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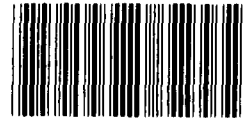
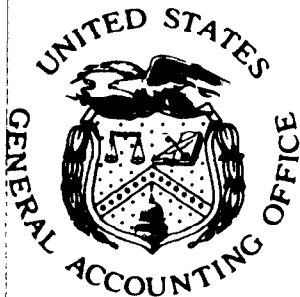
Report To The Secretary Of The Army

Army's Quality Deficiency Report System: Generally Effective But Some Changes Needed

The Army reports quality deficiencies on fielded items through its Quality Deficiency Report System.

GAO found that when product assurance personnel investigated a reported deficiency, the investigation was generally adequate to identify a solution to the problem. But in many cases, investigations could not be conducted because defective items were not available for examination. There were two primary reasons for this: (1) defective items were held in uncontrolled storage space, which allowed for loss, damage, or inadvertent disposal, and (2) installations disposed of the items after the prescribed 45-day holding period expired but before the investigations were completed.

GAO is recommending that the Secretary of the Army direct Army personnel, at least on a test basis at selected installations, to keep the items in controlled storage space until authorized for release by the responsible command. If the test proves cost effective, these actions should be implemented Army-wide. DOD agreed with GAO's recommendations.



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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

NATIONAL SECURITY AND
INTERNATIONAL AFFAIRS DIVISION

B-217924

The Honorable John O. Marsh, Jr.
The Secretary of the Army

Dear Mr. Secretary:

We are reporting to you on our limited review of the Army's Quality Deficiency Report (QDR) system at the U.S. Army Materiel Command (AMC), the U.S. Army Aviation Systems Command (AVSCOM), and selected Army installations. Since this system is the Army's major initiative to identify and resolve deficiencies in fielded equipment, we conducted a limited review to determine whether the system was operating effectively or needed improvements. Our specific objectives, scope, and methodology are presented in appendix I.

AMC has responsibility for overall management of the Army's QDR system. AMC's subordinate commodity commands are responsible for investigating quality-related problems reported by Army installations and contractors and determining their causes in order to preclude recurrence.

The Army reports quality deficiencies on fielded items through its QDR system. According to an AMC Product Assurance representative, when an item in the field fails to perform as expected and the user suspects a problem related to quality, a report is submitted to the responsible commodity command for investigation and resolution.

Our review showed that when Product Assurance personnel at AVSCOM investigated a reported deficiency, the investigation generally was of sufficient scope and depth to identify a satisfactory solution to the problem. However, in a substantial number of cases, investigations could not be conducted because the defective items were not available for examination. We believe action is needed to ensure that defective items are kept as long as needed to facilitate resolution of problems.

We also noted conditions that reduce the assurance that all quality problems are reported through the QDR system. Further, the QDR data reported to AMC contained some inaccuracies. AMC officials advised us they were also concerned about these matters and were taking corrective action.

INVESTIGATIONS ARE GENERALLY ADEQUATE

We reviewed 22 completed investigations of quality problems reported through the QDR system during fiscal years 1983 and 1984. Although our sample was limited (22 of 4,050 cases), it represented about 37 percent of the dollar value of the QDR cases processed by AVSCOM for the 22-month period examined. In 21 cases, the investigations were of sufficient scope and depth to identify and implement satisfactory solutions. AVSCOM Product Assurance personnel investigated the remaining case; however, the problem was not completely resolved and we found no evidence that corrective action had been taken. We could not determine, either through a review of the file documentation or discussion with AVSCOM personnel, why this case had not been satisfactorily resolved.

An example of a QDR that was investigated and, in our opinion, adequately resolved involved a defect in a helicopter tail rotor assembly. Personnel at the Corpus Christi Army Depot discovered the problem and reported it to AVSCOM in December 1983. A total of 82 defective assemblies were identified with a total value of \$87,166. The QDR stated that an oil drain slot was covered, which prevented oil from returning to the assembly. AVSCOM Product Assurance personnel directed an investigation by the prime contractor. The investigation report, dated January 16, 1984, showed that a manufacturing error had occurred at the foundry which was the prime contractor's supplier for this part. During casting, the oil passage apparently shifted and caused the drain slot defect, which was not detected during inspection by the supplier or the prime contractor. To prevent the acceptance of additional defective units, the prime contractor directed that all completed castings be inspected to ensure compliance with specifications. Defects were corrected on the 82 items.

LACK OF RETENTION OF DEFECTIVE ITEMS PREVENTED SOME INVESTIGATIONS

In a number of cases, investigations into the causes of the quality problems could not be conducted because the defective items were not retained for examination. We reviewed a random statistical sample of 125 of 1,613 QDR cases processed by AVSCOM during the first 11 months of fiscal year 1984. In 26 cases, investigations were not conducted because defective items were

not available for examination. Projection of sample results indicates that the lack of defective items for examination may have prevented adequate investigations and resolutions of problems in about 336 cases, or 21 percent, of the 1,613 QDR universe sampled.

During visits to three Army installations, we found that defective items may not be available for various reasons. Two causes, however, seem to be most significant.

First, the defective items may be lost, damaged, or inadvertently disposed of because they are not required to be held in a controlled area. For example, technical quality personnel at Ft. Rucker, Alabama, and Ft. Campbell, Kentucky, told us that defective items were stored in offices or in work areas and that items had been damaged, lost, or inadvertently turned in to supply facilities because they were not in a central or controlled storage area.

Second, although the defective items may have originally been held for the 45-day holding period as required by Army regulations, they may have been turned in to supply facilities for disposition after that period expired. In some cases, however, the holding period is not sufficient time for AVSCOM Product Assurance personnel to instruct the initiators of the QDRs on whether to hold or release the items. In about 21 percent of the sample cases, over 45 days elapsed from the time the defects were discovered until Product Assurance personnel received the QDRs for processing. In addition, in 15.9 percent of these cases, Product Assurance personnel took 5 or more days to acknowledge receipt of QDRs and instruct Army installations to hold defective items. In our limited evaluation, we did not try to determine why these delays had occurred. Technical quality personnel at Army installations visited confirmed that some items had been turned in to supply facilities before instructions to hold exhibits were received from AVSCOM.

We discussed with AMC Product Assurance officials the feasibility of providing controlled storage space for holding defective items until initiators of QDRs receive disposition instructions. Although no cost data was available, those officials expressed some concern about the potential cost of providing the space and the added inventory needed if the defective items were not quickly repaired and returned to service.

OTHER CONSIDERATIONS

The potential exists for quality problems not being reported. Technical personnel at the installations we visited advised us that (1) reporting of quality problems might be a low

priority at some installations and (2) in determining whether to report a suspected quality problem, quality technicians might be using criteria that were not consistent with Army guidance. We discussed our concerns with Product Assurance officials at AMC, and they advised us they were also concerned and were taking steps to increase assurance that QDRs were completed as required. For example, they were planning to hold seminars and distribute posters to Army installations that illustrate how important the QDR system is and how to fill out the QDR form.

We also noted some inaccuracies in QDR data reported to AMC. However, AVSCOM and AMC personnel are aware of this condition and are taking steps to correct inaccuracies.

CONCLUSIONS

Our limited analysis of the Army's QDR system indicated that while the system was generally effective in identifying and resolving deficiencies in fielded equipment, some improvement was needed. In a substantial number of instances, reported problems were not being investigated and resolved because the defective items were not available for examination. There were two primary causes for this--(1) the holding of defective items in uncontrolled storage space, which allowed for loss, damage, or inadvertent release prior to completion of the investigations, and (2) installations' disposing of the items after the prescribed 45-day holding period expires but before the investigations were complete.

These problems could be minimized by keeping defective items needed to facilitate investigations in controlled storage space until authorized for release by the responsible commodity command. Army officials expressed concern that these actions could involve additional cost. No reliable data was available to estimate the cost versus the benefit of this action, but given the importance of QDR investigations, the potential savings resulting from timely and successful investigations, and the potential for avoiding subsequent equipment failures, these actions seem prudent.

RECOMMENDATIONS

We recommend that to help ensure that defective items are available when needed to facilitate investigation of reported quality problems, you direct Army personnel, at least on a test basis at selected Army installations, to retain the items in controlled storage space until authorized for release by the responsible commodity command. If the test proves cost effective, these actions should be implemented Army-wide.

AGENCY COMMENTS

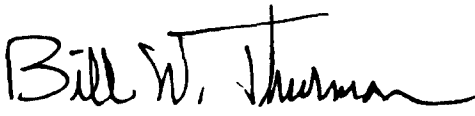
The Department of Defense (DOD) provided official comments (app. II) on a draft of this report. DOD agreed with our findings and recommendations and stated that action would be taken to implement our recommendations.

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As you know, 31 U.S.C. § 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the Senate and House Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report. We would appreciate receiving a copy of the statements.

We are sending copies of this report to the Chairmen of the Committees listed above and the Chairmen of the Senate and House Committees on Armed Services. We are also sending copies to the Director, Office of Management and Budget, and the Secretary of Defense.

Sincerely yours,


for Frank C. Conahan
Director

OBJECTIVES, SCOPE, AND METHODOLOGY

Because of the importance of the Army's Quality Deficiency Reporting (QDR) system in identifying and resolving quality problems in fielded equipment, we performed a limited analysis to determine

- whether the Army was adequately analyzing reported deficiencies to determine the causes and prevent recurrence,
- whether impediments to the successful resolution of quality-related problems existed, and
- whether all deficiencies were being reported.

To accomplish these objectives, we interviewed Product Assurance personnel and reviewed records pertaining to the QDR system in the Product Assurance Directorate at the U.S. Aviation Systems Command, one of six Army commodity commands, located in St. Louis, Missouri, and in the Product Assurance and Test Directorate at the Army Materiel Command, located in Alexandria, Virginia. We also interviewed quality assurance personnel at selected Army and contractor locations, as follows: Fort Rucker, Alabama; Fort Campbell, Kentucky; Corpus Christi Army Depot, Corpus Christi, Texas; and Sikorsky Aircraft and AVCO-Lycoming, Stratford, Connecticut.

In addition, we reviewed QDR case files and QDR cases selected through a random statistical sample. These were cases completed by Product Assurance personnel from October 1, 1982, through August 31, 1984. We tested the reliability and completeness of certain automated data elements in the Deficiency Reporting System data base used in developing the universe for our random sample. The data permits projection of sample results at a 95-percent confidence level with a +6.80-percent error rate.

Our work was performed from June 1984 through February 1985 in accordance with generally accepted government auditing standards.



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OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301 3060

19 JUN 1985

Mr. Frank C. Conahan
Director
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office Draft Report, "Army's Use of Quality Deficiency Reports to Correct Defects in Fielded Equipment," dated May 1, 1985 (GAO Code No. 393064), OSD Case No. 6744. The DoD concurs with the draft report's findings and recommendations. Individual comments on the Findings and Recommendations are attached.

The DoD appreciates the opportunity to review and comment on the draft report.

Sincerely,

A handwritten signature in cursive script that reads "Jim Wade".

James P. Wade, Jr.
Acting

Attachment

GAO DRAFT REPORT - DATED MAY 1, 1985
(GAO CODE NO. 393064) - OSD CASE 6744

"ARMY'S USE OF QUALITY DEFICIENCY REPORTS
TO CORRECT DEFECTS IN FIELDED EQUIPMENT"

(Department of Defense Comments)

FINDINGS

FINDING A: Investigations are Adequate. GAO analyzed a limited sample (22 of 4,050 cases) of completed Quality Deficiency Report (QDR) investigations at the Army's Aviation Systems Command (AVSCOM). GAO found that in 21 cases the investigations were of sufficient scope and depth to identify and implement satisfactory solutions. GAO concluded that based on its limited analysis of the Army's QDR system when QDR investigations are conducted, they are generally adequate. (pp. 1-2, p. 4, GAO Draft Report) [See GAO note.]

DOD RESPONSE: Concur.

FINDING B: Lack of Retention of Defective Items Prevented Some Investigations. GAO reported that Army regulations require defective items to be held for 45 days after the QDR. In reviewing a statistical sample of QDRs, GAO found, however, that in 21 percent of the cases, defective items were not available for the investigation to be conducted. GAO further found that the two most significant reasons for items not being available were:

- (1) Defective items lost, damaged, or inadvertently disposed of because they are not required to be held in a controlled area; and
- (2) The 45-day holding period was not sufficient for Product Assurance personnel to receive and process the QDR and to instruct the initiator whether to hold or release the item.

GAO concluded that these problems could be minimized by keeping defective items needed for QDR inspections in controlled storage space until authorized for release by the responsible commodity command. GAO noted that Army personnel, expressed concern about the potential cost of providing the space and the added inventory needed if defective items were not quickly repaired and returned to service. Although no reliable data to estimate the cost effectiveness of such action was available, GAO concluded that, given the importance of QDR investigations, the potential resulting from timely and successful investigations, and the potential for avoiding subsequent equipment failures, these actions seemed prudent. (pp. 2-4, GAO Draft Report)

DOD RESPONSE: Concur.

GAO note: Page references in this appendix have been changed to correspond to those in the final report.

- FINDING C: Some Quality Problems May Not Be Reported: Inaccuracies in QDR Data. GAO reported that, according to Army technical personnel, reporting quality problems might be of low priority for some installations, and in reported suspected quality problems, criteria not consistent with Army policy may be used. GAO concluded, therefore, that a potential exists for quality problems not being reported. GAO also found some inaccuracies in QDR data. According to GAO, Army Material Command (AMC) personnel advised that AMC was taking steps to increase assurance that QDRs would be completed as required and to correct data inaccuracies. (pp. 3-4, GAO Draft Report)

DOD RESPONSE: Concur.

RECOMMENDATIONS

- RECOMMENDATION 1: GAO recommended that the Secretary of the Army, to help ensure that defective items are available when needed to facilitate investigation of reported quality problems, direct Army personnel, at least on a test basis at selected Army installations, to retain the items in controlled storage space until authorized for release by the responsible commodity command. (p. 4, GAO Draft Report)

DOD RESPONSE: Concur. OSD will request that the Army set up a test at selected installations to retain QDR exhibits in a controlled storage space. OSD Implementation Date: 28 June 1985.

- RECOMMENDATION 2: GAO recommended that if test proves cost effective, retention of defective items in a controlled area be implemented Army-wide. (p. 4, GAO Draft Report)

DOD RESPONSE: Concur. If successful and cost effective, OSD will request that the retention of QDR exhibits in a controlled storage area be implemented Army-wide. OSD Implementation Date: 30 July 1986.



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