

Audit



Report

OFFICE OF THE INSPECTOR GENERAL

REQUIREMENT FOR TACTICAL SHELTERS

Report No. 95-227

June 9, 1995

Department of Defense

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Acronyms

ATCALs/TRV	Air Traffic Control and Landing System/Tower Restoral Vehicle
ATCCS	Army Tactical Command and Control Systems
HMMWV	High Mobility Multipurpose Wheeled Vehicle
IG	Inspector General
RWS	Rigid Wall Shelter
SICPS	Standardized Integrated Command Post System



**INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884**



June 9, 1995

MEMORANDUM FOR AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Audit Report on Requirement for Tactical Shelters (Report No. 95-227)

We are providing this report for your review and comment. It discusses the need for the replacement of Standardized Integrated Command Post System rigid wall shelters and the transportability of Department of Defense tactical shelters. Management comments on a draft of this report were considered in preparing the final report.

Comments on a draft of this report conformed to the requirements of DoD Directive 7650.3 and left no unresolved issues. Therefore additional comments are not required.

The courtesies extended to the audit staff are appreciated. If you have any questions on this audit, please contact Mr. Robert Ryan Jr., Audit Program Director, at (703) 604-9418 (DSN 664-9418) or Mr. Garry Hopper, Audit Program Manager, at (703) 604-9451 (DSN 664-9451). The distribution of this report is listed in Appendix C. The audit team members are listed on the inside back cover.

David K. Steensma

David K. Steensma
Deputy Assistant Inspector General
for Auditing

Office of the Inspector General, DoD

Report No. 95-227
(Project No. 3LC-0039)

June 9, 1995

REQUIREMENT FOR TACTICAL SHELTERS

EXECUTIVE SUMMARY

Introduction. This report discusses the need to replace Standardized Integrated Command Post System (SICPS) rigid wall shelters (RWS) and the transportability of DoD tactical shelters. The audit results concerning the use of standard tactical shelters and the method of procuring those shelters were presented in Inspector General, DoD, Report No. 94-180, "DoD's Use and Procurement of Tactical Shelters," August 31, 1994.

A tactical shelter is a presized, transportable structure designed to protect personnel and equipment from environmental and combat zone conditions. The SICPS RWS is mounted on a high mobility multipurpose wheeled vehicle and provides power generation, cooling, and racks for mounting automated systems' equipment. The Army is using two versions (version 1 and version 3) of the SICPS RWS. It has procured 251 version 1 shelters for about \$18.8 million. Further, the Army plans to buy 540 version 3 shelters, valued at about \$72 million, through FY 2001. The version 3 shelters acquisition was, in part, to replace the 251 version 1 shelters. Because of fielding delays of automated systems, 201 version 1 shelters are unused and in storage.

Transportability is the inherent capability of systems or materials to be moved efficiently by highway, rail, ocean, and air. Transportability considerations for acquisition systems begin during concept exploration, and system program managers request and obtain transportability approval before production of the acquisition systems.

Objectives. The objectives were to evaluate the requirement for the SICPS RWS and to determine whether DoD tactical shelters were transportable. We also evaluated the effectiveness of related management controls.

Audit Results. DoD program managers were obtaining transportability approval for tactical shelters in accordance with DoD and Service regulations. However, the Army was planning to procure SICPS RWS version 3 shelters to replace version 1 shelters that were not used due to fielding delays. The Army could realize a cost avoidance of about \$32.2 million during FYs 1997 through 2000 by not procuring 251 SICPS RWS version 3 shelters (see Part II for details). There were 161 of 251 shelters, valued at \$20.5 million, that were funded (see Appendix B for potential benefits). The portion of the management control program that we reviewed was effectively implemented (see Part I for details).

Summary of Recommendations. We recommend that the Army and the Product Manager for the SICPS reduce requirements for version 3 shelters and cancel plans to replace 251 version 1 shelters with version 3 shelters.

Management Comments. The Army Assistant Deputy Chief of Staff for Operations and Plans, Force Development, concurred, stating that the Army has canceled replacement plans. The Army agreed that not procuring version 3 replacement shelters would save about \$32 million, but stated that the Army had not funded the shelters in the Army Budget. See Part II for a discussion of management's comments and Part IV for the text of the comments.

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Part I - Introduction

Background

Tactical Shelters. Tactical shelters are presized, transportable structures designed for weapon and support system operational requirements. The shelters provide an environment (temperature controlled with a seating capability) for a live-in or work-in capability. Shelters house systems that include communications and electronics, command posts, machine shops, and medical and kitchen facilities. Tactical shelters are used to protect personnel and delicate equipment from environmental damage and the effects of a combat zone while doing mission essential activities.

Standardized Integrated Command Post System (SICPS) Rigid Wall Shelter (RWS). The SICPS RWS was developed to standardize the operational environment and improve the mobility of automation and communication systems. SICPS RWS versions 1 and 3 are mounted on a high mobility multipurpose wheeled vehicle (HMMWV) and provide power generation, cooling, and racks for mounting of automation systems. SICPS RWS were developed to house five different Army Tactical Command and Control Systems (ATCCS). The five ATCCS are the advanced field artillery tactical data system, air defense command and control system, combat service support control system, integrated meteorological system, and the maneuver control system.

Acquisition Strategy. The Product Manager, SICPS, is procuring the SICPS RWS under two Army classifications, type classification - limited procurement, urgent (type classification - limited) and type classification - standard. The Army's classification system identifies the degree of acceptability of an item for Army use.

SICPS RWS version 1* was assigned type classification - limited in August 1991 to support urgent ATCCS fielding. Type classification - limited designated items are procured in a limited quantity without the intent of additional procurement to meet urgent operational requirements. SICPS RWS version 1 is scheduled to be reclassified standard, logistics code B, during the third quarter of fiscal year 1995. Type classification - standard, logistics code B, identified an Army inventory item that is logistically supportable with no additional procurements. The SICPS RWS version 1 contract, valued at \$18.8 million, was awarded in August 1991 for 251 shelters and delivery was completed in October 1994.

* The SICPS RWS version 2 development effort was canceled and replaced by the version 3 shelters.

SICPS RWS version 3 is scheduled to be assigned type classification - standard, at the contract award date, the second quarter of fiscal year 1997. Items designated as type classification - standard are acceptable for their intended mission and for introduction into the Army inventory. The Army planned to buy 540 version 3 shelters, valued at about \$72 million, through FY 2001.

Transportability. Transportability is the inherent capability of systems or materials to be moved efficiently by highway, rail, ocean, and air. Transportability is integral to strategic mobility and rapid deployment. The Under Secretary of Defense for Acquisition and Technology establishes overall policy and procedures for weapon system design to ensure the efficient and economical movement of personnel and equipment. DoD Instruction 5000.2, "Defense Acquisition Management Policies and Procedures," February 23, 1991, directs program managers to obtain transportability approval for their systems from the appropriate transportability activity before approval for full rate production.

Objectives

The objectives covered in this report were the evaluation of the requirement for the SICPS RWS and the determination of whether DoD tactical shelters were transportable. We also evaluated the effectiveness of related management controls. The use of standard tactical shelters and the methods used to procure those shelters were discussed in Inspector General (IG), DoD, Report No. 94-180, "DoD's Use and Procurement of Tactical Shelters," August 31, 1994.

Scope and Methodology

SICPS RWS Funding Review. We evaluated the planned procurement from FY 1995 through FY 2001 of SICPS RWS version 3, valued at about \$72 million. We reviewed the SICPS and the five ATCCS program procurement forms for July 1994; the SICPS and ATCCS program fielding plans; the Future Years Defense Program, June 1994; the Army Program Objective Memorandum, June 1994; and the SICPS and ATCCS operational requirements documents. We held discussions with the SICPS and ATCCS managers, the SICPS shelter material and combat developers, and logistics personnel responsible for SICPS shelters throughout the Army acquisition process.

Tactical Shelter Transportability Review. The IG, DoD, Report No. 94-180 showed that 19 of the 150 sampled acquisition programs reviewed used tactical shelters. Of the 19 programs reviewed, 14 used standard shelters and 5 used nonstandard shelters. We reviewed the five programs to determine whether nonstandard shelters were transportable. Of the five programs that were using nonstandard shelters, three had completed production, and the shelters were in operation and one was too early in the acquisition phase to determine transportability. We reviewed the remaining one sample program for transportability. We also reviewed the SICPS RWS program, which provided shelters for the five separate ATCCS systems. The SICPS RWS program was not part of the sample. However, we selected the SICPS RWS because the shelter was in the developmental phase.

The audit was limited to program offices procuring nonstandard and developmental shelters because those shelters are built to support unique system requirements that may pose unusual transportability risks. We excluded from our review those programs using DoD standard shelters, because standard shelters are built and tested to prescribed transportability specifications. For the shelter programs, we evaluated program requirements documents; system specifications; integrated logistics support plans; and transportability test reports, evaluations, and approvals dated January 1987 through August 1994. We interviewed project managers, combat and material developers, and shelter management officials.

We did not rely on computer-processed data or use statistical sampling procedures to conduct this audit. This economy and efficiency audit was conducted from June through November 1994 in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the IG, DoD. We also evaluated applicable management controls. Organizations visited or contacted during the audit are listed in Appendix C.

Management Controls

We evaluated the effectiveness of the management controls over the funding of the SICPS RWS program and the transportability of DoD tactical shelters. Specifically, we examined the product managers' process for submitting procurement forms and future year defense program data. Also, we evaluated the Army's procedures and practices for obtaining transportability approval and waivers before production approval. We also reviewed the portion of the management control program applicable to SICPS RWS funding and shelter transportability.

The audit identified no material management control weaknesses as defined by DoD Directive 5010.38, "Internal Management Control Program," April 14, 1987. Other benefits of audit are summarized in Appendix B.

Prior Audits

Inspector General, DoD, Report No. 94-180, "DoD's Use and Procurement of Tactical Shelters," August 31, 1994, reported on the DoD use and procurement of tactical shelters through an evaluation of a statistical sample of 150 acquisition programs. The report stated that DoD program managers generally procured standard and cost-effective shelters to support their weapon systems. Because the report contained no findings or recommendations, no comments were required and none were received.

Inspector General, DoD, Report No. 94-024, "Transportability of Major Weapon and Support Systems," December 27, 1993, stated in part, that transportability was not adequately considered during the acquisition of three systems. The report recommended that the program manager of the Joint Services Imagery Processing System coordinate with the Air Force Shelter Management Office to verify that shelters are transportable and logistically supportable, and to procure additional Joint Services Imagery Processing System shelters through the applicable shelter item manager. Management agreed with the recommendation and stated that the Joint Services Imagery Processing System shelters are to be made part of the DoD standard family of tactical shelters.

Other Matters of Interest

Transportability Review. Our review of two programs procuring nonstandard tactical shelters determined that the program managers procured tactical shelters that met transportability requirements. The program managers obtained transportability approval in accordance with DoD and Service regulations. Further, the program managers for the Air Traffic Control and Landing System, Tower RestoralVehicle (ATCALs/TRV) and the SICPS RWS obtained approval to deviate from the system requirements to obtain transportability approval. Because the program managers for those systems obtained approval to deviate from system requirements and management controls were in place, no transportability problems were identified.

ATCALs/TRV Approval to Deviate. The program manager for ATCALs/TRV obtained approval from the Air Combat Command (users) to deviate from the operational requirement for backing the ATCALs/TRV system onto a C-130 aircraft. ATCALs/TRV is a mobile air traffic control tower (shelter with an expandable [raisable] roof section) mounted on a HMMWV. The ATCALs/TRV operational requirements specify that the ATCALs/TRV must be independently backed into and driven off a C-130 and the auxiliary ramp was modified to meet that requirement. Because the ATCALs/TRV can be driven onto and backed off the C-130 aircraft using the auxiliary ramp, without modification, the ATCALs/TRV program manager requested that the operational requirement be revised to delete the need for the HMMWV to be backed into and to be driven off a C-130 aircraft. The operational requirement revision is awaiting the Air Combat Command approval.

SICPS RWS Approval to Deviate. The SICPS RWS product manager obtained approval from the Army Training and Doctrine Command (Combat Developer and SICPS users representatives) to remove the auxiliary power unit from the SICPS RWS version 1. Version 1 could not accommodate the required payload of the heaviest ATCCS authorized mission equipment without exceeding the payload limits of the HMMWV. The SICPS RWS operational requirements stated that the shelter must be equipped with an on-board auxiliary power unit, and mountable and transportable on the HMMWV without exceeding the payload limits of the vehicle when authorized ATCCS are mounted. To prevent exceeding the payload limitations of the HMMWV, the SICPS RWS product office obtained approval to remove the shelter mounted auxiliary power unit and provide a trailer mounted auxiliary power unit. The Army Training and Doctrine Command agreed and accepted SICPS RWS version 1 to meet the urgent ATCCS fielding schedule. SICPS RWS version 3 is under development and is planned to provide a lighter weight on-board power unit.

Part II - Finding and Recommendation

Replacements for Tactical Shelters

The Army was planning to procure an unneeded quantity of SICPS RWS version 3 shelters. The Army planned to procure the unneeded shelters because its product manager believed that version 3 shelters were required to meet users' operational and logistics supportability requirements, and that the costs to support the SICPS RWS shelters would be reduced. However, the SICPS RWS version 1, previously procured for the users, was adequate for the users' needs and did not increase support costs. By not replacing the 251 version 1 shelters with version 3 shelters, the Army can avoid spending about \$32.2 million.

Background

SICPS RWS Version 1 Procurement. In August 1991, the Commander, Aviation and Troop Command, determined that ATCCS fielding schedules necessitated an urgent procurement of shelters. As a result, the Army procured 251 SICPS RWS version 1 shelters before the development of the shelters was fully completed. By October 31, 1994, 251 version 1 shelters were delivered. Of the 251 version 1 shelters delivered, about 201 are still in storage because of ATCCS fielding delays.

SICPS RWS Version 3 Procurement. The Army has a requirement to procure 540 version 3 shelters during FYs 1995 through 2001. Of the 540 version 3 shelters required, 289 are to meet additional ATCCS program needs and 251 are planned to replace all version 1 shelters.

Comparison of SICPS RWS, Versions 1 and 3. Both versions of the shelter require a trailer. The primary difference between version 1 and version 3 shelters is the distribution of the power unit and other support equipment (clothing, rations, and tent) between the shelter and the trailer. In version 1, the power unit is on the trailer and the other support equipment is in the shelter. In version 3, the power unit will be moved into the shelter and the other support equipment will be placed on the trailer. This gives version 3 the capacity to separate from the vehicle and trailer (stand-alone) and provide its own source of power to operate equipment. Both versions of the shelter will have the capability to operate while the vehicle and trailer are moving (operate on the move). Also, Natick Research, Development and Engineering Center estimates that some weight savings are expected in version 3 from redesign of the power unit, air-conditioning, shelving, and racks. Version 1 and version 3 shelters and trailers have the capacity to accommodate the weight of the ATCCS requirements.

Need for Replacement

The Army was planning to procure an unneeded quantity of SICPS RWS version 3 shelters. The SICPS product manager believed that version 3 shelters were needed to replace version 1 shelters to meet operational requirements, such as operation on the move and stand-alone requirements; to improve logistics supportability; and to reduce the costs to support SICPS shelters. Although the additional operational capabilities of version 3 offered some advantages, they were not critical to the mission requirements of the five ATCCS programs that used the shelters. However, the Army planned to replace the 251 recently procured version 1 shelters with version 3 shelters, costing about \$130,000 each.

Operation on the Move. Both the version 1 and version 3 shelters will meet the requirement to operate the system while the HMMWV and trailer are moving. Although three of the five ATCCS systems had a need to operate while the vehicle was on the move, the engine of the HMMWV will meet that requirement by providing the power to keep the system operating while on the move. Additionally, the SICPS product manager is pursuing the effort for acquiring power from the towed power unit. However, the version 3 shelter does not add this capability.

Stand-Alone. The five ATCCS programs did not require stand-alone operation. Stand alone is the capability for the system to operate while separated from the vehicle and trailer. The ATCCS operational requirements documents did not include a stand-alone requirement for any of the five ATCCS programs.

Improve Supportability and Reduce Support Cost. No significant difference or improvement exists in the shelters' capability or in the cost to support the version 1 shelter and the version 3 shelter. Both versions of the shelter are so similar that little difference exists in the shelters' capability to protect personnel and equipment and in the cost to logistically support the shelters. Although version 1 and version 3 shelters have different types of power units and air-conditioners, the power units and air-conditioners will be standard equipment and the Army will support both versions. The Army Shelter Management Office (responsible for the development of both versions), the Aviation and Troop Command (item manager for shelters and manager of the shelters integrated logistics support), and the Army Materiel Systems Analysis Activity (responsible for assessing the shelter supportability) all agreed that version 1 was fully supportable and the cost of supporting each version would not differ significantly.

Replacements for Tactical Shelters

Cost to Replace Version 1 Shelters With Version 3 Shelters

The SICPS product manager planned to replace all 251 version 1 shelters with version 3 shelters at a cost of \$32.2 million. The following table shows the SICPS product manager's planned procurement of the 251 version 3 shelters to be purchased as replacement shelters.

Schedule to Procure SICPS RWS, Version 3

<u>Fiscal Year</u>	<u>Replacements</u>	<u>Unit Cost</u>	<u>Total Cost</u>
1997	51	\$120,000	\$ 6,120,000
1998	150	129,000	19,350,000
1999	25	133,130	3,328,250
2000	<u>25</u>	136,370	<u>3,409,250</u>
Total	251		\$32,207,500

Version 1 shelters should not be replaced with version 3 shelters. The Army can effectively use version 1 shelters to meet the mission requirements of the five ATCCS programs and can avoid spending \$32.2 million for unnecessary replacement shelters.

Management Comments on the Finding and Audit Response

The Army commented extensively on the finding. See Appendix A for specific Army comments and audit responses.

Recommendation, Management Comments, and Audit Response

We recommend that the Army Deputy Chief of Staff (Operations) and the Product Manager, Standard Integrated Command Post System, reduce the total standard integrated command post system rigid wall shelter version 3 requirements and cancel plans to replace 251 version 1 shelters with version 3 shelters.

Management Comments. The Army concurred and stated that it has canceled plans to replace version 1 shelters. The Army stated that the IG, DoD, was informed of the cancellation before the end of the audit.

Audit Response. We accept the cancellation of the replacement program as responsive. However, we were not informed during the audit that the Army had canceled plans to replace the version 1 shelters. Army officials did agree that replacement of the version 1 shelters with the version 3 shelters may not be needed. On December 6, 1994, the Deputy Commanding General, U.S. Army Signal Center and Fort Gordon, informed the IG, DoD, that a decision had not been made on the final disposition of the version 1 shelters.

Management Comments on the Potential Monetary Benefits and Audit Response

Management Comments. The Army agreed that not replacing the version 1 shelters would result in a cost savings of more than \$32 million. However, the Army further stated that a critical distinction between cost savings and programmed savings should be made to ensure that the SICPS programmed amounts are not arbitrarily decremented. The Army stated that the IG, DoD, had based its finding on an informal list provided by the SICPS product manager at the auditor's request. The Army stated the list reflected total requirements, whether funded or not. The Army provided September 1994 procurement forms stating that the procurement forms represented the approved program at the time of the audit and that the replacement program was not included.

Audit Response. We disagree with the Army that replacement shelters were never programmed. We determined the programmed amounts for the ATCCS shelter procurements from the Future Years Defense Plan (June 1994), the Army Program Objective Memorandum (June 1994), procurement forms (July 1994), and the SICPS production requirements (August 1994). The procurement forms (September 1994) were not within the scope of our audit. Of the 251 version 3 replacement shelters required during FYs 1997 through 2000 for the five ATCCS programs, about 161, valued at about \$20.5 million, were programmed for procurement. Since the Army canceled the replacement program, whether the shelters were or were not programmed is now a moot issue.

Part III - Additional Information

Appendix A. Audit Responses to Specific Management Comments

The following paragraphs provide audit responses to specific management comments on the draft report finding.

Management Comments. Page 8: The Army disagreed that the version 1 shelter was adequate for user needs. The Army stated that the shelter is required to have an on-board power unit. In addition, the Army stated that the version 1 shelter's environmental control unit will not provide sufficient cooling and heating for temperature extremes.

Audit Response. The version 1 shelter adequately meets user needs. The five ATCCS programs have no need for an on-board power unit until 1999 and then only one of the five ATCCS programs had a need for on-board power unit. This one ATCCS program need will not require version 1 replacement because all version 1 shelters are expected to be fielded by 1998. The environmental control unit met user operational needs during operational test and evaluation of the version 1 shelter in August 1994 at Fort Hood, Texas. The test was performed during high temperature with constant traffic through the shelter entrance. The environmental control unit maintained an operational environment.

Management Comments. Page 9: The Army disagreed that no significant difference or improvement exists in the shelter's capability. The Army disagreed that the additional capabilities of the version 3 shelter were not critical to the mission of the five ATCCS programs. It stated that the on-board generator allows elimination of towed generator and the trailer can be separated if additional air frame space is needed. The Army stated that the lighter weight and higher capacity environmental control unit allows more capacity for mission equipment and permits higher unit effectiveness in extreme climates.

Audit Response. Although the version 3 shelter has some additional capabilities, we believe they are not critical to meeting mission needs of the five ATCCS programs. Although the version 3 eliminates the towed generator, the version 3 still requires a towed trailer for mission support equipment. In addition, although the elimination of the towed generator provides stand-alone capability, the Army has agreed that a stand-alone capability is not needed by ATCCS programs.

Appendix A. Audit Responses to Specific Management Comments

Both versions of the shelter can obtain air frame space through separation of the trailer. However, separation can be critical to meeting mission requirements in both versions. For example, the version 1 shelter has a towed power unit and, as a result, it will not have immediate access to auxiliary power. Additionally, the version 3 shelter tows needed mission support equipment, and the shelter will not have the necessary power and data cables to operate, and rations for crew sustenance.

We agree that the version 3 provides some additional capabilities, including a lighter weight environmental control unit. However, the five ATCCS programs do not require the additional capabilities of the version 3 shelter.

Management Comments. Page 9: The Army disagreed that only one of the five ATCCS programs has an operations-on-the-move requirement. The Army identified two additional ATCCS programs having a need to operate on the move, the Maneuver Control System and the Advanced Field Artillery Tactical Data System. The Army added that a draft of a new requirements document that is intended to replace general requirements of all ATCCS programs adds the need for operations on the move.

Audit Response. We have revised the report to reflect that three of the five ATCCS programs have an on-the-move requirement. However, the on-board power unit in the shelter is not needed to meet the ATCCS program requirements. Specifically, the three ATCCS programs are required to obtain the operations-on-the-move capability from the HMMWV alternator. Accordingly, the report was not revised to reflect the revised draft requirements document.

Management Comments. Page 9: The Army disagreed that the towed power unit can power the version 1 shelter on the move. It recommended removal or a statement that the capability is being pursued so that the version 1 shelter can be used in most applications as a substitute for the version 3 shelter.

Audit Response. We have revised the report to reflect that the towed power capability has not been fully developed. However, we have not included the Army's suggestion that version 1 will only be acceptable in most applications when it has towed power. The suggestion is not included because the ATCCS programs that require operations on the move are required to obtain needed power from the HMMWV alternator.

Management Comments. Page 9: The Army recommended that discussions in the report related to stand-alone operations be removed. It stated that although the ATCCS programs may not need stand-alone operations, the shelter is an Army standard item and future programs may need the capability.

Appendix A. Audit Responses to Specific Management Comments

Audit Response. We did not remove the stand-alone discussion from the report because the scope of our audit is ATCCS user needs, not other program needs. One of the needs for an on-board power unit is to provide stand-alone operations. As a result, the additional capabilities of the version 3 shelter are not needed and replacement of the version 1 shelter is not justified to provide stand-alone operations for ATCCS programs.

Management Comments. Page 9: The Army stated that the report incorrectly infers that the version 3 shelter costs substantially more than the version 1 shelters. The Army stated that the version 1 shelter cost does not include cost factors included in the version 3 shelter, for example, an environmental control unit, a filter unit, an intercom system, and cost escalation factors.

Audit Response. The inference of a significant cost difference has been removed from the report.

Appendix B. Summary of Potential Benefits Resulting From Audit

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
Recommendation	Economy and Efficiency. Reduces the SICPS RWS procurement by not replacing 251 version 1 shelters with version 3 shelters.	<p>Funds Put to Better Use. The Army could avoid spending about \$32.2 million during FYs 1997 through 2000 for shelters that are not needed.</p> <p>Ninety shelters were unfunded in FYs 1997 through 2000 and 161 shelters were funded. (Appropriation: 2172035, \$4.0 million; 2182035, \$12.3 million; 2192035, \$2.1 million; 2102035, \$2.1 million).</p>

Appendix C. Organizations Visited or Contacted

Office of the Secretary of Defense

Office of the Under Secretary of Defense for Acquisition and Technology,
Washington, DC

Office of the Under Secretary of Defense (Comptroller), Washington, DC

Department of the Army

Office of the Assistant Secretary of the Army (Research, Development, and
Acquisition) Washington, DC

Office of the Deputy Chief of Staff for Operations and Plans, Washington, DC

Office of the Inspector General, Department of the Army, Washington, DC

Army Materiel Command, Alexandria, VA

Aviation and Troop Command, St. Louis, MO

Belvoir Research, Development, and Engineering Center, Ft. Belvoir, VA

Natick Research, Development, and Engineering Center, Natick, MA

Communications-Electronics Command, Ft. Monmouth, NJ

Mobile Electric Power Program Office, Springfield, VA

Program Executive Office for Command and Control Systems, Ft. Monmouth, NJ

Air Defense Command and Control System Project Office, Huntsville, AL

Combat Service Support and Control System Project Office, Ft. Belvoir, VA

Field Artillery Tactical Data System Project Office, Ft. Monmouth, NJ

Integrated Meteorological System Project Office, White Sands Missile Range, NM

Operational Tactical Data System Project Office, Ft. Monmouth, NJ

Standardized Integrated Command Post System Product Office, Ft. Monmouth, NJ

Training and Doctrine Command, Ft. Monroe, VA

Combined Arms Center, Ft. Leavenworth, KS

Signal Center and School, Ft. Gordon, GA

Tank-Automotive Command, Warren, MI

Test and Evaluation Command, Aberdeen Proving Ground, MD

Department of the Air Force

Office of the Assistant Secretary of the Air Force for Acquisition, Washington, DC

Office of the Assistant Secretary of the Air Force for Financial Management and
Comptroller, Washington, DC

Air Combat Command, Langley Air Force Base, Hampton, VA

Air Force Audit Agency, Wright-Patterson Air Force Base, OH

Appendix C. Organizations Visited or Contacted

Defense Organizations

Joint Committee on Tactical Shelters, Washington, DC
Military Traffic Management Command, Transportation Engineering Agency,
Newport News, VA

Appendix D. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense (Comptroller)
Deputy Under Secretary of Defense (Comptroller/Management)
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Department of the Army

Assistant Secretary of the Army for Research, Development and Acquisition
Auditor General, Department of the Army
Commander, Army Aviation and Troop Command
Commander, Natick Research, Development and Engineering Center
Commander, Communications-Electronics Command
Commander, Training and Doctrine Command
Product Manager, Standard Integrated Command Post System

Department of the Navy

Assistant Secretary of the Navy (Financial Management and Comptroller)
Auditor General, Department of the Navy

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Auditor General, Department of the Air Force

Other Defense Organizations

Commander in Chief, U.S. Transportation Command
Director, Defense Contract Audit Agency
Director, Defense Logistics Agency
Director, National Security Agency
Inspector General, National Security Agency
Inspector General, Central Imagery Office

Non-Defense Federal Organizations

Office of Management and Budget
U.S. General Accounting Office
National Security and International Affairs Division, Technical Information Center
National Security and International Affairs Division, Defense and National
Aeronautics and Space Administration Management Issues
National Security and International Affairs Division, Military Operations and
Capabilities Issues

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 Governmental Affairs
House Committee on Appropriations
House Subcommittee on National Security, Committee on Appropriations
House Committee on Government Reform and Oversight
House Subcommittee on National Security, International Affairs, and Criminal
Justice, Committee on Government Reform and Oversight
House Committee on National Security

Part IV - Management Comments

Department of the Army Comments



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS
WASHINGTON, DC 20310-0400



17 FEB 1995

DAMO-FDZ

MEMORANDUM THRU ~~DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS~~
~~DIRECTOR, ARMY STAFF~~
~~ASSISTANT SECRETARY OF THE ARMY (RD&A)~~

FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE (AUDIT)

SUBJECT: Response to DODIG Draft Report on Requirements for Tactical Shelters (Project No. 3LC-0039)

1. Reference US Army Audit Agency memorandum dated 29 December 1994 and Department of Defense Inspector General (IG) memorandum dated 27 December 1994, subject: Audit Report on Requirements for Tactical Shelters (Project No. 3LC-0039).
2. Subject draft audit report has been reviewed as requested.
3. Request that the draft be revised correcting errors prior to submitting the final report. An itemized listing of the suggested corrections is listed at TAB A.
4. Point of contact is MAJ Don Duff, ODCSOPS-DAMO-FDC (703) 693-3747. The Army's Program Executive Office, Command and Control Systems welcome further discussions with the DODIG representatives to address draft findings and recommendations.

ENCL

Ralph G. Reece, Col, GS
EDWARD G. ANDERSON III
Major General, GS
Assistant Deputy Chief Staff
for Operations and Plans,
Force Development



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY

PROJECT MANAGER OFFICE
COMMON HARDWARE/SOFTWARE (CHS)
FORT MONMOUTH, NEW JERSEY 07703-6402

SFAE-CC-CHS (70-lr)

06 FEB 1995

MEMORANDUM FOR Headquarters Department of the Army, Office of the Deputy
Chief of Staff for Operations and Plans, ATTN: DAMO-FDC,
Washington, DC 20310-0400

SUBJECT: IG, DOD Draft Report on Requirement for Tactical Shelters
(Project No. 3LC-0039)

1. References:

a. Department of Defense Inspector General (DODIG) memorandum dated 27 December 1994, subject: Audit Report on Requirement for Tactical Shelters (Project No. 3LC-0039).

b. US Army Audit Agency memorandum dated 29 December 1994, subject: IG, DOD Draft Report on Requirements for Tactical Shelters (Project No. 3LC-0039).

2. The purpose of this memorandum is to respond to the draft report forwarded under reference 1a. This response will first address the finding and recommendation for corrective action and then address other areas in the report that need amplification or clarification.

3. While we concur with the recommendation for corrective action, we do not concur with the finding in the draft report as written. The finding incorrectly implies that the replacement of Version 1 Rigid Wall Shelters (RWS) was programmed in the Standardized Integrated Command Post Systems (SICPS) budget and the Program Objective Memorandum (POM). It also incorrectly states that the Version 1 shelter was adequate for the users' needs.

a. Finding (page 8).

(1) The report's finding should be amended to clearly state that the replacement of the original 251 Version 1 RWS with Version 3 RWS was never funded in the Army's budget. The Army agrees that not replacing these shelters results in an overall \$32M cost savings, but it does not save any dollars in the POM because limited budget resources and higher priority fielding requirements prevented the effort from being funded. This critical distinction between cost savings and budget savings must be clearly stated to insure that the SICPS budget is not arbitrarily decremented

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SUBJECT: IG, DOD Draft Report on Requirement for Tactical Shelters
(Project No. 3LC-0039)

which would negatively impact planned fieldings of the Army Tactical Command and Control System (ATCCS).

(a) The DODIG based its finding on an informal list of SICPS requirements (i.e. total quantities and costs of all SICPS variants through FY 01) which was provided by the Product Manager (PM) based on the auditor's request. This list reflected the PM's total requirements for SICPS variants, whether funded or not, and thus showed significant shortfalls in FY 97 to FY 00, the years in which the Version 1 RWS replacement effort was listed. Replacement of the Version 1 shelters was a lesser priority than buying SICPS variants to meet Headquarters, Department of the Army (HQ DA) approved ATCCS fielding requirements, and due to a severely constrained budget, the replacement effort was not funded. The PM's approved program at the time of the audit is contained in the attached P Forms (enclosure 1). The P Forms do not include the replacement effort.

(b) On several occasions, the PM and the Program Executive Office (PEO) Command and Control Systems (CCS) staff requested the DODIG to include a statement in the report that the replacement of Version 1 shelters was never programmed, however, the DODIG consistently refused to do so.

(2) The finding also incorrectly states that the Version 1 RWS was adequate for the users' needs. Page E-2, paragraphs 2b(10) and (11) of the SICPS Required Operational Capability (ROC) document dated 17 July 1987, and modified on 29 May 1991, requires the RWS to have an environmental control unit (ECU) and an on board power unit. The Version 1 RWS does not fully meet the requirements of the ROC. Due to weight problems, the on board power unit must be removed from most ATCCS configurations, and the environmental control unit will not provide sufficient cooling/heating for all temperature extremes. The Version 1 shelter was approved for limited procurement in 1991 with known deficiencies to meet urgent ATCCS needs with the understanding that a follow on shelter (the Version 3 RWS) would correct these problems. The need for the Version 3 RWS was recently reverified by the Combat Developer (enclosure 2). Therefore, the second and third sentences of the finding should be changed to "The Army planned to procure Version 3 shelters to fully meet the users' operational needs and to reduce logistics support costs, however, the Version 1 shelter can be used in several applications as an acceptable substitute for the Version 3 without an increase in support costs." The different capabilities of the two shelters are discussed in more detail below.

6 FEB ..

SFAE-CC-CHS(70-lr)

SUBJECT: Response to DODIG Draft Report on Requirements for Tactical Shelters (Project No. 3LC-0039)

b. **Recommendation for Corrective Action (page 10).** We concur with the recommendation and have already canceled the unfunded plan to replace Version 1 shelters with Version 3. The DODIG was informed of this action prior to the end of the audit.

4. **Other Areas Requiring Correction/Clarification.** Two other areas in the report require correction/clarification for accuracy. Here we attempt to show an accurate comparison of operational capabilities between the two shelters and the similarities in unit cost.

a. **Operational Capabilities.**

(1) In paragraph 1, page 9, the report incorrectly states that although the operational capabilities of the Version 3 offered some advantages, they were not critical to the mission of the five ATCCS programs. In the last paragraph on page 9, the report incorrectly states that no significant difference or improvement exist in the two shelters' capability....both versions are so similar that little difference exist in the shelters capability to protect personnel and equipment. From an operational view point, the Version 3 has substantial capability over the Version 1 RWS. It provides twice the on-board power capacity (10 kilowatts versus 5 kilowatts which allows the Army to eliminate of the towed generator and tow mission support equipment (tents, camouflage nets, etc.) in a cargo trailer. It doubles the cooling/heating capacity (18,000 BTU versus 9,000 BTU) which allows units to operate more effectively in extreme climates. It is 390 pounds lighter. This weight savings plus the use of a cargo trailer allows the shelter to contain 543 more pounds of capacity for mission equipment. These combined improvements greatly increase survivability. Additionally, the trailer can be separated if additional air frame space is needed. Recommend that the first and last paragraphs on page 9 be rewritten to note that while significant differences in capabilities exist between the two versions, Version 1 can be used as an acceptable substitute without replacement.

(2) Also on page 9, paragraph 2, the report incorrectly states that only one of five ATCCS systems using the RWS had a need to operate on the move. In addition to the Air Defense Command and Control System (ADCCS), the Maneuver Control System (MCS) and the Advanced Field Artillery Tactical Data System (AFATDS) are required to operate on the move (see paragraph 4c(17) of the MCS Operational Requirements Document dated Oct 92, and

Department of the Army Comments

Final Report
Reference

06 FEB 1995

SFAE-CC-CHS (70-lr)
SUBJECT: IG, DOD Draft Report on Requirement for Tactical Shelters
(Project No. 3LC-0039)

paragraph 4a(1) of the AFATDS ORD dated 30 August 1993). In addition, the draft Army Battle Command Systems (ABCS) ORD also requires operations on the move (see paragraphs 1d(5), pages 4-5, and 1e (4), page 7, of the ABCS ORD approved by TRADOC in September 1993). The ABCS ORD will supersede the existing ATCCS ROC. Extracts of the appropriate ORD pages dealing with operations on the move are enclosed (enclosure 3). The report should be changed to reflect that three of the five ATCCS systems using the shelter have a need to operate on the move and that the overall ABCS ORD will require this capability. The report also incorrectly states that the towed power unit can power the Version 1 shelter while on the move. This statement is based on an unproven concept being developed by the Communications Electronics Command at Ft Belvoir. Currently, the Version 1 RWS cannot power the ECU or the chemical/biological unit while on the move, both of which are severe limitations when operating in extremely hot or cold climates or a chemical/biological environment. Since this capability is unproven, recommend that any reference to it be either removed or state that the PM is pursuing this capability so the Version 1 RWS can be used in most applications as a substitute for the Version 3 RWS.

(3) On page 9, paragraph 3, the report correctly states that the five ATCCS programs do not require stand-alone operations (i.e. operation of the shelter while dismounted from the HMMWV). While ATCCS may not require dismounted operations, the shelter is an Army standard item and can be used by other systems as a standard facility. These systems may require dismounted operations. The capability to operate in a dismounted mode is a mandatory requirement in the SICPS ROC (see page E-3, paragraph 2b (21)) and should not be eliminated. Recommend that the discussions concerning dismounted operations be removed from the report.

(4) Based on the above, we recommend that the DODIG rewrite page 9 of the report to reflect that while the Version 3 RWS offers improved capabilities, Version 1 can be used as an acceptable substitute in most applications provided the capability can be developed to operate a towed generator on the move.

b. Unit Cost. On page 9, paragraph 1, the report states that the Army planned to replace the 251 recently procured Version 1 shelters, which cost approximately \$75,000 each, with Version 3 shelters, costing about \$130,000 each. This statement incorrectly infers that the Version 3 shelter costs substantially more than the Version 1 RWS, when in fact, the unit costs are the same. The report based the Version 1 RWS cost on its contract price which does not include the cost for Government Furnished Equipment (GFE) which is added to the shelter. GFE items are the ECU, the M93

Revised
Page 9

Deleted

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SUBJECT: IG, DOD Draft Report on Requirement for Tactical Shelters
(Project No. 3LC-0039)

Chemical/Biological Filter Unit, the Vehicle Intercom System, the Quick Erect Antenna Mast, the tent, and the tent bootwall. The unit cost of the Version 3 RWS (\$130,000) is based on the Version 1 contract price with the added cost of the GFE and escalation for the year of purchase. The last sentence of this paragraph should be changed to "The Army planned to replace the 251 recently procured Version 1 shelters with Version 3 shelters at the same unit cost after adjustments are made for inflation."

5. Request the above changes be made to the audit report prior to final publication.
6. This reply has been coordinated with the PEO CCS staff.
7. The point of contact for this action is LTC Richard Allen, DSN 992-0343.

3 Encls


CLARENCE B. MITCHELL
COL, QM
Project Manager,
Common Hardware Software

CF:
Program Executive Office, Command and Control Systems, ATTN: SFAE-CC-OPS
(Mr. Koval), SFAE-CC-PMO (Mr. Matura), Fort Monmouth, NJ 07703
Office of the Director of Information Systems for Command, Control, Communications
and Computers, ATTN: SAIS-C4T (LTC Hepp), Washington, DC 20310-0400
Commander, US Army Natick RD&E Center, ATTN: SATNC-WSA (Mr. Beaudoin),
Natick, MA 01760-5018
Commander, US Army Signal Center and Fort Gordon, ATTN: ATZH-CDM (Mr.
Thornton), Fort Gordon, GA 30905
Commander, Headquarters, US Army Training and Doctrine Command, ATTN:
ATCD-GC (CPT Richards), Fort Monroe, VA 23651-5172

ENC 1

30

UNCLASSIFIED		BUDGET ITEM JUSTIFICATION SHEET							DATE: SEPT 1994
REPORTS CONTROL SYMBOL DD COMP (AR) 1092		APPROPRIATION / BUDGET ACTIVITY Other Procurement: Army 2 Communications and Electronics Equipment					P-1 ITEM NOMENCLATURE STANDARDIZED INTEGRATED CMD POST SYSTEM (SICPS) (BZ9962)		
	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01	
QUANTITY	0	0	0	0	0	0	0	0	
COST (IN MILLIONS)	0.0	25.1	29.1	27.5	27.8	24.9	20.0	15.0	
<p>DESCRIPTION: This program includes the procurement of six command post variants, each designed to accommodate the various Army Tactical Command and Control Systems (ATCCS). These include the Maneuver Control Systems (MCS), the Advanced Field Artillery Tactical Data System (AFAIDS), the Combat Service Support Control System (CSSCS), the Forward Area Air Defense Command and Control System (FAADC2), and the Integrated Meteorological System (IMETS).</p> <p>The six command post variants are:</p> <ol style="list-style-type: none"> (1) A Tent Command Post (CP) that consists of a lightweight, aluminum frame, interchangeable fabric wall sections, fabric roof, floor and liners, work tables, mapboards and light set. The Tent CP can be complexed to other tents and to other SICPS variants via an interface wall. (2) A Rigid Wall Shelter (RWS) CP mounted on the High Mobility Multipurpose Wheel Vehicle (HMMVV) Shelter Carrier. The shelter will be integrated with an on-board generator, power conversion/distribution system, environmental control unit, collective chemical protection, signal and power pass through panels, antenna mounts, equipment mounts, equipment racks to accommodate two ATCCS workstations and an operator seat. (3) Conversion Kits for the M577 Track Vehicle consisting of equipment racks for two ATCCS workstations, power and signal panels, tent interface panel, operator seats, antenna mounts, and stowage provisions. The converted M577 has been designated the M1068 Track CP. (4) Installation Kits for the 5-Ton Expandable Van (E-Van), consisting of racks for up to six ATCCS workstations, centralized communications rack, communications patch panel, signal entry panel, antenna mounts and mapboards. (5) Installation Kits for the Soft-Top HMMVV consisting of equipment racks for up to two ATCCS workstations, communications patch panel, antenna mounts, operator work surface, data patching module, and a power control module. (6) Installation Kits for the Large SICPs Shelter (LSS) consisting of equipment racks for up to six ATCCS workstations, communications racks, signal entry panel and antenna mounts. Currently in development, the first procurement is scheduled for FY01. <p>JUSTIFICATION: Procurement of each of the above variants of the Standard Integrated Command Post System are required to support the fielding of the noted ATCCS nodes with the Army's Common Hardware/Software Command and Control equipment.</p> <p>NOTE: THRU FY94, FUNDS WERE APPROPRIATED UNDER SSN MX1010.</p>									
DD Form 2454, Jul 88		P-1 SHOPPING LIST							
UNCLASSIFIED		ITEM NO 92		PAGE 1 of 28		EXHIBIT P-40			

Department of the Army Comments

ENC 1

WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)	A APPROPRIATION/BUDGET ACTIVITY TITLE NO. Other Procurement Army 2 Comm & Elect Equipment				B WEAPON MODEL/ SERIES/ POPULAR NAME Standardized Integrated Command Post System (SICPS) (BZ9962)				C MANUFACTURER NAME PLANT CITY/STATE LOCATION		D. DATE MONTH/YEAR Sept 1994	
	FY94 Unit Cost	QTY Total Cost	FY95 Unit Cost	QTY Total Cost	FY96 Unit Cost	QTY Total Cost	FY97 Unit Cost	QTY Total Cost				
Tent Command Post				{0} \$337		{0} \$337		{0} \$337				
Rigid Wall Shelter				{15} \$6,291		{0} \$3,668		{96} \$14,698				
M1068 Conversion Kit				{0} \$3,218		{56} \$15,401		{0} \$679				
5-Ton Conversion Kit				{29} \$5,285		{15} \$3,577		{28} \$6,101				
Soft Top HMMWV Conversion Kit				{16} \$868		{145} \$6,124		{123} \$5,728				
Large SICPS Shelter					\$0		\$0		\$0			
Other*					\$9,086		\$0		\$0			
Total					\$25,085		\$29,107		\$27,543			
NOTE: FY95 excess has been identified to Congress for reprogramming.												
UNCLASSIFIED										Page 2	of	28

Item No. 92

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Department of the Army Comments

ENCL 1

UNCLASSIFIED										
REPORTS CONTROL SYMBOL DD COMP(AD) 1092					BUDGET ITEM JUSTIFICATION SHEET					DATE SEPT 1994
APPROPRIATION /BUDGET ACTIVITY Other Procurement: Army 2 Communications and Electronics Equipment					P-1 ITEM NOMENCLATURE STANDARDIZED INTEGRATED CMD POST SYSTEM Rigid Wall Shelter (SICPS) (B/9962)					
	FY 94	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00	FY 01		
QUANTITY	0	15	0	96	99	27	37	20		
COST (IN MILLIONS)	0.0	6.3	3.7	14.7	14.3	4.6	6.1	3.9		
<p>DESCRIPTION: This variant consists of a Rigid Wall Shelter (RWS) CP mounted on the High Mobility Multipurpose Wheeled Vehicle HMMWV Shelter Carrier. The shelter will be integrated with an on-board generator, power conversion/distribution system, environmental control unit, collective chemical protection, signal and power pass-through panels, equipment racks to accommodate two ATCCS workstations and an operator seat.</p> <p>JUSTIFICATION: Procurement of the Rigid Wall Shelter is required for fielding of the Army Tactical Command and System (ATCCS) to the Army.</p> <p>NOTE: UNITS FIELDDED THROUGH FY97 IMETS-Several CSSCS-2AD, 82 Airborne, 1st CD, XVIII Corps, 24th ID FS-1st CD, III Corps, XVIII Corps, 101st Airborne, 82nd Airborne ADCCS-101st Airborne, 10th MTN Div, 2nd ID, 82nd Airborne, 24th ID, XVIII Corps, 1st CD, 3rd ACR, 1st AD, 3rd AD</p> <p>NOTE: THRU FY94, FUNDS WERE APPROPRIATED UNDER SSN MX1010.</p>										
UNCLASSIFIED					P-1 SHOPPING LIST					
DD Form 2454 Jul 88					ITEM NO 92 PAGE 5 of 28					EXHIBIT P 40

ENCL 1

WEAPON SYSTEM COST ANALYSIS EXHIBIT (P-5)		A. APPROPRIATION/BUDGET ACTIVITY TITLE NO. (BZ9962) Other Procurement: OPA 2 Communications and Electronics Equipment				B. WEAPON MODEL/ SERIES/ POPULAR NAME Standardized Integrated Command Post System (SICPS) Rigid Wall Shelter		C. MANUFACTURER NAME PLANT CITY/STATE LOCATION TBS		D. DATE MONTH/YE September	
Weapon System Cost Elements	Ident Code	FY94 Unit Cost	QTY Total Cost	FY95 Unit Cost	QTY Total Cost	FY96 Unit Cost	QTY Total Cost	FY97 Unit Cost	QTY Total Cost		
1. Hardware Rigid Wall Shelter	B			\$240	[15] \$3,605		VAR \$739	\$120	[96] \$11,520		
2. PM/Administration					\$457		\$429		\$429		
3. Engineering Support					\$952		\$829		\$823		
4. Interim Contractor Spt.					\$1,275		\$1,671		\$1,926		
GROSS P-1 END COST					\$6,289		\$3,668		\$14,698		

Note: The FY 95 hardware cost includes initial procurement of 15 product improved (RWSs) for operational and first article tests.
The FY 96 hardware cost includes the procurement of Vehicle Intercom Systems (VIS) for previously purchased RWSs.

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BUDGET PROCUREMENT HISTORY AND PLANNING EXHIBIT (P-5A)										A. DATE		SEPTEMBER 1994	
B: Appropriation/Budget Activity: Other Procurement Army 2 Communications and Electronics Equipment					C: P-1 Item Nomenclature: Standardized Integrated Command Post System (SICPS) Rigid Wall Shelter								
Cost Element/ Fiscal Year	CONTRACTOR AND LOCATION	CONTRACTOR METHOD & TYPE	CONTRACTED BY	AWARD DATE	DATES OF FIRST DELIVERY	QUANTITY	UNIT COST	SPECS AVAILABLE NOW	SPEC REV REQ'D	IF YES WHEN AVAILABLE			
FY1995	TBS	C/FP	ATCOM	Jun 95	Mar 96	15	\$240,000	NO	YES	Dec 94			
FY1997	TBS	C/FP	ATCOM	Jan 97	Oct 97	96	\$120,000	NO	YES	Dec 96			
D. REMARKS: 251 Type Classified Limited Procurement Rigid Wall Shelters were purchased in FY91 and FY92. The above contract is for a product improved version of this shelter which will be type classified in Jan 97. The contract award in FY95 will initially procure 15 articles for operational and first article test with production options (pending a successful operational test) for FY97-FY99.													
DD Form 2446-1, Jul 87			UNCLASSIFIED			P-1 Shopping List 92		Page 7 of 28					

ENC 1

UNCLASSIFIED		DATE: SEPTEMBER 1994		REPORT CONTROL SYMBOL	
CODE "B" ITEM DESCRIPTION		P-1 ITEM NOMENCLATURE		DD-COMP(AR)1092	
APPROPRIATION/BUDGET ACTIVITY Other Procurement: Army 2 Communications and Electronics Equipment		Standardized Integrated Command Posts System (SICPS) Rigid Wall Shelter		(BZ9962)	
1 CURRENT DEVELOPMENT AND TEST STATUS					
	CURRENT	LAST REPORTED	SCHEDULE DATE	REASON FOR DELAY	
Dev Test & Eval (DT&E)	Sep-94	Sep-94		Lock of available test articles	
Initial Oper Test & Eval (IOT&E)	Sep-94	Sep-94			
Oper Test & Eval (OT&E)	Sep-96	Sep-94			
Avail Date of Tech Data Pkg (TDP) or Performance Specifications	Dec-94	Dec-94			
2 ESTIMATED DATE OF APPROVAL FOR SERVICE USE: May 95					
3 EQUIPMENT ITEM(S) TO BE REPLACED:					
4 EXTENT OF IMPROVEMENT OVER ITEM(S) EQUIPMENT TO BE REPLACED:					
5. DEVELOPMENT CONTRACT INFORMATION: PE64804 RDT&E FUNDING PROFILE (\$ IN MILLIONS)					
CONTRACTOR NAME	PLANT LOCATION	COMPONENT	THROUGH PRIOR YEAR	CURRENT YEAR	BUDGET YEAR
					BEYOND BUDGET YEAR FY97-01
TOTAL RDT&E FUNDING					
6 REMARKS: The RWS was Type Classified (TC) Limited Procurement Urgent (LPU) in Aug 91. 251 TC-LPU shelters were purchased in FY91 and FY92. The TC-LPU RWS will undergo Operational Test in Jul-Sep 94. A product improved version of the RWS is in development and will be available for Operational Test in Sep 96. Type Classification of the product improved shelter is planned for Jan 97. RDT&E for the Standardized Integrated Command Post System is controlled by ATCOM.					
P-1 SHOPPING LIST			Page 10 of 28		
DD Form 2443, JUL 88 UNCLASSIFIED		ITEM NO 92		EXHIBIT P-19	

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DEPARTMENT OF THE ARMY
HEADQUARTERS U.S. ARMY SIGNAL CENTER AND FORT GORDON
FORT GORDON, GEORGIA 30905-5008



REPLY TO
ATTENTION OF

6 DEC 1994

ATZH-CDM

MEMORANDUM FOR Department of Defense Inspector General Office, Logistics Support Directorate, ATTN: OIG-AUD-LS, 400 Army Navy Drive, Arlington, VA 22202-2884

SUBJECT: Department of Defense (DOD) Inspector General (IG) Audit of the Standardized Integrated Command Post System (SICPS) Rigid Wall Shelter (RWS) Program

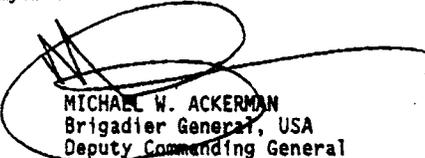
1. Reference: Meeting, Product Manager, Standardized Integrated Command Post System (PM-SICPS), Natick Research, Development, and Engineering Center (RDEC), HQ TRADOC and DOD IG representatives, 2 Nov 94, SAB.
2. The purpose of this memorandum is to confirm the product improved RWS (Version 3) is a valid Army requirement.
3. The current version of the RWS (Version 1) was authorized for limited procurement in August 1991 to satisfy anticipated, near term fieldings of the Army Tactical Command and Control System (ATCCS). This procurement was authorized with the understanding that the RWS did not fully satisfy user requirements. The product improved RWS currently in development corrects the shortfalls of the limited procurement shelter.
4. An onboard power unit permits operational units the ability to deploy RWS without a towed power generator. This is particularly critical to the light forces. This is a firm requirement contained in the original 1987 Required Operational Capability (ROC) for the RWS and is essential. Heating and cooling for environmental extremes using a new Environmental Control Unit (ECU) is provided. The Version 3 RWS increases the output of the ECU from 9,000 to 18,000 BTU while maintaining the approximate weight as the old 9,000 BTU ECU and improves reliability. The improved RWS provides sufficient weight savings with a new onboard power unit and a revised racking structure to accommodate the worst case ATCCS loads as contained in the Operational Facility Rules. It satisfies the ROC requirements at the same or lower cost than the limited procurement RWS.
5. A decision has not been made on the final disposition of the limited procurement RWS. This decision will be made by the Army Staff with input by the Milestone Decision Authority and the Combat Developer. The resulting effort will then be programmed in the SICPS budget line.

ENC 2
P.2/A

DEC 06 02:55PM '94

ATZH-CDM
SUBJECT: DOD Inspector General (IG) Audit of the Standardized Integrated
Command Post System (SICPS) Rigid Wall Shelter (RWS) Program

6. The point-of-contact at the Signal Center is Mr. Thornton, DSN: 780-3104;
E-mail: Thornton@gordon-amhl.army.mil.



MICHAEL W. ACKERMAN
Brigadier General, USA
Deputy Commanding General

CF:
Commander, U.S. Army Training and Doctrine Command, ATTN: ATCD-ZA, Fort
Monroe, VA 23651-5000
Program Executive Office for Command and Control Systems, ATTN: SFAE-CC, Fort
Monmouth, NJ 07703-5511
Commander, U.S. Army Natick Research, Development and Engineering Center,
ATTN: SATNC-Z, Natick, MA 01760-5018
HQ, DA ODCSOPS, ATTN: DAMO-FDC Rm 3C481, 400 Army Pentagon, Washington, DC
20310-0400

2

EVCL 2
E/E'd

DEC 06 '94 02:56PM



DEPARTMENT OF THE ARMY

HEADQUARTERS UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
FORT MONROE, VIRGINIA 23051-5000

REPLY TO
ATTENTION OF

3 FEB 1995

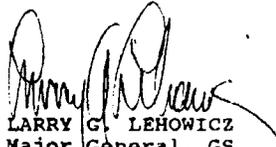
ATCD-GC (70)

MEMORANDUM FOR HQDA (DAMO-FDZ), WASH DC 20310-0400

SUBJECT: Department of Defense (DOD) Inspector General (IG)
Audit of the Standardized Integrated Command Post (SICPS) Rigid
Wall Shelter (RWS) Program

1. Reference memorandum, USASC & Fort Gordon, ATZH-CDM, SAB, 6 Dec 94.
2. The purpose of this memorandum is to state that the SICPS RWS is a valid requirement as outlined in the Standard Integrated Command Post ROC dated 30 April 1987.
3. The Version 1 variant copy of the RWS was a limited, urgent procurement that was needed for the anticipated fielding of the Army Tactical Command and Control System (ATCCS). It was understood at the time that the Version 1 shelter did not meet the stated requirement as outlined in the ROC. Version 3 variant of the product corrected the shortfalls of the original limited procurement.
4. The onboard power unit in the Version 1 variant was insufficient to power all equipment. Version 3 variant increased the generator capability from 5 kw to 10 kw. This increase was necessary to power all mission essential equipment. The Environmental Control Unit (ECU) was insufficient in the Version 1 variant. The Version 3 variant increased the ECU capability from 9,000 BTU to 18,000 BTU and improved reliability. The Version 1 shelter exceeded the weight limit for the high mobility multipurpose wheeled vehicle. All product improvements were made in Version 3 and with sufficient weight savings to accommodate the worst case ATCCS load. Version 3 satisfies the requirements as specified in the ROC at the same or lower cost than the limited procurement RWS.
5. HQ, TRADOC, POC is CPT Mark Richards, DSN 680-2897.

FOR THE COMMANDER:


LARRY C. LEHOWICZ
Major General, GS
Deputy Chief of Staff
for Combat Developments

OPERATIONAL REQUIREMENTS DOCUMENT (ORD)
FOR
MANEUVER CONTROL SYSTEM (MCS)

MCS ORD
1 OCT 92

1. General Description of Operational Capability.

a. Mission Area. Command and Control (C2).

b. Type of System Proposed. Automated Tactical Command and Control Information System.

c. Operational Concept. MCS will be the information system for the force level commander and his staff, operative both in the tactical environment and in garrison. It will provide automated C2 support to enhance the quality and shorten the duration of the decision-making cycle. MCS will reduce data acquisition, retrieval, analysis, preparation, and dissemination time. It provides decision support information in both text and graphic formats and will host digital terrain data ranging from digitized map backgrounds to objective tactical terrain databases. Additionally, MCS will aid in: developing decisions concerning the employment and sustainment of combat power; simultaneous direction of subordinate and supporting units; coordinating among Maneuver Battlefield Functional Area (BFA) subordinate systems; monitoring and supervision of operations; and, responding to the critical information requirements of the commander. This is done by integrating information from subordinate maneuver elements with that from higher headquarters and the C2 systems of the Fire Support (FS), Intelligence and Electronic Warfare (IEW), Combat Service Support (CSS), and Air Defense (AD) BFAs. MCS will provide this capability through a network of computers and peripheral devices linked together by Local Area Networks (LANs) and by current and/or future Army communications systems. The family of MCS for the Maneuver Functional Area will include Armor, Infantry, Aviation, Signal, Engineer, Military Police, and Chemical subordinate systems and will objectively have automated interfaces with the FS, IEW, CSS, AD functional areas, and with the automated C2 systems at Echelons Above Corps, to include joint and combined systems.

d. Organizational Concept. MCS will consist of a mixture of nondevelopmental items (NDI) and common hardware (CH), both capable of hosting the same operational software release, and be employed in both heavy and light corps (CH/software only); armored, infantry, light infantry (CH/software only), mechanized, motorized, air assault (CH/software only), and airborne (CH/software only) divisions; separate heavy, light (CH/software only) and theater defense brigades; and armored cavalry regiments. MCS must support dispersed command post (CP) configurations as well as continuous operations while CPs are relocating. The family of MCS will be located at:

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the user/operator to destroy ready access to, or otherwise render unusable, within 3 minutes, classified data not on removable media.

(16) Visually and/or audibly alert users when storage capacity is approaching its limit.

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(17) Be capable of being installed and operated in armored and wheeled vehicles and those aircraft used as C2 nodes at corps and below. Operation of NDI devices on the move is not required. Operation on the move is desired for CHS-1 and required for CHS-2. It is acceptable, given current commercial technological constraints, that initial implementation of this capability may be limited to message exchange, database updates, and report generation in all C2 facilities where personnel are authorized to be transported. Operation of the LSD, LSPP, or TACSCAN is not required on the move.

(18) Receive, store, retrieve, transmit, and print data ranging from UNCLASSIFIED through SECRET with appropriate classification markings. An ability to transmit, receive, and process up through NATO SECRET is required upon implementation of interfaces with Allied systems. No manual encryption will be required.

(19) The MCS will operate in the tactical environment as an open system in a system high environment with physical security as the primary means of protection.

(20) Electronic counter-countermeasures capabilities, to mitigate against the effects of the current and projected Radio Electronic Combat threat and reduce vulnerability to electronic countermeasures, will be provided by the supporting external communications media to the maximum extent possible, without violating the overall open system requirement.

(21) All devices will be transportable as tied-down cargo aboard all air, ground, and water transportation means. Common hardware computers must be airdroppable when provided appropriate preparation/protection.

(22) NDI devices will be operable in sheltered facilities in temperatures ranging from 40 to 95 degrees Fahrenheit, and humidities ranging from 10 percent to 80 percent (noncondensing) without environmental conditioning. All CH devices will conform to the environmental requirements specified in the CH ROC Annex to the Capstone ATCCS ROC.

(23) Be operable by soldiers dressed in NBC MOPP-IV and environmental protective clothing and equipment.

(24) Conform to any nuclear and chemical survivability requirements specified in the CHS ROC Annex to the Capstone ATCCS ROC.

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- Inadequate responsiveness and continuity of operations capability due to over-centralized processing.
- Inability to interface with other ATCCS C2 systems, projected communications systems, or Allied and other service's FS and FA systems.
- Antiquated hardware technology and software architecture are hard to support and do not facilitate upgrades and changes.
- Excessive initial and sustainment training requirements due in part to an inadequate man-machine interface.
- Does not apply target value analysis to the targeting process.
- Lacks survivability due to excessive heat, noise, and electronic signature.
- Requires interruption of operations and time-consuming manual tasks for fault isolation.

4. Capabilities Required.

The AFATDS will use ATCCS common hardware and software and unique FS software. It must provide automated support to FS personnel in ATCCS and meet the FS requirements of Army Operations. AFATDS must provide for coordination of FA and other FS assets (i.e., naval gunfire, Army aviation, mortars, air, and offensive electronic warfare) and for effective and efficient integration of FS into battle plans. The system must be capable of operations in tracked and wheeled vehicles. The communications media will be CNR, ACUS and ADDS. COMPUTERS and appropriate software will be located in FSEs at supported maneuver OPFACS and at FA OPFACS. AFATDS will be the FS control and coordination system from forward observer through Corps FSE. It must be included in Echelons Above Corps (EAC) when that level OPFAC is implemented. AFATDS will also be the FA C2 system from the firing unit through corps artillery. AFATDS must provide automated FS coordination to the maneuver commander for close, deep and rear operations.

a. System Performance. In addition to the capabilities outlined in the ATCCS Operational Requirements Document (ORD), AFATDS will provide the following capabilities:

(1) Full automated support in stationary or moving OPFACS for the planning, coordination, control, and execution of all FS roles, to include close support, counterrife, interdiction, deep and rear operations and suppression of enemy air defense (SEAD).

(2) Full automated support for the collection, processing, prioritization, and display of data to support the operational needs of FS Execution, FS Planning, Movement Control, FA Mission Support, and FA Fire Direction Operations (Annexes A and B).

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System (GCCS) by the Joint Chiefs of Staff.

(a) The COTS software is the commercial support software (e.g., operating system (OS), database management system (DBMS), word processing, etc.) which will be procured along with the CH equipment. COTS requirements are defined in the CHS requirements documents. Software design will incorporate a standard multi-layered open system architecture: modular functional applications ported on the applications support software, interfacing with the standard system support software in a common operating environment, operating on a standard suite of processors. The applications will be designed so as to minimize the dependency relationship among software applications and applications support modules so as to incorporate evolutionary technology advances. Maximum reuse of functional applications/support software modules among ABCS component systems will facilitate modular, rapid reconfiguration throughout the ABCS structure.

(b) The CASS modules constitute packages (blocks) providing functions and services such as message handling, workstations management, soldier-machine interface parameters, DBMS services, display services, etc., which are common to two or more (all in most cases) application programs. Application program developers will integrate CASS modules into the structure of functional subsystem software application programs.

(c) The CA are software modules embodying specific functions such as Movement Control, Terrain Evaluation, Operation Plan/Operation Order, etc., which are common to two or more subsystems. These CA requirements are derived from the various subsystem operational programs as defined in their respective ORDs.

(3) Functional subsystem software applications may be initially developed as "stand alone" modules through a rapid prototyping developmental strategy which envisions an incremental, iterative build process, involving close coordination among the user and combat and material developers. This strategy will be applied to both new software development and the porting of existing ABCS software applications.

(4) ABCS will use available tactical, DoD and commercial communications systems such as Area Common User Systems (ACUS), Army Data Distribution Systems (ADDS), Combat Net Radios (CNR), and Satellite Communications System, and provide the Tactical Packet Network (TPN) electronic message handling interoperable with the Defense Data Network (DDN), Defense Information System Network (DISN) and Automatic Digital Network (ADN) implementations of the Defense Messaging System.

(5) The Standardized Integrated Command Post System (SICPS) will support tactical OPFAC functions by providing components necessary to operate in the threat battlespace; i.e., vehicle,

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shelter, power, installation kits, heater, air conditioning, lights, grounding system, tables, and displays. An OPFAC is a physical node in the ABCS architecture and may function as a command post (CP) (when the commander is present) or a control post (when solely staff functions are performed). SICPS variants will be employed in both heavy and light forces and support dispersed OPFAC configurations as well as continuity of operations (CONOPS) during displacement. (For purposes of this ORD, both ground and airborne C2 vehicles are considered SICPS variants.)

e. Current Organizational Concept. The following systems will functionally migrate to ABCS. The current developmental programs of ABCS extend from the Joint/Strategic C3I systems via the Army's Worldwide Military Command and Control System (WWMCCS) Information system (AWIS) link through the theater of operations, to the operational/tactical headquarters, and culminates in near-real-time, digital links among the tactical BOS functions at brigade and below. The existing ORDs for each of these BAS provides detailed amplification of specific functional and technical requirements within the overall ABCS concept. ABCS will mature as each BAS function migrates to the ACOE architecture. Thus, the realization of ABCS is a product of the integration of existing and developmental BAS and communications systems. Key fielded and developmental systems in this integration effort are:

(1) The AWIS is a functional ABCS component which provides strategic C2 capabilities to support the National Command Authority (NCA), unified and specified commands (CINCs), transportation operating commands, Army components and Department of the Army (HQDA). In support of Global C2, AWIS permits centralized direction and decentralized planning and execution. AWIS permits Army combatant commands to support the unified combatant commands in development of courses of action and management of critical resources. The system implements Joint mobilization, operations, planning and execution and the GCCS for the Army, supports assigned sites and provides interfaces to Army theater and tactical systems.

(2) The Standard Theater Army Command and Control System (STACCS) provides information and decision support to Army strategic/operational commanders in a theater of operations covering missions from OOTW across the spectrum of conflict. STACCS performs force tracking for allocated Army forces, maintains theater level logistic information, host nation and civil affairs support, theater AD, psychological operations, and affords C2 for EAC units. STACCS will also provide, at theater and Army component level headquarters, the primary link to joint and combined systems, such as: the Air Force's Contingency Theater Air Control System (TACS) Automation Planning System (CTAPS), Navy's Joint Maritime Command Information System (JMCIS) and the Marine Corps' Tactical Operation Combat System (TOCS).

NOTE: The migration of ABCS has already begun in the development

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analyzes and integrates resource information to support evaluation of current and projected force sustainment capabilities.

(d) Forward Area Air Defense System C3I (FAADS C3I) integrates AD fire units, sensors and C2 centers, into a coherent system capable of defeating/denying the low altitude aerial threat (Unmanned Aerial Vehicles, helicopters, etc). It provides the automated interface (division and below) for the AD control segments to ABCS and allows commanders and staff to communicate, plan, coordinate, direct and control the counter-air fight. The system provides rapid collection, storage, processing, display and dissemination of critical, time-sensitive situational awareness (air and ground) and battle command information throughout the FAAD battalion, and between other AD, Army, Joint and Combined elements. FAADS C3I provides the 3rd dimension situational awareness component of the FLI database.

(e) The Advanced Field Artillery Tactical Data System (AFATDS) provides automated decision support for the fire support (FS) functional subsystem, to include Joint and Combined fires (i.e., naval gunfire, close air support). AFATDS provides a fully integrated FS C3 System, giving the FS coordinator (FSCoord) automated support for the planning, coordination, control, and execution of close support, counterfire, interdiction, and AD suppression fires. AFATDS performs all of the FS operational functions, to include automated allocation and distribution of fires based on target value analysis.

(4) The AB2 architecture will evolve from prototype brigade and below C2 (B2C2) application software to provide near-real-time situational information to tactical commanders, on-the-move, down to platform/squad level. Objectively, AB2 will provide the friendly automated positional location information, to include display of adjacent units to platform level resolution; current tactical battlefield geometry for both friendly and known/suspected enemy forces; automated situational reporting (Situation Reports, Spot Reports, Logistical Reports), calls for fire and close air support (CAS); and disseminate graphic and textual tactical orders (Fragmentary Orders/Operations Orders). Embedded and applique digitized weapons systems will be compliant with applicable ACOE data and communications standards to effect source data automated updates to the FLI database at the first OPFAC in the architecture where full maneuver capability is resident.

f. Mission Need statement (MNS) Summary. The objective ABCS provides operational integration called for in the MNS for the Horizontal Integration of Battle Command. The MNS identified a requirement for land force dominance at all levels. As such, it requires improved battle command systems, improved horizontal and vertical interoperability, standardization (including communications standards and protocols), increased ability to synchronize direct and indirect fires, faster and more

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