

DOCUMENT RESUME

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[Need to Improve Management of Shelf-Life Items at Storage Activities]. LCD-77-211; B-118765. June 29, 1977. 9 pp.

Report to Secretary, Department of Defense; by Robert G. Rothwell (for Fred J. Shafer, Director, Logistics and Communications Div.).

Issue Area: Facilities and Material Management: Supply and Maintenance Operations Reporting Systems (703).

Contact: Logistics and Communications Div.

Budget Function: National Defense: Department of Defense - Military (except procurement & contracts) (051).

Organization Concerned: Department of the Navy.

Congressional Relevance: House Committee on Armed Services; Senate Committee on Armed Services.

Authority: DOD 4140-27-M.

At the end of June 1976, the Navy's inventories of shelf-life items, items of supply possessing deteriorative or unstable characteristics requiring a storage time period to be assigned, amounted to about \$483.4 million.

Findings/Conclusions: Although procedures call for proper identification of shelf-life items to be disposed of, there is no provision for summarization and periodic reporting of the volume or value of items whose shelf-life has expired. A review found that the Norfolk Naval Air Station lacked an effective shelf-life program. The shelf-life of many items in stock had expired; some expired items had been issued to users; and expiration dates of some items were missing or incorrect. The first-in, first-out method of issue was not being followed; newer stock was issued before the older stock of an item. The Naval Supply Depot at Subic Bay in the Philippines had a management program for shelf-life items, but improvements were needed to assure adequate storage and issue. The two installations used different procedures for managing extendable shelf-life items which expired in stock. Management, in general, was unaware of the extent and value of losses due to expiration of shelf-life. Recommendations: The Secretary of Defense should: establish a management reporting system or other means routinely to identify the extent to which material is disposed of because of expired shelf-life; and determine the extent to which instructions and procedures for the management of shelf-life items have been implemented at the Navy's major stock points. (RRS)

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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

LOGISTICS AND COMMUNICATIONS DIVISION

B-118765

JUN 29 1977

The Honorable
The Secretary of Defense

Dear Mr. Secretary:

At the end of June 1976, the Navy's inventories of shelf-life items amounted to about \$483.4 million. To test the adequacy of the Navy's management of shelf-life items, we examined the procedures and practices followed at the Naval Air Station, Norfolk, Virginia, and the Naval Supply Activities, Subic Bay, Philippines. Although Defense and the Navy have for many years required the establishment of shelf-life programs at supply activities, the Air Station has not yet established an effective program. The Naval Supply Depot, Subic Bay, has a management program for shelf-life items, but some improvements are needed to assure the adequate storage and issue of these types of items.

Shelf-life items are items of supply possessing deteriorative or unstable characteristics to the degree that a storage time period must be assigned, e.g., photographic film, paints, and parts kits. Because of their deteriorative nature, shelf-life items require special management attention to assure that they are issued to users prior to expiration of their storage life expectancy. It is Defense policy to minimize the risk of the expiration of shelf life before the items are issued.

As of August 20, 1976, the Office of the Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics; formerly Installations and Logistics) published a manual (DOD 4140-27-M) setting forth policies and standard procedures for control of shelf-life items. This document assigns responsibilities for procurement, receipt, storage, and issue of shelf-life items and establishes methods and codes for their proper identification. It also directs procedures for inspection and test as well as for the use and disposal of items with little or no remaining shelf life.

Shelf-life items are disposed of either when tests indicate that the shelf life of an item cannot be extended or

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when storage personnel have determined that the shelf life of the item has expired. Although the procedures call for proper identification of shelf-life items transferred to disposal activities, there is no provision for summarization and periodic reporting of the volume or value of items disposed of because their shelf life has expired.

Condition codes on shelf-life items at both the Air Station and the Supply Depot were not systematically changed to reflect the approaching expiration dates. In addition, the Ship Repair Facility, Subic Bay, a major customer of the Supply Depot, had accumulated shelf-life supplies that duplicate shelf-life materiel stocked by the Depot. The shelf life of the majority of these items had expired.

We are bringing these matters to your attention because the Navy had not taken the necessary management actions to ensure that its supply stock points were complying with DOD and Navy directives for the management of shelf-life materiel.

THE NAVAL AIR STATION LACKS
EFFECTIVE SHELF-LIFE PROGRAM

During the 20-month period ended September 30, 1976, the Air Station disposed of more than \$15.5 million of shelf-life materials. We could not differentiate between the quantity or value of these disposals specifically due to the expiration of shelf life and to other causes because the disposal actions were not documented to that extent.

As of September 1976, the Air Station had approximately 5,000 shelf-life items on hand which were valued at \$42 million. Because the Air Station had not established an effective program for the management of shelf-life items

- the shelf life of many items in stock had expired,
- some items on which the shelf life had expired had been issued to users,
- expiration dates of some shelf-life items were either missing or incorrect.

The Naval Audit Service reported similar deficiencies in its November 1974 report. That report concluded that the Air Station did not have both the necessary standard procedures for managing shelf-life material and a quality control program by which it could detect and correct errors. Furthermore, the report estimated that the shelf life had expired on inventory valued at \$6.6 million, or approximately 23.7 percent of the shelf-life inventory on hand. In addition, the report

stated that shelf-life items had not been properly identified and expiration dates had not been shown on many of the packages.

Air Station officials concurred with Navy audit findings and promised to take corrective action. Two years later, however, we found that if actions were taken, they were insufficient and the deficiencies noted by the Audit Service still exist.

We randomly selected and examined 26 shelf-life items carried in inventory as serviceable or ready-for-issue. Twenty-three of these line items had one or more deficiencies which an effective shelf-life program would help to prevent. We found:

- Twenty line items had either wrong or missing dates showing expiration or required inspection time.
- Five line items had expired and ready-for-issue stocks commingled.
- Eight line items had newer and older stocks commingled.
- Two line items had stock which was not coded to indicate that shelf life was approaching expiration.
- Six line items had stock with no shelf-life markings.

If the Naval Air Station had a quality control program which provided adequate surveillance over its warehouse activities dealing with shelf-life material, it should have been able to detect and correct these problems.

In addition, we found the first-in, first-out method of issue was not being followed; newer stock was issued before the older stock of an item. We examined 10 items that warehousemen had selected for issue and found that older stocks were onhand. In two other instances, the shelf life on the items selected had either expired or were about to expire. Additionally, a review of 34 discrepancy reports on items issued by the Air Station showed that each one had resulted from the shipment of overaged materiel. One requisitioner reported the receipt of overaged materiel on a repetitive basis. In 1974, the Audit Service also reported similar findings.

In one warehouse, we examined a number of items which were awaiting shipment to the disposal activity. Seven of 10 items we examined were being disposed of because their shelf life had expired. We then questioned officials of the Air Station and Philadelphia's Aviation Supply Office to determine the quantity and value of shelf-life items that had been disposed of due to expired shelf life. Neither the Air Station nor the Aviation Supply Office could provide us with this data since they do not routinely accumulate data on items being disposed of because of expired shelf life.

We reviewed the Air Station files and were able to develop a listing of approximately all shelf-life items that had been sent to disposal during the 20-month period ended September 30, 1976. The total cost of these items was more than \$15.5 million. Although we could not identify that the expiration of shelf life was the specific reason for disposing of these items, we believe that the lack of adequate shelf-life management controls had contributed to these disposal actions and that a substantial portion of them probably resulted from the expiration of shelf life while the material was in storage. Furthermore, the Air Station had no system or procedure by which management officials were made aware of the extent of disposal actions due to expired shelf life.

We found that 11 of the 26 line items we physically inventoried had experienced disposal actions amounting to \$153,380 during the period April 1975 - August 1976. Our examination of the inventory records of these items disclosed that 10 of them were experiencing storage problems, such as assignment of erroneous condition codes and commingling of newer and older stocks, that could lead to unnecessary expiration of shelf life and further disposal. Four of the 10 line items had some onhand inventories which had already exceeded the shelf-life expiration dates.

POOR MANAGEMENT OF EXTENDABLE SHELF-LIFE ITEMS

Both the Air Station and Supply Depot used different procedures for managing extendable shelf-life items which expire in stock. The Supply Depot provides for extension of expiration dates within a reasonable time, if appropriate; the Air Station does not. The Air Station had approximately \$900,000 in shelf-life materiel in an unserviceable condition although timely inspection and testing could have resulted in the extension of its shelf life. Some of these items have remained in storage as unserviceable from 8 months to 10 years.

Items that can have shelf life extended if they are found to be serviceable for an additional time period after completion of inspection, test, and restorative actions are known as type II materiel. DOD's manual directs that type II items should be tested or examined when they have 6 months shelf life remaining, and if the shelf life is extended, the items should remain in serviceable condition ready-for-issue. If the shelf life cannot be extended, the items may be issued under certain conditions when only 3 months of shelf life remains. Upon expiration of its shelf life, the materiel is transferred to the disposal activity.

Turn of extendable items
to serviceable status delayed

Neither the Air Station nor the Supply Depot has procedures which routinely identify type II shelf-life materiel which reaches its test/inspect date (normally at 6 months of remaining shelf life). As a result, shelf-life materiel usually remains as serviceable until the shelf life expires.

At the Air Station, type II items that have reached or exceeded the test/inspect date were supposed to be identified by warehouse personnel at the time the items were selected for issuance. These items were physically segregated from issuable stock and placed in a holding area awaiting induction by the rework facility which performs the required inspection/test. These assets are then carried in the records as unserviceable. But, they are not automatically inducted to the rework facility for timely reintroduction to ready-for-issue condition.

As of November 1, 1976, the Air Station had \$891,000 of type II shelf-life materiel in unserviceable condition. We selected 14 items valued at \$104,000 for examination. Six had expiration dates marked on the item; five had no expiration date but only the date of manufacture; and three had neither. Using this information, we estimated how long these items had been in unserviceable condition. The time period varied from 8 months to 10 years as follows:

	<u>No. of items</u>	<u>Estimated time in unserviceable condition</u>
	1	8 months
	2	1 year
	4	2 years
	2	3 years
	1	9 years
	1	10 years
Total	<u>11</u>	

The value of these 11 items was \$100,000 or 11 percent of the total unserviceable shelf-life materiel. We believe that had the Air Station followed prescribed procedures, most of the unserviceable materiel could either have been returned to ready-for-issue condition or should have been disposed of if extension was unwarranted.

Although the Supply Depot does not follow the prescribed procedures, its method does provide for the restoration or disposal of type II materiel within a reasonable time after it reaches the test/inspect date. When the shelf life of type II items expires, the materiel is suspended from issue and scheduled for test, inspection, and restorative action. If the local testing facility determines the materiel can be extended, it is restored to serviceable condition, but if the materiel should be condemned, the Supply Depot is advised to dispose of it. If the Supply Depot does not have test/inspect restorative capability, the materiel is carried on the Supply Depot's records as an unserviceable asset pending disposition instructions from the inventory control point.

Ten of the 14 suspended from issue items we examined at the Supply Depot were returned to serviceable condition; three were still suspended from issue; and one had been condemned. Those items that were returned to serviceable condition were suspended from issue an average of 50.2 days. During the period of our examination, the Supply Depot had to deny filling requisitions for only two of these 14 line items.

Items assigned wrong expiration dates

Type II shelf-life items at the Air Station had erroneous expiration dates. This occurred because the shelf-life periods for some of the type II items had been interpreted incorrectly. Warehousemen manually maintain card files on these items as an aid to insure that condition codes were changed when their shelf life expired. Examination of the card files disclosed that incorrect shelf-life expiration dates had been posted to the cards.

For example, one card contained a code "7" which denotes shelf life of 36 months from assembly date. The shelf-life expiration date posted on the warehouse card for this item, however, was 7 years from the assembly date. Therefore, while the warehouse card indicated the shelf life would expire in 1980, it should have already expired since the item was assembled in 1973.

Air Station officials stated they would make every effort to correct the erroneous expiration dates and, until such cor-

rections were made, they would establish controls to assure that all markings were checked and corrected prior to issue of the items.

We returned later to the Air Station to verify that these actions had been taken. Although the inventory cards had been annotated with the number of months represented by the shelf-life code, the expiration dates had not been corrected. For example, one item had onhand inventories received prior to 1977 with various expiration dates of 1981, 1982, and 1983. Since this item only had a shelf life of 48 months, it would be impossible for any of the stock to have an expiration date past 1980. Unless these dates are corrected, these items could remain in storage beyond their actual expiration dates and subsequently be issued when no useful life remained.

UNNECESSARY DUPLICATION OF SHELF-LIFE ITEMS

At the time of our review, the Ship Repair Facility at Subic Bay had accumulated \$227,000 of shelf-life materiel. We found that \$150,000 worth of these same items were also stocked by the Supply Depot and that the shelf life on \$107,200 of this materiel had already expired. Ninety-nine percent of it was type II materiel whose shelf life possibly could have been extended if inspection, test, and restorative action had been taken at the proper time. If this materiel had been returned to the Supply Depot when the Repair Facility realized it wasn't needed and before the shelf life expired, it might have been used to fill the needs of other customers.

The Repair Facility generally orders materiel for specific repair jobs. After the materiel is received, however, the requirement sometimes ceases to exist either because the ship has to leave port before the repair is completed, or the originally-estimated requirement may have been overstated. When this occurs, the materiel is either forwarded to the ship customer, returned to the supply system, disposed of, or retained for possible future use. As a management tool and to avoid requisitioning of materiel onhand, the Repair Facility prepares a biweekly End Use Materiel Listing of retained materiel.

The Repair Facility may have a valid need for retaining specially ordered end-use materiel not stocked by the Supply Depot. However, we do not believe the Repair Facility's retention of the Supply Depot's stocked items, especially shelf-life items, is necessary. We believe that the Repair Facility should return all the materiel on the End Use Materiel Listing that is stocked by the Supply Depot to that depot unless it has a firm requirement supported by either authorized work orders or other authorized stock levels.

We informed Repair Facility officials of our findings. They said they would test expired shelf-life items to identify those that are ready-for-issue and return them to the Supply Depot. They also stated that all nonuseable materiel with expired shelf life would be disposed of properly.

AGENCY COMMENTS

We briefed officials of the Navy Supply Systems Command on our findings, and they agreed that the Navy has not given the shelf-life management program a great deal of attention. According to them, the Navy had been waiting for Defense to publish the Shelf-Life Item Management Manual before taking action to bring its program into compliance with Defense requirements. The rationale for this was that if the Navy would make the previously required changes, these would have to be changed again to comply with the manual when it was issued. They also claimed that a more effective management program for shelf-life items would require additional resources and, since funds were constrained, the shelf-life program had been given a low priority.

These officials also stated that the Supply Systems Command had taken action to bring its procedures into agreement with Defense's manual and that the Fleet Materiel Support Office, which has responsibility for developing Navy systems, had been given the task of developing a computerized system for management and control of shelf-life items. They indicated, however, that because of the low priority given to shelf-life matters, they did not anticipate implementation of a new system for at least 2 years.

We contacted officials at the Fleet Materiel Support Office who informed us that a work project known as serial lot item tracking, which would identify shelf-life items by lot number, was scheduled for design completion in June 1978. They did not know when implementation might take place.

CONCLUSIONS AND RECOMMENDATIONS

The Navy has not taken the action necessary to insure that all of its activities are effectively complying with Defense and Navy instructions for the identification, control, and use of shelf-life items. Because of this, materiel has been retained beyond expiration of its shelf life and has been disposed of, thereby denying its potential use to others. Also, the recommendations of a 1974 Naval Audit Service report concerning deficiencies similar to those discussed in this report have not been effectively implemented by the Air Station.

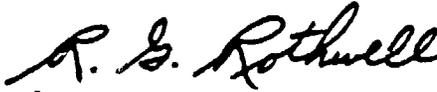
Furthermore, the Navy, which postponed improving its management of shelf-life materiel while it awaited the publication of the Defense manual, now appears to be in a position where it will require at least another year before even the design of an improved system will be forthcoming. This, in our opinion, indicates a lack of any sense of urgency on the Navy's part for improvement of its management of shelf-life materiel. In addition, Defense has no management reporting system or other means to routinely show the extent to which shelf-life materiel is being disposed of because that life is expired in storage. As a result, management is not aware of the extent and value of losses due to expiration of shelf life. Also, Defense has no routine periodic means of ascertaining the extent to which its policies and procedures for the management of shelf-life materiel have been implemented.

Accordingly, we recommend that you establish, as a part of the shelf-life program, a management reporting system or other means to routinely identify the extent to which materiel is being disposed of because of expired shelf life. We also recommend that you determine the extent to which Department of Defense instructions and procedures for the management of shelf-life items have been implemented at the Navy's major stock points and take such action as is necessary. Furthermore, we recommend that the Secretary of the Navy take action necessary to insure implementation of an effective shelf-life program at the activities identified in this report.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report, and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, Senate Committee on Governmental Affairs, House Committee on Government Operations, and House and Senate Committees on Appropriations and Armed Services; and the Secretary of the Navy.

Sincerely yours,


for F. J. Shafer
Director