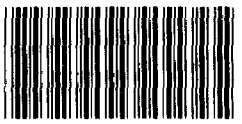
UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

119191

PROCUREMENT, LOGISTICS, AND READINESS DIVISION



119191

B-205309

AUGUST 13, 1982

The Honorable Verne Orr
The Secretary of the Air Force

Dear Mr. Secretary:

Subject: Excessive Administrative Leadtime Used to Determine Requirements in the Air Force's System Support Stock Fund (GAO/PLRD-82-110)

We have reviewed the administrative leadtime for items in the automated System Support Stock Fund (DO 62 system) at the Ogden Air Logistics Center, Hill AFB, Utah. We found that inaccurate administrative leadtimes were being used in determining inventory needs. These inaccuracies could result in unnecessary procurements of up to $6.3 million to accommodate the excessive leadtime.

Administrative leadtime is the time between a buy notice and the purchase order date or contract award date. The leadtime in the DO 62 system, in most cases, is based upon the last buy of the item and will generally influence only the next purchase. Since leadtime is one of the factors used to determine order quantities, reasonable and accurate leadtimes maximize efficient use of stock fund resources by limiting inventory investment to the level needed to support mission requirements.

At the time of our review, Ogden was managing over 93,000 stock fund items, valued at over $431 million. Of these, 5,411 items, valued at $136.6 million, had administrative leadtimes exceeding 120 days. Ogden is one of five air logistics centers operating within the Air Force Logistics Command (AFLC). If the conditions found at Ogden are also occurring at the other four centers, the Air Force may be incurring millions of additional dollars in unnecessary costs.

BACKGROUND

AFLC is responsible for technical and logistics support of Air Force weapons systems. It carries out its responsibilities at headquarters located at Wright-Patterson AFB, Ohio, and at five air logistics centers. At each center, items are assigned to an item manager who determines worldwide requirements, quantities to be acquired, and where and how many items should be stocked.

023085

To maintain low inventory investment and still provide expendable supplies to users, the Air Force periodically computes its requirement objectives, which represent the quantities to meet needs for a future time period. This procedure determines the quantity of spare parts to be bought, retained, canceled from procurement, transferred to other agencies, or otherwise disposed of. Having enough spare parts and supplies is essential for keeping Air Force weapon systems operational. If too few parts are bought, operational readiness may be impaired. If too many are acquired, inventory investment may become excessive. In either case, resources are not optimally utilized.

The Air Force established administrative leadtime standards in AFLC Regulation 70-11, appendix 2, and AFLC Regulation 57-6. The standards provide a varying number of days for procurement processing based on the type and value of the procurement. Leadtime standards for the procurement categories we reviewed were as follows:

Type of procurement	No. of days
Advertised	121
Small purchase	81
Negotiated (under $100,000)	131
Negotiated ($100,000 to $6,000,000)	196
Delivery order of prepriced call	56

We discussed these standards with officials at Ogden and AFLC headquarters, and they advised us that the standards are current and reasonable. AFLC headquarters officials also advised us that these standards are used by headquarters personnel to evaluate the air logistics centers' procurement activities. We accepted these standards as established and did not assess their validity.

OBJECTIVE, SCOPE, AND METHODOLOGY

Our objective was to assess the validity and reasonableness of the administrative leadtime used in the stock fund requirements process at Ogden. Our review was based on a statistical sample of active items that had an administrative leadtime over 120 days, as of February 23, 1981.

Our sample was selected in the following strata:

Administrative leadtime	Sample size	Universe
121-150 days	25	2,735
151-180 days	14	1,030
181-210 days	19	640
211-240 days	9	314
241-270 days	22	449
271-300 days	6	108
301-330 days	5	52
331-360 days	3	66
Over 360 days	17	17
Total	120	5,411

We compared the administrative leadtime in the computerized stock fund system with either the Air Force standard or the actual leadtime for the latest procurement (excluding urgent or emergency buys), whichever was less. If the leadtimes included in the system and used in the requirements computation appeared excessive, we determined the impact on future procurements by multiplying the excess leadtime by the daily demand rate and the unit cost for the item. In some instances, future procurements were not affected because the demand rate was low. To determine the primary reasons for excess leadtime, we talked with cognizant Ogden officials. Where leadtime appeared to be understated, we used the same methodology to calculate inventory shortages.

The results of our review are discussed in the following sections and a summary of projected overstated requirements is contained in the appendix.

ADMINISTRATIVE LEADTIMES WERE IMPROPER FOR MANY INVENTORY ITEMS

Our review disclosed problems affecting requirements computations in 66 of the 120 cases (55 percent). Unless corrective actions are taken, additional procurements totaling about $1.4

million could be needed because Ogden computed its requirements using the long leadtime. Also, Ogden could have item shortages totaling about $11,000 due to understated leadtimes. There were 10 other cases in which the leadtimes exceeded the established standards, but these appeared justified and will likely continue for future procurements.

The Air Force regulation which addresses leadtime determination recognizes the degree of management attention required for the items, based on the projected annual dollar demand rate. As an example, for items with relatively low demand, a subsystem to the DO 62 system periodically provides the leadtime data experienced for the latest routine purchase action. This data replaces the previous leadtime data. However, item managers can manually override the subsystem input.

For items requiring a greater degree of management attention, managers are to determine the leadtime based on the latest routine buy notice, which is manually input into the system. We found that the item managers had not kept the system up to date and that administrative leadtimes were not based on the latest routine buy. Problems associated with leadtimes occurred because of

--abnormal or unanticipated delays in awarding contracts,

--erroneous data used in computing leadtime requirements,

--inappropriate standards used in computing requirements, and

--delays in funding procurements.

Abnormal or unanticipated delays in awarding contracts

Item managers, with few exceptions, used the total time elapsed between the date of the buy notice and the date of the contract award to establish the administrative leadtime. This practice is appropriate when actual leadtime falls within established standards or approximate historical patterns. However, if unexpected occurrences (loss of a supplier, difficulties in obtaining a price quote, and extensive negotiations) cause exceptionally long leadtimes, unnecessary procurements can occur when such leadtimes are used to compute future requirements.

In 33 of the 120 cases reviewed (28 percent), Ogden personnel determined administrative leadtimes based on abnormal or unanticipated delays. As a result, requirements were overstated by about $810,000. Projecting the results of our sample items, we estimate that Ogden could invest about $2.6 million to satisfy requirements computed using the unnecessary long leadtimes.

Use of long administrative leadtimes caused by abnormal or unanticipated delays is illustrated by the following contract award.

Ogden purchased a radiator (National Stock Number (NSN) 1650-00-438-4452). The original supplier had gone out of business. After a new source was identified, the firm said it could supply an acceptable product but only after extensive engineering changes. These factors contributed to an administrative leadtime of 461 days, which the item manager had put into the system. Historical leadtimes for the item ranged from 90 to 180 days. Standard leadtime was 196 days. Since a new source has now been approved, we believe it unreasonable to use 461 days as a basis for future requirements computations. In our opinion, the 196-day standard would be more appropriate. By using 461 days instead of the standard, the computation shows a need to purchase 38 more items than needed, costing $160,246.

Erroneous data used in computing leadtime requirements

In 19 of the 120 cases reviewed (16 percent), item managers had not updated the files to reflect the routine buy and had either overstated or understated the inventory needs. In 16 cases, administrative leadtimes were overstated, resulting in excessive inventory requirements of about $292,000. Based on the findings of our sample, we estimate Ogden's inventory requirements could be overstated by $2.4 million on 849 of the 5,411 items in our sample universe because erroneous data were used to compute leadtimes. In three cases, Ogden understated its inventory requirements by understating its leadtimes. This could result in shortages of inventory items amounting to about $11,000.

Use of inaccurate leadtime data is illustrated by the following examples:

Case files showed an administrative leadtime of 328 days for an amplifier (NSN 1430-00-783-9246). Actual leadtime for the latest routine procurement was only 185 days. According to the item manager, the 328-day leadtime was based on the contract prior to the one in our sample. The system had not been updated to reflect the most recent buy. Use of the 328-day leadtime overstated the requirement by 82 items, which will cost $98,236.

The system showed a leadtime of 195 days for an initiator cartridge (NSN 1377-01-017-0601), but the actual leadtime for the last purchase was only 131 days. The item manager had not updated the system to reflect the last buy data and could not explain the

basis of the 195-day leadtime. An additional 452 items costing a total of $27,120 will be needed to accommodate the excessive leadtime.

Inappropriate standards used in computing leadtime requirements

For 13 of the 120 cases reviewed (11 percent), Ogden personnel used leadtimes higher than actual and higher than the Air Force's standard. In each case, the actual leadtime or the Air Force's standard was less than the leadtime used by Ogden. As a result, Ogden will need to invest about $291,000 in unnecessary procurements to satisfy the computed requirements. Projecting the results of our sample items, we estimate that Ogden could invest about $1.2 million for 375 of the 5,411 items in our sample universe because inappropriate leadtimes were used to compute the requirements.

Inappropriate leadtimes were used when purchases were made using a basic ordering agreement (BOA) or a requirements contract. Examples of administrative leadtimes computed under these conditions follow.

Basic ordering agreement

This agreement sets forth the terms which shall be applicable to future procurement requirements. Contract prices are negotiated each time a purchase is made under a BOA. Ogden officials consider a standard leadtime of 150 days as necessary to negotiate a BOA, and have input this standard into the system. Our review disclosed that the time required to place orders under a BOA is usually less than the 150-day standard. For example, in one case the actual leadtime was only 68 days, and in another, 116 days. In both cases, the item manager used the 150-day standard rather than the actual leadtime. As a result, future requirements are overstated by $3,271 and $5,152, respectively. Item managers recognize that most purchases under a BOA can be made in less than 150 days and that the standard distorts requirements computations. Nevertheless, they continue to use the 150-day standard despite the fact that actual administrative leadtimes under existing BOAs are less than the standard.

Requirements contract

A requirements contract provides for filling all procurement requirements during a specified contract period. Prices are prenegotiated, and delivery orders are issued for specific requirements during the term of the contract. Our sample of inventory items included nine delivery orders under requirements contracts.

Air Force regulations show a 56-day leadtime standard for delivery orders under a requirements contract, but Ogden had informally established a 61-day standard. Item managers were required to manually compute requirements using the 61-day standard, regardless of what the actual leadtime was.

For the nine delivery orders, we computed the excess leadtime as the difference between the 61-day and the 56-day standards, or the actual leadtime of the last routine procurement, whichever was less. Although the difference between the 61-day and 56-day standards is not necessarily significant, Ogden's failure to use the automated system for delivery orders to record either a standard or actual leadtime and to determine requirements, in our opinion, is not justified.

An example of the use of long leadtime was the computed requirements for a rotating disc (1630-01-035-6311) in February 1981. Actual leadtime for the last procurement of the item was 54 days. However, the item manager computed requirements based on a 61-day leadtime. Thus, for the next procurement, the leadtime will be excessive by 7 days, resulting in a requirement for 118 additional items valued at $7,158.

When we initially discussed the 61-day standard with Ogden officials, they were unable to provide a basis for it having been set. They researched it, and later advised that the standard was set at a time when the DO 62 computation was run on a semimonthly basis. Since then, they changed the computation cycle to weekly. The additional time in the standard was to compensate for the additional week's lag time. They stated that when the computation cycle was changed, they failed to reduce the standard. They also stated that they have now taken action to eliminate it and will use the 56-day standard.

Delays in funding procurements

Ogden commits funds for stock fund procurements by preparing administrative commitment documents after a firm offer is received from a supplier and the price is known. An obligation is incurred when the contract or purchase order is issued. However, before funds can be committed, the Air Force must make the funds available to Ogden. One item in our sample had a long leadtime caused by a lack of funds.

One item in our sample--NSN 1680-00-425-7534, slat control unit--had an actual leadtime of 208 days for its last procurement. Included in that leadtime was 93 days when sufficient funds were not available to release the order for the items. Had the funds been available on a timely basis, the actual leadtime would have been only 115 days. Because the standard leadtime is 131 days, the 115 days would have been the proper amount of leadtime for

Ogden's computations. However, Ogden used the full 208 days, or 77 days more than the standard. As a result, Ogden overstated its requirements for the item by 18, costing $21,600. Based on the findings in our sample, we estimate that Ogden's requirement will be overstated by about $94,000 for four inventory items in our sample universe because funds were not available.

Although we found only one item in our sample with a long leadtime caused by lack of funds, which would result in overstated requirements, we were told that shortages of funds cause delays in approval of some administrative commitment documents in most years. In our opinion, it is not appropriate to use long administrative leadtimes caused by lack of funding for a single occurrence on individual items.

CONCLUSIONS

This review effort was directed toward assessing the reasonableness of administrative leadtime used in the requirements computation for items managed within the DO 62 system. In a recent report 1/ we addressed the computation for items in the DO 41 system. During that review we also found that inaccurate and out-of-date information contributed to erroneous requirements and unnecessary procurement actions. Thus, the Air Force has problems with both systems. In our opinion, both reviews demonstrate the need for more accurate and complete data for the requirements determination process.

Concerning this review, which addresses the DO 62 system, Ogden needs to revise its practices of computing administrative leadtime to comply with Air Force regulations. Except for unusual circumstances, Air Force regulations require air logistics centers to use the standard or actual administrative leadtime, whichever is less. We estimate that for 2,574 of 5,411 cases, Ogden used administrative leadtimes which were not standard or actual. Procurements based on these computations will, for the most part, be excessive and resources will not be optimally utilized.

We believe that AFLC should use accurate administrative leadtimes at Ogden and make certain that inventory investment is limited to the level needed to support mission requirements. We believe also that the Air Force should determine whether inaccurate administrative leadtimes are being used at the other four air logistics centers and, if so, take corrective action.

1/"More Credibility Needed in Air Force Requirements Determination Process" (PLRD-82-22, Jan. 7, 1982).

RECOMMENDATIONS

We recommend that you direct the Commander of the Air Force Logistics Command to implement improved procedures and controls to ensure that appropriate administrative leadtimes are maintained in the automated System Support Stock Fund at all air logistics centers. Such procedures and controls should:

--Periodically compare Air Force standard administrative leadtimes with stock fund system leadtime so that item managers can evaluate the propriety of the leadtimes.

--Adopt forecasting techniques which realistically reflect the leadtime required, considering both the Air Force standard and the actual leadtime experienced for the latest routine procurement. This applies to all stock fund procurements, including those under BOAs and requirements contracts.

AGENCY COMMENTS

We discussed a draft of this report with Air Force officials and they generally agreed with our conclusions and recommendations. They pointed out some areas in which they believed clarification was needed and, where appropriate, the report was changed. They also advised us of actions taken, or planned, to correct the problems cited in the report.

They stated that the Air Force plans to advise AFLC of the findings in our report. In turn, AFLC will direct the air logistics centers to correct the problems cited in our report. They also noted that the Command has issued a data automation request, which will require that item managers be notified (by DO 62 output) when administrative leadtime is changed and varies by plus or minus 25 percent from the previous leadtime. Item managers will be required to research such situations and determine if the change is realistic. If unrealistic, the leadtime will be revised manually.

- - - -

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 Senate and House Committees on Appropriations and on Armed Services; and the Secretary of Defense.

Sincerely yours,

Donald J. Horan

Donald J. Horan
Director

Enclosure

ENCLOSURE

SAMPLE OF DO 62 INVENTORY ITEMS CONCERNING EXCESSIVE ADMINISTRATIVE LEADTIME

Reasons for overstated requirements in projected procurements	Sample		Projected to universe		Estimated range of universe at the 95 percent confidence level (note a)			
					Cases		Overstated requirements	
	Cases	Overstated requirements	Cases	Overstated requirements	Low	High	Low	High
Abnormal or unanticipated delays	33	$809,874	1,364	$2,598,806	566	2,162	$976,289	$4,221,323
Erroneous data	19	280,985	849	2,390,469	192	1,506	926,221	3,854,717
Misapplied standard	13	290,682	375	1,197,705	-144	894	-319,952	2,715,362
Funding delays	1	21,600	4	93,600	-3	11	-67,301	254,501
Adjustment due to rounding projections	-	-	-18	-	-	-	-	-
Total for net overstated requirements	66	$1,403,141	2,574	$6,280,580	1,634	3,514	$3,748,284	$8,812,876
Requirements not questioned	54	-	2,837	-				
Total for sample	120	$1,403,141	5,411	$6,280,580				

a/Figures in these columns are not additive according to generally accepted statistical sampling procedures.

ENCLOSURE