect the reliability of the projection. A second, but less critical, requirement was the demonstration of achievement of design goals for munition destruction.

Systemization Tests. The Army relied on plant systemization tests to validate the CONUS chemical disposal facilities before start-up of toxic operations, unlike the Johnston Atoll facility, which conducted toxic operations during OVT[4]. All facilities undergo systemization, which systematically tests each process component individually and collectively with the rest of the disposal system. Only simulant materials are used during this phase. Successful systemization is a requirement for transition into full toxic operations for each site.

Assessment of OVT Results. The Mitre Report dated May 1993 concluded that JACADS plant completed its OVT with the destruction of more than 40,000 munitions over a period of 32 months. During that time the JACADS design had no apparent fundamental problems in achieving safety and environmental goals of planned CONUS facilities. No public or worker injuries or fatalities resulted from agent release, munition fire, or explosion. The plant emitted no agent and operated within permit requirements for other discharges. However, system and operations inadequacies raised safety concerns. Those concerns were based on poor performance of systems effecting back-up power, fire suppression, ventilation, projectile processing, munitions tracking, and agent alarm.

[4]OVT consisted of four test periods over 32 months covering the destruction of rockets, 1-ton containers, and projectiles filled with nerve and blister agents. The evaluation of all phases was completed in May 1993.

Other significant problems were noted with the demilitarization machinery such as:

> Operational performance showed that significant engineering development still was needed on several of the systems. While much of the needed engineering has now been conducted, it is possible that additional problems may develop as the JACADS and CONUS plants are run for longer periods and on a more intense, 24-hour per day, schedule.

Mitre caveated its assessment of OVT as follows:

> The deactivation furnace system appears to operate relatively well, although problems remain with bearings, home switch, feed chute, and related components.
>
> The rocket shear machine appears to operate well, except for possible problems relating to corrosion by some decontamination liquids used.
>
> Portions of the projectile demilitarization system appear to operate well. However, even with virtually continuous tending by the maintenance staff in demilitarization protective ensemble suits during most of OVT, the multipurpose demilitarized machines did not demonstrate sustained, consistent operation.
>
> The metal parts furnace operated well, although the automatic control of the furnace temperature was slow to respond to changes in the chamber temperature.
>
> The agent quantification system appears to have operated reasonably well for rockets, but not for ton containers or projectiles. The problems appear to be agent removal problems and measurement of agent quantities.
>
> The liquid incinerator operated effectively in disposing of agent; however, if not improved, its relatively limited availability will significantly restrict processing of munitions that generate large amounts of agent.

Those caveats by Mitre highlight the need for a dedicated phase of initial operational test and evaluation to verify the effectiveness of corrections to deficiencies found in OVT. An operational test and evaluation phase could also resolve differences between the Johnson Atoll facility and JACADS as installed at CONUS sites. Some differences between the JACADS as tested during OVT and the CONUS systems are:

o JACADS tested three kinds of munitions and agents. CONUS facilities will also destroy other types of agents, albeit in limited quantities, not tested at JACADS;

o machines and systems having direct contact with munitions, agents, or their products will have the same design, but support systems hardware may change depending on availability or technical advances;

o JACADS and CONUS plants will have similar management structures, but CONUS facilities may have different contractors at different sites; and

o CONUS facilities will be under more stress. JACADS operated 8 to 12 hours a day, 6 days a week, during 2 to 4 months of testing, while CONUS facilities will operate 24 hours a day, 6 days a week, during an operating cycle of 2 to 16 months for each munition type.

In our opinion, dedicated operational testing before the start of toxic operations is warranted, especially based on the plans for extend operations at the CONUS facilities, although the Army has suggested the contrary since the CONUS facilities will be under closer scrutiny.

In comparing CSDP OVT with DoD policy concerning operational test and evaluation criteria in DoD Instruction 5000.2, we noticed several differences:

Policy	Practice
Operational test and evaluation programs shall be structured to determine the operational effectiveness and suitability of a system under realistic stress conditions and to determine whether the minimum acceptable operational performance requirements as specified in the operational requirements document (ORD) have been satisfied.	JACADS during OVT was unable to obtain effective sustained operations under stressed conditions. Further, key performance parameters were not established in an approved ORD.
Production or production representative articles shall be used for the dedicated phase of operational test and evaluation that supports the full-rate production decision.	OVT was conducted on a prototype facility at Johnston Atoll. However, TOCDF is the CSDP low-rate initial production facility and ANCDF is the first production facility.
OT&E plans must be reviewed for adequacy and approved by the Director, OT&E, for MDAPs. OT&E plans must include test objectives; measures of effectiveness; planned operational scenarios; threat simulation; resources; test limitations; and methods of data gathering, reduction, and analysis. Test reports with results, conclusions, and recommendations must be submitted to the Director after each phase of developmental and operational testing.	The Director, OT&E, should provide the DAB an assessment of test accuracy and the system's operational effectiveness and suitability. He has not been involved with the CSDP OT&E because the CSDP has not been designated an MDAP. OT&E plans were not required for Director, OT&E, approval. Therefore, DoD was unable to independently assess the adequacy of test plans and results.

Documentation Requirements

Documentation is the primary means for the functional staff and the Program Manager to provide the milestone decision authority at the DAB or ASARC level with information needed for a milestone decision. The Office of Management and Budget Circular No. A-109, "Major Systems Acquisition," April 5, 1976, directs responsibility to each Government Agency head for managing the acquisition programs by identifying specific system acquisition management objectives. These objectives encompass issues such as ensuring an adequate system of test and evaluation and demonstrating a level of performance and reliability that justifies the evaluation. DoD Instruction 5000.2 requires documentation such as the acquisition baseline agreement, test and evaluation master plan, operational requirements document, and programmatic environmental analysis, among other documents, for proper program management at various milestone decisions.

Test and Evaluation Master Plan. The test and evaluation master plan (TEMP) is a documentation requirement of DoD Instruction 5000.2 that will be prepared for all Acquisition Category I programs. The Director, Operational Test and Evaluation, and Director, Test and Evaluation,[5] approve the TEMP at Milestone II and update the TEMP at Milestone III and beyond. An objective of the TEMP is to help DoD ensure that the program operates effectively in its intended environment and demonstrates a level of performance and reliability that justifies the allocation of resources for its acquisition and provides a plan to adequately test and evaluate the system, independent of the developer and user. One unusual aspect of the CSDP is that the program management office is not only the developer, but also the proponent and user of the chemical demilitarization facilities.

As of November 1994, the ASARC has not approved the CSDP TEMP even though systemization testing at the Tooele facility has started and the Army is preparing to award a systems contract for the first "production" facility at Anniston, Alabama. The TEMP was developed and submitted as part of the program documentation at the last ASARC review on Cryofracture in October 1993; however, we found that, under the modified ASARC procedures, the TEMP was tailored excessively. The draft TEMP lacked criteria to measure program status and only represented a general historical summarization of developmental and operational test results. Further, it did not provide specifics for the discussion of critical operational issues, key performance parameters, evaluation criteria, and milestone decision points. All those elements are needed to track program technical progress.

Operational Requirements Document. The ORD is a documentation requirement of DoD Instruction 5000.2 for all Acquisition Category I programs. The ORD is derived from the mission-needs statement, which is required before Milestone I and updated for subsequent milestones. The ORD should describe deficiencies in existing capabilities and define how the proposed system should

[5]Renamed Director for Test, Systems Engineering and Evaluation November 1, 1994.

perform by providing system performance thresholds and objectives that, if met, will successfully counter the threats upon which the required capability was based. As of November 1994, the ASARC has not approved the ORD.

Programmatic Environmental Analysis. The Army has not prepared a programmatic environmental analysis as specified in DoD Instruction 5000.2. Although numerous actions have been taken to ensure environmental compliance with statutory and regulatory requirements, the CSDP could benefit from performance of the programmatic environmental analysis. This analysis should contain a description of the weapon system; alternatives to be studied within the program; potential environmental impacts of each alternative throughout the system life-cycle; potential mitigation of adverse impacts; and how the impacts would effect program cost, schedule, and siting alternatives. This analysis is to begin immediately after Milestone I and will simultaneously and thoroughly coordinate and integrate with other plans and analyses for the program. After each milestone decision point, the analysis will be updated or tiered as necessary.

Program Review With Office of the Secretary of Defense and Army Management

A DAB program review was initially scheduled for November 15, 1993, 3 weeks after a meeting of the Strategic Systems Committee. On October 19, 1993, a memorandum from the Deputy Assistant to the Secretary of Defense for Chemical and Biological Matters stated that the USD(A&T) approved a recommendation by the Assistant to the Secretary of Defense (Atomic Energy) that the DAB be delayed to February 1994, due to a number of significant developments within the demilitarization program. The memorandum also said that the OSD staff should address those issues identified in the DAB process to date and either resolve the issues or recommend another DAB review. Of particular concern was "Should periodic chemical demilitarization DAB executive-level reviews be instituted as a program management forum? What role should the USD(A&T) have in decisionmaking? Should the program be baselined as part of the DAB process?"

On January 12, 1994, the Deputy Assistant to the Secretary of Defense for Chemical and Biological Matters was notified that the CSDP was removed from the DAB schedule by direction of the USD(A&T) and that the USD(A&T) requested an informational briefing on the CSDP at a future date. The Assistant to the Secretary of Defense for Atomic Energy was directed to have primary oversight responsibility for the program and participate in the ASARC reviews. Reviews of the CSDP would be conducted similar to those under the structure established for the Biological Defense Program in an Acquisition Decision Memorandum dated June 28, 1993. That memorandum stated the biological defense effort is not an MDAP as statutorily defined by title 10, United States Code, section 2430, and, therefore, will not be managed as an MDAP. The CSDP was also considered not to be an MDAP as defined by title 10, United

States Code, section 2430, "Major Defense Acquisition Defined." We disagree. Section 2430 does not preclude the CSDP, but supports classifying the CSDP as an MDAP. It states:

> The term "major defense acquisition program" means a Department of Defense acquisition program that is not a highly sensitive classified program (as determined by the Secretary of Defense) and,
>
> (1) that is designated by the Secretary of Defense as a major defense acquisition program; or
>
> (2) that is estimated by the Secretary of Defense to require an eventual total expenditure for research, development, test, and evaluation of more than $300 million (based on fiscal year 1990 constant dollars) or an eventual total expenditure for procurement of more than $1.8 billion (based on fiscal year 1990 constant dollars).

The CSDP also fits a broader definition of the term "acquisition" within DoD, as defined by the Defense Systems Management College, which states:

> Acquisition is the conceptualization, initiation, design, development, test, contracting, production, deployment, and logistic support, modification, and disposal of weapon and other systems, supplies, or services (including construction) to satisfy DoD needs, intended for use in or in support of military missions.

We found no documentation of an Army or DoD analysis to determine the proper categorization for the CSDP program regarding classification as an MDAP.

The CSDP program has not been properly categorized since it came under the purview of the ASARC in 1992. The life-cycle costs of $2.2 billion ($2.0 billion in fiscal year 1990 constant dollars) in procurement funding, in addition to $6.4 billion in other costs and the potential environmental and safety impact of the program, meet the criteria established by title 10 for the designation of the CSDP as an MDAP.

Causes for Lack of DAB Milestone Reviews

The CSDP program does not have DAB oversight because:

o CSDP has been managed as a non-acquisition program since its formulation in 1986. Its focus until 1988 was on a chemical disposal facility located on Johnston Atoll in the Pacific and the pre-existing chemical agent munition disposal facility at the Tooele Army Depot. The Secretary of the Army transferred responsibility for the CSDP to the ASA(IL&E) in 1988. In 1991, the ASA(IL&E) implemented a modified ASARC process for CSDP and subsequently was granted program decision authority by the Assistant Secretary of the Army (Research, Development, and Acquisition). Further, the Army Corps of Engineers must transfer the program's head of contracting authority to

the Army Materiel Command before starting site chemical disposal operations. This situation improved when the ASA(IL&E) realigned the program's contracting function in February 1992.

o According to DoD Instruction 5000.2, an MDAP excludes construction but includes hardware, equipment, and software procurement in determining the dollar threshold. Program management focused on the exclusion of construction projects. However, the CSDP met the threshold for procurement excluding construction costs, but has not been recognized as meeting the criteria.

o The possible program cost was not recognized until 1988 when the Army published its CSDP Implementation Plan. Further, funding of program life-cycle costs were split between Defense and Army appropriation accounts.

Conclusion

The CSDP received a significant level of congressional and public interest due primarily to concerns that the environmental impacts of stockpile disposal are absolutely minimized. Additionally, the program costs, although not necessarily complete, already exceed the threshold for designation as an MDAP. Designation of the CSDP as an MDAP would allow implementation of the disciplined program management process outlined in DoD Instruction 5000.2, but reasonable tailoring of activities and program documentation could consider the program's late entry into the DAB process and its unusual nature. Application of the core activities associated with the established acquisition process would ensure that the program fulfills the prerequisites for design, test, and production readiness before production decisions for additional facilities. Given the sensitivity and cost of the CSDP, the DoD has a clear responsibility to ensure that the program is managed as effectively as possible and that safeguards and controls applicable to designated acquisition programs are properly implemented to ensure program success. The absence of an approved APBA, including a Production Baseline; approved TEMP and OT&E plan with a specific dedicated phase of initial operational test and evaluation; a formal COEA; and complete acquisition documentation supporting a formal Milestone III, Production Approval, decision do not provide the necessary assurance that the CSDP will meet DoD requirements. Further, the lack of MDAP designation does not provide for adequate program reporting in DAES and SAR submissions.

Recommendations, Management Comments, and Audit Responses

On July 5, 1994, the Deputy for Chemical and Biological Matters, Office of the Assistant to the Secretary of Defense for Atomic Energy, provided comments to our recommendations and forwarded comments from the Director, Acquisition Program Integration for the Under Secretary of Defense for Acquisition and Technology (USD[A&T]); the Director, Program Analysis and Evaluation; the Assistant Secretary of the Army (Installations, Logistics, and Environment); and the Director, U.S. Army Chemical Materiel Destruction Agency. On August 11, 1994, the Principal Deputy USD(A&T) provided additional comments applicable to Recommendation 1.a. We changed the final report based on all comments that we received. The following discussion is a synopsis of comments to our recommendations accompanied by our response. The complete text of all comments is in Part IV.

1. We recommend that the Under Secretary of Defense for Acquisition and Technology:

a. Designate the Chemical Stockpile Disposal Program as an Acquisition Category ID major Defense acquisition program.

Principal Deputy USD(A&T) Comments. The Principal Deputy nonconcurred stating that designating the Chemical Stockpile Disposal Program, which is part of the Chemical Demilitarization Program, as an Acquisition Category ID program would not benefit the chemical weapons disposal effort. He stated that the Chemical Demilitarization Program has its own unique individual chemical stockpile and non-stockpile disposal site requirements and established management structure and is closely monitored by the legislative and executive branches of Government. Because of Administration and congressional interest, he stated that the Deputy Secretary of Defense has asked the Defense Acquisition Board to periodically conduct Defense Executive Reviews of the Chemical Demilitarization Program in the same manner the Defense Acquisition Board reviews the Biological Defense program.

Audit Response. The Principal Deputy's comments are considered responsive to the intent of the recommendation. The Deputy Secretary of Defense's direction that the Chemical Demilitarization Program be reviewed in the same manner as the Defense Acquisition Board reviews the Biological Defense Program will have a positive impact on management of the Program. For the Biological Defense Program, the Conventional Systems Committee oversees the Program and the USD(A&T) conducts reviews of the Program every 6 months.

b. Schedule a Defense Acquisition Board Milestone III, Production Approval, review and specify the program documents, plans, and assessments that the Army must complete.

Deputy for Chemical and Biological Matters, Office of the Assistant to the Secretary of Defense for Atomic Energy, Comments. The Deputy for Chemical and Biological Matters nonconcurred, stating that the Defense

Acquisition Executive directed the Defense Acquisition Board to conduct a program review of the Chemical Stockpile Disposal Program instead of a Defense Acquisition Board Milestone III, Production Approval, review. He stated that the program review forum allows the Strategic Systems Committee to identify documents, plans, and assessments that the Army must provide to the Defense Acquisition Board. He further stated that the program review forum allows more flexibility for Defense Acquisition Board members to thoroughly review the program and not be constrained by the multitude of milestones for the eight facilities, each in a different phase of the acquisition process.

In this regard, the Principal Deputy USD(A&T) held a program review for the Chemical Stockpile Disposal Program on March 10, 1994, at which he provided explicit direction to the Army to follow congressional mandates, develop an overall chemical weapons destruction program strategy, revise the program life-cycle cost estimate, consider a more expeditious environmental permit procedure plan, implement a comprehensive Public Outreach Program, and ensure that appropriate competitive contract procedures are in place.

Audit Response. The Deputy for Chemical and Biological Matters' comments and actions taken by Principal Deputy USD(A&T) are considered responsive to the intent of the recommendation. The recommendation intended that an approved production baseline be established before other JACADS facilities were built. Normally the acquisition executive approves a production baseline before the Milestone III production decision. Our concerns over the construction of a CONUS production JACADS facility before approval of a production baseline was based on rising program costs, inconsistent operational requirements, the possible development and use of alternative technologies at low-volume sites, technical performance problems at the Johnston Atoll facility, and the lack of operational testing to ensure the safety of plant personnel and the surrounding community. However, for the purpose of this recommendation, we agree that the planned Defense Acquisition Board program reviews of program documents, plans, and assessments for each of the eight facilities will be as effective as a single Defense Acquisition Board Milestone III, Production Approval, review, as long as cost, schedule, and performance production baselines are established for each facility to be built.

c. Require a dedicated phase of initial operational test and evaluation for the Tooele Chemical Agent Disposal Facility in support of the Defense Acquisition Board Milestone III decision.

Deputy for Chemical and Biological Matters, Office of the Assistant to the Secretary of Defense for Atomic Energy, Comments. The Deputy for Chemical and Biological Matters nonconcurred stating that each facility is required to comply with Federal and state environmental requirements before operation of the facility and those requirements are met through the systemization process. In this regard, he stated that Defense test and evaluation requirements are satisfied because each facility must go through the systemization process.

Audit Response. We accept the systemization testing conducted at the Tooele facility and to be conducted for the remaining chemical agent disposal facilities as alternative action.

d. Require a Formal Cost and Operational Effectiveness Analysis of alternatives for meeting the Chemical Stockpile Disposal Program mission in support of the Defense Acquisition Board Milestone III decision.

Director, Program Analysis and Evaluation, Comments. The Director nonconcurred stating that numerous previous assessments by the Army and independent outside reviewers have validated the Army's selection of incineration as the best chemical destruction method. He recommended that in lieu of a formal Cost and Operational Effectiveness Analysis for the next Defense Acquisition Board program review, the Army consolidate all previous studies and analyses relevant to the selection of incineration as the preferred approach.

Audit Response. The Director's comments are considered responsive to the intent of the recommendation; however, the Director should indicate where the Army is to consolidate the information to be provided in lieu of a formal Cost and Operational Effectiveness Analysis. Since the Principal Deputy USD(A&T) decided not to designate the Program as an Acquisition Category ID program, a formal Cost and Operational Effectiveness Analysis is not required. We also acknowledge the reviews of alternative methods of chemical destruction that have been conducted, particularly the National Research Council's studies conducted in 1993 and 1994 and the Army's report submitted to Congress in April 1994 concerning the feasibility of implementing alternative technologies for chemical destruction facilities at low-volume sites. Those reviews satisfy the intent of the formal Cost and Operational Effectiveness Analysis requirement; therefore, no response is required.

e. Approve a production baseline as a result of the Defense Acquisition Board Milestone III review before award of the Anniston facility systems contract.

Deputy for Chemical and Biological Matters, Office of the Assistant to the Secretary of Defense for Atomic Energy, Comments. The Deputy for Chemical and Biological Matters nonconcurred, stating that the USD(A&T) will review program life-cycle-cost estimates and revised program strategy at the next Defense Acquisition Board program review. This review will enable the Defense Acquisition Executive to decide on award of the Anniston facility systems contract without tying the decision to a Milestone review forum. Although the Deputy for Chemical and Biological Matters did not directly comment on establishing a production baseline, the Director, U.S. Army Chemical Materiel Destruction Agency, partially concurred, stating that the Army Systems Acquisition Review Council will approve the draft production baseline when convened to address the Anniston facility systems contracts.

Audit Response. We consider the comments provided by the Deputy for Chemical and Biological Matters and Director, U.S. Army Chemical Materiel Destruction Agency, to be responsive to the intent of the recommendation.

f. Validate the contractor's cost and schedule control system and develop a surveillance plan for monitoring compliance with the approved system description.

Deputy for Chemical and Biological Matters, Office of the Assistant to the Secretary of Defense for Atomic Energy, Comments. The Deputy for Chemical and Biological Matters concurred, stating that the Army is including requirements for validating future systems contracts with full-up contractor cost and schedule contractor requirements, mandating that bidders have approved cost and schedule control systems.

Draft Recommendations 2.a., 2.b., and 3. The draft report included Recommendations 2.a. and 2.b. to the Director, Operational Test and Evaluation, and Recommendation 3. to the Director, Program Analysis and Evaluation. However, since the recommendations were contingent on the Under Secretary of Defense for Acquisition and Technology implementing Recommendation 1.a. making the CSDP an acquisition category ID program, the recommendations are now moot and were deleted from the final report.

Part III - Additional Information

Appendix A. Prior Audits and Other Reviews

General Accounting Office (GAO) Reports

o Report No. GAO/NSIAD-93-50 (OSD Case No. 9132-A), "Chemical Weapons Destruction: Issues Affecting Program Cost, Schedule, and Performance," January 21, 1993. The GAO reported that test results from the Johnston Island facility showed lower than anticipated destruction rates resulting from reliability problems with destruction equipment causing extensive maintenance downtime that slowed operations. Also, GAO reported that the Army has continued to encounter difficulties in obtaining the required environment permits in the face of rising concerns by the public about the safety of chemical weapons incineration. Congress recently extended the mandatory completion date of the disposal program by more than 5 years. The GAO made recommendations relating to revision of cost and schedule estimates to reflect actual test experience, inclusion of 24-hour-a-day operations during operational verification testing, and setting work priorities for states to follow in reviewing hazardous waste permit applications. Management comments were not requested.

o Report No. GAO/NSIAD-92-18 (OSD Case No. 8945), "Chemical Weapons: Stockpile Destruction Cost Growth and Schedule Slippages Are Likely to Continue," November 20, 1991. The GAO reported that increased costs and additional time to destroy the stockpile should be expected and were due to additional program requirements, rising material costs and wages, and technical and programmatic problems. The report stated the July 1999 date for destruction of all chemicals is overly optimistic because fewer chemical weapons and agents than expected can be destroyed in an hour. While the Army has taken action to correct the problems, operational testing has not been completed to ensure that the problems will not recur. The Department of the Army's report to Congress does not contain detailed analyses of the program's estimated costs, destruction schedules, and factors that could effect the reliability of the estimates. The GAO recommended that the Secretary of the Army determine whether faster and less costly technologies exist for destroying the stockpile and to better inform the Congress on the progress of the Chemical Stockpile Disposal Program. Management comments were not requested.

o Report No. GAO/NSIAD-90-222 (OSD Case No. 8321), "Chemical Weapons: Stockpile Destruction Delayed at the Army's Prototype Disposal Facility," July 30, 1990. The GAO reported that the original start-up date of February 1989 for full-scale operations at the Johnston Island chemical weapons disposal facility had slipped 32 months and program cost estimates increased due to increased scope of operations, requirements for verification testing, and technical and contractor staffing problems. The delay in operational testing at Johnston Island caused a delay in construction at three follow-on facilities. GAO made recommendations to the Secretary of the Army that were designed to improve the Army's oversight of contractor operations at the Johnston plant and at the follow-on plants. Management comments were not requested.

o Report No. GAO/NSIAD-90-155 (OSD Case No. 8259), "Chemical Weapons: Obstacles to the Army's Plan to Destroy Obsolete U.S. Stockpile," May 24, 1990. The GAO reported that the Army's cost estimates to complete the on-site disposal program have doubled to $3.4 billion since 1985 and that the Army will not complete its destruction of the stockpile by the congressionally mandated date of April 30, 1997, because of more stringent than anticipated environmental requirements to operate its first CONUS incineration plant, program budget cuts, and operational delays at its initial disposal plant on Johnston Atoll. The program completion date of 1997 is further jeopardized by strong citizen opposition to those plants in some states and the Army's failure to allow sufficient time to obtain environmental permits. GAO recommended improvements in the management and execution of the program and that the Secretary of the Army direct procurement officials not to solicit bids for the construction contracts or issue equipment purchase orders for any additional facilities until realistic dates can be established for receipt of all required environmental permits. Management comments were not requested.

U.S. Army Audit Agency

o Report No. SR 93-203, "Chemical Stockpile Disposal Program," February 8, 1993. The Army Audit Agency reported that the Army made significant improvements during the past 2 years to more effectively manage the Disposal Program. It found that those improvements have formalized the acquisition strategy, provided senior level Army Systems Acquisition Review Council reviews, and enhanced configuration management control. However, schedule slippages and additional cost growth are probable, given uncertainties beyond the Army's control. Much of the cost growth and schedule slippages are due to congressional interest in other disposal alternatives, Federal and state permit requirements, potential litigation by some states, and initial unrealistic milestone schedules and subsequent management decisions to meet those schedules that were part of public law. The Army Audit Agency recommended that the Army improve the areas of management plans, configuration management, methodologies used to estimate and control life-cycle costs, program milestones, and the Army Internal Management Control Program, as it relates to the Disposal Program. Management concurred in all cases.

Appendix B. Summary of Potential Benefits Resulting From Audit

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
1a.	Compliance with Regulations. Raises the level of management oversight and requires the Army to establish development and production baselines to measure program cost, schedule, and performance.	Nonmonetary.
1b.	Compliance with Regulations. Ensures system is technically matured enough for production of the remaining six facilities.	Nonmonetary
1c.	Compliance with Regulations. Allows the Army to assess the results of effective developmental and operational tests.	Nonmonetary.
1d.	Compliance with Regulations. Reduces program risk and allows the Army to investigate a range of potential cost-effective alternatives.	Nonmonetary.
1e.	Compliance with Regulations. Establishes parameters by which the contractor and system must perform.	Nonmonetary.
1f.	Compliance with Regulations. Strengthens the contracting officer's ability to monitor program cost, schedule, and performance.	Nonmonetary.

Appendix C. Organizations Visited or Contacted

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology, Washington, DC
  Assistant to the Secretary of Defense for Atomic Energy, Washington, DC
  Deputy Under Secretary of Defense for Environmental Security, Washington, DC
Comptroller of the Department of Defense, Washington, DC
Director, Acquisition Program Integration, Washington, DC

Office of the Secretary of the Army

Headquarters, U.S. Army Materiel Command, Alexandria, VA
Assistant Secretary of the Army (Installations, Logistics and Environment), Chemical Demilitarization Office, Washington, DC
Assistant Secretary of the Army (Research, Development and Acquisition), Washington, DC
U.S. Army Chemical Materiel Destruction Agency, Aberdeen Proving Grounds, MD
Chemical Demilitarization Program Office, Aberdeen Proving Grounds, MD
Tooele Chemical Demilitarization Facility, Tooele, UT
U.S. Army Corps of Engineers, Sacramento District, Tooele, UT

Non-Defense Organizations

National Research Council of the National Academy of Sciences, Washington, DC

Appendix D. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
  Deputy Under Secretary of Defense (Acquisition Reform)
  Deputy Under Secretary of Defense for Environmental Security
  Director, Test, Systems Engineering and Evaluation
  Director, Acquisition Program Integration
  Assistant to the Secretary of Defense for Atomic Energy
Under Secretary of Defense (Comptroller)
Director, Operational Test and Evaluation
Assistant to the Secretary of Defense (Public Affairs)
Director, Program Analysis and Evaluation

Office of the Secretary of the Army

Secretary of the Army
Assistant Secretary of the Army (Installations, Logistics and Environment), Chemical Demilitarization Office
Assistant Secretary of the Army (Research, Development and Acquisition)
Comptroller of the Army
Director, U.S. Army Chemical Materiel Destruction Agency
  Program Manager for Chemical Demilitarization
    Project Manager for Tooele Chemical Agent Disposal Facility
Auditor General, Department of the Army

Other Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Logistics Agency
Director, National Security Agency
Inspector General, Central Imagery Office
Inspector General, Defense Intelligence Agency
Inspector General, National Security Agency
Director, Defense Logistics Studies Information Exchange

Non-Defense Federal Organizations

Office of Management and Budget
U.S. General Accounting Office, National Security and International Affairs Division, Technical Information Center

Chairman and Ranking Minority Member of Each of the Following Congressional Committees and Subcommittees:

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Environment and Public Works
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Energy and Commerce
House Committee on Government Operations
House Subcommittee on Legislation and National Security, Committee on Government Operations

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Part IV - Management Comments

Principal Deputy Under Secretary of Defense for Acquisition and Technology

PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE

3015DEFENSE PENTAGON
WASHINGTON, DC 20301-3015

ACQUISITION AND TECHNOLOGY

AUG 11 ...

MEMORANDUM FOR THE DEPARTMENT OF DEFENSE INSPECTOR GENERAL

SUBJECT: Management of the Chemical Demilitarization (Chem Demil)

The purpose of this memorandum is to inform you of the status of the Chem Demil which consists of the Chemical Stockpile and Non-Stockpile programs. On July 5, 1994, the Deputy for Chemical and Biological Matters forwarded the OSD comments to you regarding the draft audit report on the Chemical Stockpile Disposal (Project No. 3AE-0063). I want to inform you that the recommendation to add the Chem Demil to the Major Defense Acquisition Program (MDAP) lists would not benefit the chemical weapons disposal effort.

The Chem Demil has its own unique individual stockpile and non-stockpile disposal site requirements and established management structure, and it is closely monitored by both the legislative and executive branches of government with reporting requirements. Making this an MDAP at this time would be superfluous. However, since Chem Demil has interest in both the Administration and in the Congress, the Deputy Secretary of Defense has asked that the Defense Acquisition Board (DAB) periodically conduct Defense Executive Reviews of the Chem Demil in the same manner that the DAB reviews the non-MDAP Biological Defense program.

If you have any questions or would like to talk to me regarding this matter, please do hestitate to contact me.

R. Noel Longuemare

Office of the Assistant to the Secretary of Defense for Atomic Energy

ASSISTANT TO THE SECRETARY OF DEFENSE
WASHINGTON, DC 20301-3050

(ATOMIC ENERGY)

MEMORANDUM FOR THE INSPECTOR GENERAL JUL 5 1994

SUBJECT: Response to the Draft Audit Report -- The Chemical Stockpile Disposal Program (Project No. 3AE-0063)

I appreciate the opportunity to comment on the draft report. As we discussed, the Chemical Stockpile Disposal Program is a very complicated Army effort in response to Congressional direction as identified in Public Law 99-145. Therefore, to adequately provide you comments on your audit, I have attached a copy of inputs received from OSD organizations and the Army.

My comments to the findings are listed (Tab A). Other OSD responses (Tab B) and the Army's response (Tab C) are provided for your information.

My POC for this effort is Lt Col Thomas at extension 51097.

Theodore M. Prociv
Deputy for Chemical and Biological Matters

Attachments

RECOMMENDATIONS FOR CORRECTIVE ACTION

RECOMMENDATION 1a. Designate the Chemical Stockpile Disposal Program as an Acquisition Category 1D Major Defense Acquisition Program.

OSD RESPONSE: Concur. In May 1994, the Army Acquisition Executive approved of the Chemical Stockpile Disposal Program being designated an Acquisition Category 1D Major Defense Acquisition Program.

RECOMMENDATION 1b. Schedule a Defense Acquisition Board Milestone III, Production Approval, review and specify the program documents, plans, and assessments that the Army must complete.

OSD RESPONSE: Non-Concur. The Defense Acquisition Executive has directed a Defense Acquisition Board Program Review for the Chemical Stockpile Disposal Program. The Defense Acquisition Board Program Review forum allows the Strategic Systems Committee (SSC) chairman to initiate an issues planning meeting that will allow appropriate OSD input to identify documents, plans and assessments that the Army must provide to the Defense Acquisition Board. The program review vice milestone review forum allows more flexibility for Defense Acquisition Board members to thoroughly review the Chemical Stockpile Disposal Program and not be constrained by the multitude of milestones for the eight facilities, each in a different phase of the acquisition process.

RECOMMENDATION 1c. Require a dedicated phase of initial operational test and evaluation for the Tooele Chemical Agent Disposal Facility in support of the Defense Acquisition Board Milestone III decision.

OSD RESPONSE: Non-Concur. Each chemical agent destruction facility is required to comply with federal and state environmental requirements, e.g., Resource Conservation Recovery Act, Clean Air Act, etc., prior to operation of the facility. The environmental requirements process includes a systemization phase that includes for each facility surrogate chemical agent trial burns. Once the facility passes all environmental testing during the systemization phase, then the facility can start chemical weapons destruction operations. The existing environmental permitting and testing processes that the Army is required to meet are required for each of the Chemical Stockpile Disposal Program facilities should satisfy test and evaluation requirements.

RECOMMENDATION 1d. Require a Formal Cost and Operational Effectiveness Analysis (COEA) of alternatives for meeting the Chemical Stockpile Disposal Program mission in support of the Defense Acquisition Board Milestone III decision.

OSD RESPONSE: Non-Concur. Specific documentation requirements to assess costs and benefits associated with specific acquisition solutions will be determined by Defense Acquisition Board representativves at appropriate issue planning meetings.

RECOMMENDATION 1e. Approve a production baseline as a result of the Defense Acquisition Board Milestone review before award of the Anniston facility systems contract.

OSD RESPONSE: Non-Concur. The Under Secretary of Defense (Acquisition and Technology) directed the Army to provide a Life Cycle Cost Estimate and revised program strategy by September 1994. These documents will be reviewed at the next program review for the Chemical Stockpile Disposal Program. These documents, approved by the Army and reviewed by the Defense Acquisition Board will enable the Defense Acquisition Executive to make a decision on award of the Anniston facility systems contract without tying the decision to a Milestone Review forum.

RECOMMENDATION 1f. Validate the contractor's cost and schedule control system to develop a surveillance plan for monitoring compliance with the approved systems description.

OSD RESPONSE: Concur. The Army is including requirements for validating future systems contracts with full-up contractor cost and schedule control requirements. The Army is applying a modified cost and schedule control system to the Tooele facility.

Director, Acquisition Program Integration

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000

ACQUISITION AND TECHNOLOGY

1 JUL 1994

MEMORANDUM TO ASSISTANT TO THE SECRETARY OF DEFENSE (ATOMIC ENERGY)

SUBJECT: Coordination to "The Chemical Stockpile Disposal Program (Project No. 3AE-0063)" Draft Report

We concur with DoDIG recommendation 1.a. which suggests designating the Chemical Stockpile Disposal Program (CSDP) an Acquisition Category (ACAT) I D Major Defense Acquisition Program (MDAP). The draft 1994 MDAP designations (currently in coordination) list Chemical De-Militarization as a DoD ACAT I D program. As you know, the Deputy Secretary of Defense expects the DAB to periodically review this program. I am confident that appropriate oversight will be maintained through this approach.

However, we non-concur with the remainder of the recommendations for the following reasons:

- On March 10, 1994, the USD(A&T), appropriate OSD senior officials, and Military Department Acquisition Executives reviewed the CDSP. As a result, the USD(A&T) gave explicit direction to the program manager (attached). Designating the CDSP an ACAT I D program and conducting periodic DAB program reviews -- not a Milestone III review -- will provide appropriate management oversight.

- The management recommendations in the draft report will impair DoDIG independence in future audits and violate DoD 7600.7-M, "Internal Audit Manual." As I have previously pointed out in my "Audits of the Acquisition Process" memorandum to the Assistant Inspector General for Auditing, March 11, 1994 (attached), by auditing programs as they are undergoing DAB reviews and providing advice to decision-makers, the IG becomes a de facto member of the DAB and gets involved in a "decision-making or management capacity" that affects the program and impairs auditor independence.

I concur with your response to the DoDIG which reflects these positions.

Gene H. Porter
Director, Acquisition Program Integration

attachments as stated

ACQUISITION AND TECHNOLOGY

THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

APR 11 1994

MEMORANDUM FOR THE SECRETARY OF THE ARMY

SUBJECT: Chemical Weapons Destruction Program Review Memorandum

On March 10, 1994, I chaired a program review of the chemical weapons destruction program, an effort which has very high Department interest. The Army, as the executive agent, presented an overview on both the chemical stockpile disposal program (CSDP) and the non-stockpile chemical materiel program. During the review the Army was directed to: follow Congressional mandates; develop an overall chemical weapons destruction program strategy; revise the program life cycle cost estimate; consider a more expeditious environmental permit procedure plan; implement a comprehensive Public Outreach Program; and insure appropriate competitive contract procedures are in place. Specifically, the Army was tasked to do the following:

- Place highest priority on complying with the Browder Amendment because failure to meet this mandate could result in significant program disruption. The Assistant to the Secretary of Defense (Atomic Energy) (ATSD(AE)) advised that Congressional mandates, such as the Browder Amendment, appear reasonable and should be met. The Browder Amendment prohibits obligation of 1994 military construction funds for the Anniston chemical disposal facility until (1) the SecDef certifies that the Johnson Atoll chemical agent disposal system is operating successfully and safely for six months and (2) the Army schedules a contract award for another non-low volume continental US chemical weapons disposal facility within 12 months of the Anniston facility.

- Provide a revised cost estimate and schedule for both the Chemical Stockpile Disposal Program and the Non-Stockpile Chemical Materiel Program to me by May 20, 1994, and provide the Army Systems Acquisition Review Council approved 1994 Life Cycle Cost Estimate (LCCE) to me by September 30, 1994. The LCCE shall include adjustments in disposal rates based on experience from the Operational Verification Testing, costs associated with the Alternative Technologies Report recommendations, and Phase II closure costs.

- Provide a revised program strategy, a list of assumptions, most likely eventualities, associated risks, programmatic risk assessment, and consequences of program delays to me by September 30, 1994.

- Provide within 60 days to the Deputy Under Secretary of Defense (Environmental Security) (DUSD(ES)) a plan, based on actual experiences and timelines, outlining how each of the

remaining site's State-approved environmental permits are to be obtained. The DUSD(ES) asked that the Army consider the "fast track" environmental permit procedures approach that was used by the Department and state regulators in the base closure process, vice the 24-month environmental permit procedures model, briefed at the review. The DUSD(ES) shall then provide an assessment of her findings through the ATSD(AE) to me.

- Provide a review of the chemical demilitarization contracts and competition plan to the Director, Defense Procurement (D,DP) within 30 days. The D,DP shall then provide an assessment of her findings through the ATSD(AE) to me.

- Review the Chemical Stockpile Emergency Response Planning Program and provide to me through the ATSD(AE) a list of chemical weapons destruction/protection local, state and Federal requirements, such as the requirement to build an over pressure system for a school house in Maryland. The Army shall provide this "sensibilities list" and any recommendations regarding these mandates within the next 45 days.

- Insure that a comprehensive Public Outreach Program is implemented. As brought out in discussions during the review, the CSDP is a complicated program. Therefore, a clear, easily understood public outreach program is vital in meeting chemical weapons disposal program policy objectives of bringing the program to a safe, successful conclusion in a reasonable period of time.

R. Noel Longuemare
Principal Deputy

Director, Program Analysis and Evaluation

PROGRAM ANALYSIS
AND EVALUATION

OFFICE OF THE SECRETARY OF DEFENSE
1800 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-1800

May 27, 1994

MEMORANDUM FOR THE ASSISTANT TO THE SECRETARY OF DEFENSE
(ATOMIC ENERGY)

SUBJECT: Inspector General (IG) Draft Report on the Chemical Stockpile Disposal Program

This memorandum provides my comments on the IG's draft report on the relationship of the DAB review process to the Chemical Stockpile Disposal Program. I understand you are consolidating comments for transmittal to the IG.

I disagree with the draft report's recommendation to require a formal Cost and Operational Effectiveness Analysis before the department decides to award a contract to build the Anniston facility. At this point, a change in approach is unlikely. Numerous previous assessments by the Army and independent outside reviewers have validated the Army's selection of incineration as the best chemical destruction method. Changing the approach now would incur a needless nonrecurring expense to prove out the new method, would delay completion of destruction, possibly leading to violation of the treaty, and would increase risk to the people on the bases where chemical weapons are stored and in the surrounding communities.

In lieu of a formal COEA for the next program or Milestone review of the CSDP, I recommend that the Army consolidate all previous studies and analyses relevant to the selection of incineration as the preferred approach.

For William J. Lynn
Director

Office of the Assistant Secretary of the Army (Installations, Logistics and Environment)

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
INSTALLATIONS LOGISTICS AND ENVIRONMENT
110 ARMY PENTAGON
WASHINGTON DC 20310-0110

June 24, 1994

MEMORANDUM FOR THE DEPUTY FOR CHEMICAL/BIOLOGICAL MATTERS, OATSD(AE)

SUBJECT: Draft DoDIG Report, "The Chemical Stockpile Disposal Program (Project No. 3EA-0063)," March 29, 1994

Reference is made to:

- Memorandum from the DoDIG, March 29, 1994, subject: The Chemical Stockpile Disposal Program (Project No. 3EA-0063).

- Meeting of June 23, 1994 between Dr. Prociv, OATSD(AE); Mr. Dunmire, OUSD(A&T); and Colonel Coverstone, OASA(I,L&E).

The Army verbally agreed to coordinate a response to the DoDIG draft report with OATSD(AE)(CM) in early April 1994. It was agreed that no response would be prepared until all Congressional hearings had been completed. To date, there has been no meeting arranged to discuss/coordinate a response.

Attached are comments which address both factual errors and inconsistencies that require a factual response. We are submitting the attached comments for your consideration and incorporation into the draft report. These comments are consistent with the briefing slides provided to your office in late April.

The central theme of the Army's comments is that we do no concur with the DoDIG position of designating the Chemical Stockpile Disposal Program (CSDP) as an Acquisition Category I-D Major Defense Acquisition Program which would require milestone reviews. It was not until the above referenced meeting on June 23 that OASA(I,L&E) was informed that OASA(RD&A) had provided silent concurrence for a program which they do not maintain Executive Agent responsibilities or Program Decision Authority. Mr. Walker, ASA(I,L&E), and Mr. Decker, the Army Acquisition Executive, will resolve this oversight.

I must reiterate that the Army's response was developed to address the DoDIG draft report that recommended milestone reviews rather than program reviews. It was not until the referenced June 23 meeting that the Army became aware that the

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recommendation for milestone reviews was not well received by cognizant officials in the Department of Defense. The Army feels that the modified Army Systems Acquisition Review Council (ASARC) process, currently in place through its Milestone Decision ASARC's and quarterly program reviews, provides for vigorous and disciplined acquisition management appropriate for the CSDP. However, the Army will now re-evaluate its position on whether it supports the CSDP becoming an Acquisition Category I-D Major Defense Acquisition Program with periodic program reviews rather than formal milestone reviews. There is great concern for the time and manpower that must be expended to prepare appropriate voluminous documentation for a program which is clearly non-acquisition.

James M. Coverstone
Colonel, GS
Deputy for Chemical Demilitarization
OASA(I,L&E)

Attachment

Director, U.S. Army Chemical Materiel Destruction Agency

USACMDA Comments to Draft DODIG Report

"THE CHEMICAL STOCKPILE DISPOSAL PROGRAM"
Project No. 3AE-0063, March 29, 1994

EXECUTIVE SUMMARY - Updated information is provided for inclusion in the "Introduction" paragraph of the Executive Summary. The Contract for the ANCDF originally scheduled for award in May 1994 is now delayed pending approval of the Resource Conservation and Recovery Act (RCRA) permit from the State of Alabama.

PART I - INTRODUCTION

BACKGROUND -

Although this section reflects an accurate picture of USACMDA's historical background, adding narrative on concerns of stockpile deterioration, Congressional direction related to Alternative Technologies, delay to the Cryofracture program, and the implications of Treaty requirements on the CSDP would provide a more complete description of the current CSDP.

The DODIG report states on page 2, 2nd paragraph, "The program manager also provides chemical destruction support to the PM NSCM when such chemicals can be safely transported to the CSDP destruction site." USACMDA recommends that this statement be deleted from the Report. As written, this statement is misleading in that it infers NSCM items will be destroyed in demil facilities. Current public law allows destruction of stockpile items only.

OTHER MATTERS OF INTEREST -

Subparagraph "Alternative Technology Evaluation Required by the National Defense Authorization Act for FY 1993". The draft report states, "The Secretary of the Army was required to report [alternative technology evaluation] to Congress by December 31, 1993....The Army's report to Congress is not expected until April 1994". USACMDA recommends adding a statement providing the reason for the delay, and offers the following suggestion, "Due to a delay in the National Research Council publishing its report, the Army's report to Congress was delivered in April 1994."

Subparagraph "Cryofracture Facility Expected by the National Defense Appropriations Committee Conference Report for FY 1993." USACMDA recommends deleting the following statement. "This decision could be reconsidered based on recommendations in the report of the Committee on Alternative Chemical Demilitarization Technologies of the National Research Council". The NRC does not consider cryofracture as an alternative technology since it utilizes incineration. On page 370 of the Army's Report to

Congress, the first two findings cite concerns with Cryofracture and does not recommend pursuing this technology.

PART II - FINDINGS AND RECOMMENDATIONS

FINDING: ACQUISITION MANAGEMENT OF THE CHEMICAL STOCKPILE DISPOSAL PROGRAM. The DODIG found that the lack of effective acquisition program management has resulted in increased cost, schedule and performance risk associated with fulfilling the CSDP mission.

USACMDA partially concurs with this finding. To address cost, schedule, and performance concerns, the Army acted to improve overall management of the CSDP by directing the ASA(IL&E) to participate in all CSDP programmatic acquisition functions. The ASA(IL&E), as the CSDP decision authority, directed the CSDP be managed as an Army cognizant acquisition program under the purview of a modified ASARC. This modified ASARC process (which incorporated some of the same management controls used for MDAPs) tracks and assesses programmatic variances, the majority of which are attributed to external factors such as Congressional direction and State permitting requirements.

FINDING: BACKGROUND.

Subparagraph "Program Growth". The DODIG found that significant cost growth and schedule slippage warrant additional management attention and institution of the discipline associated with acquisition program management, including rigorous analysis and testing to reduce program risk.

This Agency does not concur with the DODIG finding. The CSDP is not a traditional acquisition program. The baseline process has undergone as thorough and rigorous an analysis (Final Programmatic Environmental Impact Statement and related risk assessments) and testing program (OVT) as any major acquisition program. In 1992 the Army established a modified ASARC review process specifically to insure a more disciplined review process and improved oversight of the CSDP. It has implemented the discipline associated with acquisition program management by developing a program management plan, identifying associated plans to develop, initiating a risk management program, improving contracting methodology, and drafting an APBA.

In addition, we feel that clarification is needed as it appears that the Army's Cost and Economic Analysis Center did not factor in risk to arrive at the life-cycle cost estimate of $8.6 billion, just program delay.

Subparagraph "Management Improvements". USACMDA concurs with the

information provided in this paragraph.

Subparagraph "Program Funding and Life-Cycle Cost". USACMDA concurs with this paragraph, but offers the following clarification. USACMDA receives DoD funding, not Army funding. The Retrograde program expired on 30 Sep 92, USACMDA no longer receives this funding. However, we do receive funding for the Inouye Johnston Island Leave budget activity, which was not addressed.

FINDING: ACQUISITION MILESTONES. The DODIG found that the CSDP is approaching the equivalent of a formal Milestone III, Production Approval, review with the anticipated award of a systems contract for the Anniston Chemical Agent Disposal Facility (ANCDF) in May 1994.

USACMDA does not concur with this finding. The DODIG Report makes it appear that the CSDP fits the Life-Cycle Systems Management Model of a standard materiel system acquisition program which is not the case. Within each of the "major" Milestones (I, II, III, and IV) are subordinate milestones which may require ASARC review. For example, start of toxic operations at Tooele would most likely require an ASARC and yet this will be done after the "typical" Milestone III decision to award the systems contract at Anniston. The ASA(IL&E) recognized the unique aspects of this program, different from the Materiel System Model, and structured an ASARC review process which considered all such variations. The award of the Anniston contract is now delayed awaiting approval of the Resource Conservation Recovery Act (RCRA) permit from the State of Alabama. The delay was not due to the lack of effective program management, but because the State of Alabama would not process the permit application until after the Alternative Technology Study (required by Congressional Act) was performed.

FINDING: MODIFIED ASARC PROCEDURES. USACMDA identified two DODIG findings under this heading.

FINDING I: The first ASARC was convened March 19, 1992. The Acquisition Decision Memorandum dated April 22, 1992, approved the release of the ANCDF request for proposal and exit criteria for the next Decision Review ASARC. The exit criteria included completion of OVT; approval of the Acquisition Program Baseline Agreement (APBA) by June 29, 1992; and development of a mission-need statement, operational requirements document, and a test and evaluation master plan.

USACMDA concurs with this finding, but feels that this is an over-simplification of the Acquisition Decision Memorandum, dated April 22, 1992. The Program Decision Authority (PDA) forsaw the

risks of the Program and documented them as follows: "I approve the 1992 Army cost position with the caveat that there are several issues pending resolution that may significantly impact cost and schedule (i.e., RAM throughput issue, magnitude of emergency manpower requirements, and finalization of the risk assessment). The BCE must also be footnoted to reflect the many unknowns in the program." Also, "You must develop (tailored to the unique nature of the CSDP) a MNS, an ORD, and a TEMP."

The CSDP Decision Review ASARC (19 March 1992) resulted in the following: Approved the release of the Anniston Request for Proposal; Ratified the CSDP schedule; Ratified the 1992 Army cost position; Reviewed the Acquisition Program Baseline Agreement; and Approved the exit criteria for the next ASARC.

The CSDP Special Review ASARC (4 October 1993) recommended the baseline process as the preferred alternative for the incineration-based demilitarization process for chemical weapons (CW) at Pueblo, Colorado. The was approved by the Secretary of the Army on 4 March 1994.

The CSDP Decision Review ASARC (to be held in 1994) will review: The 1994 life-cycle cost estimate (LCCE) to include costs of charcoal filters and Phase Two closure; Impacts of alternative technologies to the baseline program; APBA; and Anniston systems contract award.

FINDING II. "An approved APBA has not been approved". **USACMDA concurs with this finding**, however a final draft is under review and will be submitted to HQDA by 1 July 1994. The delay in submission was due to the need for final OVT data, the decision on whether or not to implement cryofracture at Pueblo, CO, and the results of the alternative technologies studies.

FINDING: ACQUISITION PROGRAM BASELINE.

Subparagraph "Criteria". USACMDA concurs with this finding.

Subparagraph "Proposed Acquisition Program Baseline". The DODIG found that the failure to follow up on the April 1992 ASARC decision to conduct a special review and approve an APBA is symptomatic of the casual review process applied to the CSDP.

USACMDA does not concur with this finding. USACMDA feels strongly that this finding is untrue and cannot be substantiated by any facts presented in the Report. Performance parameters in an APBA are developed from the ORD which has its basis in the MNS. Since neither of these documents existed at the time of the April 1992 ADM, work on the APBA would have to extend beyond the June target date. The PDA was apprised of this problem during numerous staff meetings until the PDA left the position in

January 1993. The PDA acknowledged the uncertainty in the RAM throughput issue which is a driving element both in performance and schedule. We do not feel that the Army has treated the review process in a "casual" manner, but has continued to place a great deal of emphasis on establishing sound program controls. In addition, active involvement of OSD principals (e.g. OSD(A&T), AE, Comptroller, PA&E, Environmental Security, and Logistics) has enhanced the program's visibility and adherence to the strict principles of acquisition program management.

Subparagraph "Acquisition Program Management Reporting". Two separate findings were identified in this subparagraph.

FINDING I: The DODIG found that measuring and reporting the status of the CSDP to Congress in terms of approved acquisition program cost, schedule and performance baselines is not being accomplished similar to MDAPs reported in Defense Acquisition Executive Summaries (DAES) and Selected Acquisition Reports (SAR). Additionally, exception reporting is not being required where potential breaches of fixed baselines are evident because the CSDP lacks an approved APBA. Exception reporting is critical to timely management action to correct deficiencies.

USACMDA concurs with this finding. The CSDP is not an ACAT I Program. Once the APBA is approved, any breaches or potential breaches will be reported during a Special Review ASARC. The modified ASARC process requires quarterly reviews be conducted which we feel is a more stringent control than applied to other ASARC or DAB Programs.

FINDING II: The DODIG found that the Program shows significant cost risk and needs to be reported more thoroughly and frequently against a fixed baseline for performance measurement purposes than in the Annual Report to Congress.

USACMDA does not concur with this finding. Using the quarterly ASARC process, program status will be evaluated against the approved APBA with variances explained. Annual Reports to Congress are intended to give a broad overview of events which have occurred in the previous fiscal year, and have been submitted since 1985, fulfilling the requirements of Public Laws 99-145 and 101-510. The Annual Report is not intended to give a detailed cost breakout of the CSDP. A life-cycle cost estimate is provided to Congress which provides detailed information concerning cost risks and growth in the program.

Subparagraph "Production Baselines". USACMDA concurs with this finding but has the following concerns:

The Report states, "...construction schedules are largely dependent upon approval of state environmental permits and congressional approval...program baseline control by the Army is

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complicated." Since this affects cost baselines as well, control of cost is also complicated.

In addition, the Report states on page 14, "Lessons learned from OVT of the JACADS and the construction of the low-rate initial production facility at the Tooele Army Depot are being incorporated into the design and construction of subsequent facilities. Since Anniston is the first production facility, it would be logical that a production baseline be established early and incorporate similar cost and schedule parameters for subsequent facilities." This is not consistent with previous statements. A programmatic baseline has been established which measures JACADS and provides information to update future sites (lessons learned).

Subparagraph "Performance Baselines". USACMDA concurs with this paragraph, but offers the following correction. The draft report states, "Safety parameters in the proposed performance baseline are site specific but the reporting of chemical related mishaps have not been defined or approved by the PDA, as well as environmental parameters." Environmental permits specify a range for each parameter to be maintained in order to allow plant operations. Noncompliance is documented and submitted to the EPA.

FINDING: MAJOR ACQUISITION PROGRAM REQUIREMENTS.

Subparagraph "Cost and Operational Effectiveness Analysis". The DODIG requires a formal Cost and Operational Effectiveness Analysis (COEA) of alternatives for meeting the CSDP mission in support of the DAB Milestone III decisions.

USACMDA does not concur with the information in this paragraph. The Army has not conducted a formal COEA in accordance with DoDI 5000.2 on the CSDP because the program is not an Acquisition Category I program. It has, however, met the spirit and intent of the following COEA alternatives:

1. Status quo or employment of baseline program - the Army continues to assess the costs, benefits and constraints of the current baseline program in light of potential enhancements.

2. Improved version of the current program - in response to the Alternative Technologies and JACADS lessons learned, the Army is evaluating the costs and benefits associated with potential modifications to the baseline process (e.g. the addition of carbon filters).

3. Alternative technologies to replace the current baseline process and sensitivity of alternatives - the Alternative Technologies Report (NRC, March 1994) and the Army's response to

that report (April 1994) fully assessed all potential alternative technologies with regard to their constraints, costs, and benefits. In addition other documents also addressed the potential use of alternative technologies (NRC Report, 1984; FPEIS, 1988; Cryofracture ASARC IPS, 1993).

4. Comprehensive test and evaluation program - OVT phases I-IV conducted at JACADS have provided evaluation criteria for assessing the credibility and effectiveness of the baseline process. This establishes the baseline for evaluating all alternative courses of action.

In addition, USACMDA offers an update on the following DODIG observations:

The DODIG reported that the CSDP Implementation Plan states "an analysis of chemical agent destruction technologies was conducted in 1982 and no attempt has been made to reassess all potential disposal processes because to do so would not be cost-effective or beneficial. [The DODIG] found no evidence of an Army analysis in the ASARC program documentation to support that position." The information cited in the CSDP Implementation Plan has been overtaken by events. At Congressional direction, the National Research Council has reviewed and recommended alternative technologies to baseline incineration. Decisions regarding both alternative technology and cryofracture will be made by Congress, not the ASARC.

The DODIG states "..no COEA of alternatives has been completed on the CSDP to identify the most cost-effective method of disposal to developing and constructing the remaining plants. The Army analysis required by Congress may not meet the formal requirements for an updated COEA." This statement as written is correct, however, the information has been developed, just not in COEA format.

USACMDA suggests the following correction be incorporated into the report for accuracy. The DODIG states "the Army is only required to consider low-volume sites for using the **cryofracture** process if the Secretary of the Army decides that chemical agent destruction by the **cryofracture** process is significantly safer and equally or more cost-effective than the JACADS reverse assembly method. But, upon congressional notification, the other four sites could be considered for a **cryofracture plant** as well." Public Law 102-484 states the Army must consider **alternative technology processes** at low-volume sites if the schedule is not impacted and is significantly safer and more cost effective. The public law does not specifically cite "cryofracture".

Subparagraph "Cost and Schedule Control". USACMDA concurs with this paragraph, however it appears that the report does not take into account requirements of firm fixed price contracts.

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Subparagraph "Program Test and Evaluation". USACMDA concurs with the information in this paragraph. Program test and evaluation data is covered under the risk assessment process and lessons learned.

Subparagraph "Development Testing". USACMDA concurs, but offers the following clarification because the paragraph as written could confuse the reader on the timeframe of Cryofracture testing. In addition to what is stated in the report, Cryofracture developmental/design testing occurred in 1986 and 1988 (GB), mid-1991 through early 1992 (Mustard) and mid-1993 (VX).

Subparagraph "Systemization Tests". USACMDA concurs and offers the following clarifying information for your consideration. JACADS performed limited systemization activities before campaign specific toxic operations began. OVT included toxic operations. In addition, the wording "non-toxic agents" is misleading. Material used may not be agent but could be toxic to the environment in case of a spill or release. We suggest the wording be changed to "simulant material" instead of "non-toxic agent".

Subparagraph "Operational Verification Tests". USACMDA concurs with this paragraph as written.

Subparagraph "Assessment of OVT Results". USACMDA concurs and offers the following clarifications:

On page 21, the report states "JACADS tested three kinds of munitions and agents. U.S. facilities will also destroy other types of agents not tested at JACADS". We feel that this statement is misleading. Lewisite and GA are located at Tooele in very limited quantities, and should not be considered a different type of agent because they will be treated in the same manner as agent-filled ton containers tested at JACADS. HT in projectiles is very similar to H/HD which was disposed of at JACADS.

The DODIG goes on to state, "CONUS facilities will be under more stress." and "..further operational testing before the start of toxic operations is warranted." USACMDA believes that CONUS facilities will be under more "scrutiny", not more stress. Further testing at JACADS will not resolve the suggested "additional stress" factor since toxic operations will still be conducted.

Also on page 21 of the draft report, the DODIG states, "Under the current strategy for the Tooele or Anniston site, we have less assurance that CONUS facilities will perform in an environmentally safe and effective manner." USACMDA strongly

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feels that this is not a true statement, is unsupported, and contradicts earlier statements made by the DODIG under this same subparagraph. On page 20, the DODIG states, "...JACADS design had no apparent fundamental problems in achieving safety and environmental goals of planned CONUS facilities". CONUS facilities undergo an extensive systemization and surrogate program which will be above and beyond that which was conducted at JACADS. These additional requirements will ensure that the plant is ready and able to ensure environmental and safety requirements even under the "stress" of extended operations. On-site state regulatory personnel will be at the facility on a continuous basis during construction, operation and closure to oversee safety and environmental compliance.

In addition, the DODIG report goes on to state, "..without a dedicated initial OT&E phase, subsequent deficiencies discovered during toxic operations at the Tooele and Anniston site potentially will require costly design changes to other sites under construction at the time." This statement is not accurate. This was the purpose of OVT, major problems are not expected at the TOCDF or other CONUS sites.

FINDING: DOCUMENTATION REQUIREMENTS.

Subparagraph "Test and Evaluation Master Plan". The DODIG found that under the modified ASARC procedures the TEMP was tailored excessively. The draft TEMP lacked criteria to measure program status and only represented a historical summarization of developmental and operational tests that described the result in a very general manner. Further, it did not provide specifics for the discussion of critical operational issues, key performance parameters, evaluation criteria, and milestone decision points.

USACMDA offers partial concurrence to this paragraph. The CSDP TEMP is based on information contained in current and historical PMCD test documentation. The TEMP identifies the necessary developmental/operational test and evaluation requirements for the program and results to date. It has been developed based on the latest operational performance requirements contained in the ORD. The TEMP has been coordinated with the DUSA(OR) and Director of TEMA who have concurred with its contents.

Subparagraph "Operational Requirements Document". The DODIG found that as of February 1994, performance parameters for the program were not established in an Army approved ORD.

USACMDA partially concurs, however, as of February 1994, performance parameters for the program had been established in a Draft ORD which is in final staffing at HQDA. The operational requirement for the CSDP was driven by Presidential initiative and Congressional mandate, not by a military operational

deficiency or mission need.

Subparagraph "Programmatic Environmental Analysis". The DODIG found that the Army has not prepared a programmatic environmental analysis as specified in DoDI 5000.2. Although numerous actions have been taken to ensure environmental compliance with statutory and regulatory requirements, the CSDP could benefit from performance of a programmatic environmental analysis.

USACMDA does not concur with this finding. In 1988 the Army submitted the Final Programmatic Environmental Impact Statement (FPEIS) which was consistent with the National Environmental Policy Act (NEPA) and its implementing regulations. It is believed that the FPEIS also meets, and in some cases exceeds the requirements outlined in DoD 5000.2, part 6, section 1. In addition, programmatic decisions (e.g., final designs, surrogate mixtures, etc.) are required before corrective action and completion dates can be determined.

FINDING: PROGRAM REVIEW WITH OFFICE OF THE SECRETARY OF DEFENSE AND ARMY MANAGEMENT. USACMDA concurs with this finding.

FINDING: CAUSE FOR LACK OF DAB MILESTONE REVIEWS. The DODIG found that the CSDP had no history of being managed as an acquisition program since its formulation in 1986. Its focus until 1988 was on a single chemical disposal facility located on Johnston Atoll in the Pacific and the pre-existing Chemical Agent Munition Disposal Facility at Tooele Army Depot. the Secretary of the Army transferred responsibility for the CSDP from the Assistant Secretary of the Army (Research, Development and Acquisition) to the ASA(IL&E) in 1988. The ASA(IL&E) was not designated as the PDA until September 1991.

USACMDA does not concur with this finding for the following reasons. The Office of the PM for Chemical Munitions (Demil and Binary) was established on May 1, 1986. The Office of the Program Manager for Chemical Munitions organization structure consisted of two project officers - the PM for Cml Demil and the PM for Binary Munitions. Subsequently, the Binary Munitions Program was assumed by the PM Cml Demil. In consonance with NSDD219 and the Packard Commission recommendations for a Program Executive Officer/Army Acquisition Executive Structure, the Office of the PM for Chemical Munitions was redesignated as the PEO-PM for Chemical Demilitarization reporting directly to the Under Secretary of the Army (also the Army Acquisition Executive). On August 4, 1988, the Under Secretary of the Army directed the restructure from the PEO-PM Cml Demil to the PM Cml Demil as a Separate Reporting Activity reporting to the ASA(IL&E). When the ASA(IL&E) determined that the modified ASARC process would be beneficial, the Office was delegated Program

Decision Authority (PDA) for the Program by the ASA(RDA) who exercises that authority over all other ASARC-reviewed acquisition programs.

In addition, we offer the following information for your consideration. The DoD Comptroller has argued that much of equipment procurement should be funded by the Military Construction account. Construction could be considered procurement or MCA. When discussing the Chemical Agent Munitions Disposal appropriation, the correct appropriation title is Chemical Agent Munitions Destruction, Defense. This account is DoD funded, not Army funded.

RECOMMENDATIONS FOR CORRECTIVE ACTION -

RECOMMENDATION 1a. Designate the Chemical Stockpile Disposal Program as an Acquisition Category ID Major Defense Acquisition Program.

USACMDA does not concur with this recommendation. The modified ASARC process, as structured by the PDA, the ASA(IL&E), provides for rigorous and disciplined acquisition program management appropriate to the CSDP. In addition to Milestone Decision ASARCs the modified ASARC process requires that quarterly program reviews be conducted. This is more stringent control than applied to other ASARC or DAB programs. Consistent with acquisition streamlining, the documentation required under the modified ASARC process (e.g. APBA, MNS, ORD, and TEMP) is tailored to the CSDP. Periodic program reviews by OSD have provided the Army with programmatic direction.

RECOMMENDATION 1b. Schedule a Defense Acquisition Board Milestone III, Production Approval, review and specify the program documents, plans, and assessments that the Army must complete.

USACMDA partially concurs with this recommendation. The ASA(IL&E) memorandum of 14 January 1992 requires a Decision Review ASARC to be held before the award of the Anniston Facility systems contract. This memorandum also outlines the appropriate program documentation, plans, and assessments required to support this review. An ASARC will be scheduled prior to Anniston award and supporting documentation (e.g., revised LCCE, APBA, ORD, and MNS) is in process.

RECOMMENDATION 1c. Require a dedicated phase of initial operational test and evaluation for the Tooele Chemical Agent Disposal Facility in support of the Defense Acquisition Board Milestone III decision.

USACMDA does not concur with this recommendation. All planned CONUS facilities incorporate a systemization phase which includes surrogate agent trial burns and a "ramp-up" munition processing phase that equate to an operational test. The Army's acquisition strategy emphasized standardization of all critical systems (incinerators, pollution abatement systems, control systems) and incorporation of all applicable lessons learned from JACADS into CONUS facilities. This is done to ensure compliance with safety and environmental requirements. To date, approximately $600M has been expended for testing in support of the CSDP. This includes initial testing of the incineration process and neutralization at Rocky Mountain Arsenal in 1974, followed by pilot plant operations at the Chemical Agent Munitions Disposal System from 1979 to present, and extensive operational verification testing at the JACADS prototype facility.

RECOMMENDATION 1d. Require a Formal Cost and Operational Effectiveness Analysis (COEA) of alternatives for meeting the Chemical Stockpile Disposal Program mission in support of the Defense Acquisition Board Milestone III decision.

USACMDA does not concur with the above recommendation. The Army has not conducted a formal COEA in accordance with DoDI 5000.2 on the CSDP because the program is not an Acquisition Category I program. It has, however, met the spirit and intent of the following COEA alternatives:

1. Status quo or employment of baseline program - the Army continues to assess the costs, benefits and constraints of the current baseline program in light of potential enhancements.

2. Improved version of the current program - in response to the Alternative Technologies and JACADS lessons learned, the Army is evaluating the costs and benefits associated with potential modifications to the baseline process (e.g. the addition of carbon filters).

3. Alternative technologies to replace the current baseline process and sensitivity of alternatives - The Alternative Technologies Report (NRC, March 1994) and the Army's response to that report (April 1994) fully assess all potential alternative technologies with regard to their constraints, costs, and benefits. In addition other documents also addressed the potential use of alternative technologies (NRC Report, 1984; FPEIS, 1988; Cryofracture ASARC IPS, 1993).

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4. Comprehensive test and evaluation program - OVT phases I-IV conducted at JACADS have provided evaluation criteria for assessing the credibility and effectiveness of the baseline process. This establishes the baseline for evaluating all alternative courses of action.

RECOMMENDATION 1e. Approve a production baseline as a result of the Defense Acquisition Board Milestone review before award of the Anniston facility systems contract.

USACMDA offers partial concurrence to this recommendation. The Decision Review ASARC that addresses the Anniston facility systems contract shall approve the CSDP production baseline that is currently in draft.

RECOMMENDATION 1f. Validate the contractor's cost and schedule control system to develop a surveillance plan for monitoring compliance with the approved systems description.

USACMDA concurs with the DODIG recommendation. All future systems contracts (Anniston and later) include full-up C/SCSC requirements, mandating bidders to have an approved cost schedule and control system. (Construction phase is fixed price and doesn't require C/SCSC). Extensive efforts are ongoing to automate the tracking and analysis system in USACMDA's Decision Support System. Currently, the CSDP is applying modified C/SCSC to Tooele in which CSSR and CFSRs are requested and monitored.

PART III - ADDITIONAL INFORMATION

APPENDIX A. PRIOR AUDITS AND OTHER REVIEWS.

Subparagraph "General Accounting Office (GAO) Reports". USACMDA concurs with the information summarizing GAO reviews of the CSDP.

Subparagraph "U.S. Army Audit Agency". USACMDA concurs and offers the following clarification for consideration. The DODIG Report states, "The Army Audit Agency recommended that the Army take actions to improve the areas of management plans, configuration management, methodologies used to estimate and control life-cycle costs, program milestones, and the Army Internal Management Control Program, as it relates to the Disposal Program." The Army Audit Agency (AAA) only specified Request for Information and Configuration Management Plans.

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