

**Audit**



**Report**

OFFICE OF THE INSPECTOR GENERAL

**SUPPLY SUPPORT FOR WHEELED VEHICLE SYSTEMS**

Report No. 93-117

June 18, 1993

**Department of Defense**

## **Acronyms**

AMC	Army Materiel Command
AMSAA	Army Materiel Systems Analysis Agency
ASL	Authorized Stockage List
DCSLOG	Deputy Chief of Staff for Logistics



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

REPORT  
NO. 93-117

June 18, 1993

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Survey Report on Supply Support for Wheeled Vehicle Systems (Project No. 3AG-0024)

## Introduction

We are providing this final report for your information and use. The report addresses whether failure factors used to develop initial authorized stockage lists (ASLs) are adjusted for environmental and climatic conditions.

## Survey Results

Our audit showed that the update process for adjusting failure factors to reflect climatic and environmental conditions was inadequate. Because the accuracy of the failure factors has a direct effect on ASL computations, the Deputy Chief of Staff for Logistics (DCSLOG) began a project to improve the failure factor process. Environmentally and climatically adjusted failure factors will contribute to the most cost-effective quantities for optimal ASL inventory levels to support force readiness.

A Proof of Principle demonstration for this project, Standard Automated Failure Factor Update Process, ended in April 1993. The demonstration showed that the concept and methodology were feasible. Since the failure factor update process is under revision for climatic and environmental adjustments, no further audit work is warranted. Future review in this area may be needed to assess the actual implementation of climatic and environmental adjustments in failure factor calculations and whether such adjusted failure factors are implemented into actual supply support computations. We encourage the Army to continue its efforts in this area and establish time frames for implementation.

## Objectives

The overall survey objective was to determine whether environmental and climatic conditions are properly considered in the development of ASLs for wheeled vehicle systems.

---

## **Scope of Survey**

We performed survey work at various Army sites. Enclosure 1 lists the activities visited or contacted. We verified efforts by Army Materiel Systems Analysis Agency (AMSAA) to update the failure factor calculation. In addition, we analyzed Army Materiel Command (AMC) policies and procedures dated from April 1, 1983, to February 28, 1992, related to the determination of failure factors.

This economy and efficiency survey was made from February through April 1993 in accordance with the 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 considered necessary.

## **Internal Controls**

Internal controls for ASLs and failure factor determination were effective and no material internal control deficiencies were disclosed.

## **Prior Audit Coverage**

There has been no known coverage of failure factor for use in ASL determination by the General Accounting Office, the Office of the Inspector General, or the Audit Agencies of the Military Departments in FYs 1989 through 1992 or planned for FY 1993.

## **Background**

AMC Pamphlet 750-5, "Objective Determination of Failure Factors," April 1, 1983, states the failure factor is an indication of the expected number of failures for a repair part and plays a leading role in many areas of logistics. Although failure factors are mostly used for initial provisioning computations, updated versions based on demand history are used for resupply calculations during the entire life cycle of an item. In addition, there are mathematical adjustments to the failure factors for different geographic deployment areas. These adjustments are based on the estimated differences in failure rates due to different conditions present in these areas. Failure factors are used in computing ASLs for the supporting and using units, war reserves, and contingency planning.

---

## Discussion

The Deputy Chief of Staff for Logistics, who has the responsibility for Army supply policies and procedures, was concerned that failure factors were not being properly updated to reflect actual failure rates based on demand data. As a result, AMSAA, under direct authority of AMC, was delegated responsibility to improve the failure factor calculation and update process. To replace the current manual procedures, the Standard Automated Failure Factor Update Process was initiated to establish a data base that more accurately reflects environmental and climatic conditions. Continuous collection of worldwide usage data was initiated 5 years ago. These data are sorted by end item and Department of Defense Activity Address Codes with similar geographic characteristics. These data reflect the climatic and environmental effects on failure rates and are to be used to compute failure factors for selected geographical areas.

## Management Comments

We provided a draft of this report to the addressee on May 25, 1993. Because there were no recommendations, no comments were required from management, and none were received. Therefore, we are publishing this report in final form.

The courtesies extended to the audit staff are appreciated. If you have questions on this audit, please contact Mr. James Koloshey, Program Director, at (703) 614-6225 (DSN 224-6225) or Mr. Verne Petz, Project Manager, at (703) 693-0388 (DSN 223-0388). Enclosure 2 lists the planned distribution of this report.



Robert J. Lieberman  
Assistant Inspector General  
for Auditing

Enclosures

---

## **Organizations Visited or Contacted**

### **Office of the Secretary of Defense**

Under Secretary of Defense for Acquisition  
Comptroller of the Department of Defense

### **Department of the Army**

U.S. Army Forces Command, Fort McPherson, GA  
U.S. Army Materiel Command, Alexandria, VA  
    U.S. Army Tank-Automotive Command, Warren, MI  
    U.S. Army Materiel Systems Analysis Agency, Philadelphia, PA  
U.S. Army Munitions and Chemical Command, Rock Island, IL  
U.S. Army Reserve Command, Fort McPherson, GA  
Strategic Logistics Agency, Alexandria, VA  
Rock Island Arsenal, Rock Island, IL

---

## **Report Distribution**

### **Office of the Secretary of Defense**

Under Secretary of Defense for Acquisition and Technology

### **Department of the Army**

Inspector General, Department of the Army  
Commander, U.S. Army Materiel Command  
Deputy Chief of Staff for Logistics  
Director, U.S. Army Materiel Systems Analysis Agency  
Director, Strategic Logistics Agency

### **Non-Defense 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 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 Defense, Committee on Appropriations  
House Committee on Armed Services  
House Committee on Government Operations  
House Subcommittee on Legislation and National Security,  
Committee on Government Operations

# **Audit Team Members**

Donald E. Reed	Director, Acquisition Management Directorate
Thomas F. Gimble	Deputy Director
James L. Koloshey	Program Director
Verne F. Petz	Project Manager
William R. Harshman	Team Leader
Ronald L. Nickens	Team Leader
Gregory S. Fulford	Auditor
Robert C. Fulkerson	Auditor
Richard J. Ptak	Auditor
Mary Ann Hourclé	Editor
Phyllis E. Brooks	Administrative Support