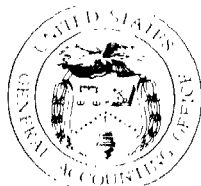


Report to the Chairman, Subcommittee
on Defense, Committee on
Appropriations, House of
Representatives

August 1990

AIR FORCE
LOGISTICS

Increased Costs for
Spare Parts Safety
Levels Are Not
Justified



142062

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National Security and
International Affairs Division

B-240044

August 23, 1990

The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

As requested, we examined the Air Force's justification for and implementation of a new model for computing safety level requirements for aircraft spare parts. The new model, the aircraft availability model, is intended to better relate requirements for safety levels to readiness than the prior model, the variable safety level model. Safety levels are quantities of stocks in addition to normal operating requirements. They provide protection against shortages in the event that demands or resupply time are greater than predicted. Safety level stocks comprise a sizeable portion (\$5 billion) of the Air Force's total peacetime requirements for aircraft spare parts.

Results in Brief

The Air Force needs to (1) reassess the costs resulting from the use of the aircraft availability model and (2) establish safety level requirements based on operational needs. When the Air Force implemented the aircraft availability model in June 1988, it set aircraft availability goals at the highest predicted levels that could be achieved without exceeding costs under the prior model. However, a largely unexplained increase of about \$482 million in safety level requirements occurred after the aircraft availability model was implemented. Such an increase in requirements would generally result in future procurements of parts and increased repair requirements. Although Department of Defense (DOD) officials believe some of this increase in requirements was met by extra stock, the Air Force was not able to document the extent that such stock fulfilled the new requirements.

The Air Force's higher availability goals were not justified by needed increases in mission capable rates, the major measure of operational capabilities. Because the Air Force has reached desired levels of mission capability, we believe that substantial savings are available if requirements are based on operational needs. Air Force computations show that safety level requirements in fiscal year 1991 can be reduced by about \$590 million if the model is reprogrammed with the average aircraft availability goal achieved under the prior model rather than the

higher average aircraft availability goal chosen under the new model. Such a reduction in requirements would reduce budgeted procurement and repair costs by about \$170 million.

In addition, the Air Force needs to ensure that unneeded procurements to fill requirements under the prior model are canceled. When the new model was implemented, the Air Logistics Centers continued to purchase spare parts using March 1988 computations under the prior model. After the Air Force found that an estimated \$747 million in parts were on order that were not required, the Logistics Centers were directed to take actions to avoid unneeded procurements. Reports from the Logistics Centers indicated that needed cancellation actions were not taken. In response to a draft of this report, DOD commented that the Logistics Centers, using revised procedures and stricter controls, subsequently terminated unneeded buys that resulted from safety level changes or for other reasons.

Background

After several years of study, the Air Force Logistics Command implemented the aircraft availability model in June 1988. The Air Force believed the model would better relate requirements to aircraft readiness than the prior model. The Logistics Command also asserted that implementing the model would improve the average aircraft availability rate from 66 percent under the prior model to 85 percent, with little or no increase in safety level costs. One study predicted no increase in procurement costs and did not address changes in total requirements, whereas a subsequent study used revised factors to predict a decrease in expenditures and about a \$70 million increase in requirements in the budget year.

The Air Force expected the new model to select a better mix of spare parts by identifying those parts that are most essential in keeping aircraft operational. The model was designed to weigh the impact of each part on operational needs. The prior model (1) concentrated on component parts and the number of times they failed and needed to be replaced and (2) generally resulted in more requirements for lower cost, high-demand items. The aircraft availability model (1) focuses on availability of the entire aircraft and (2) could result in more requirements for larger, higher cost end items.

Costs Under Model Exceeded Predictions

The Logistics Command's prediction that the new model could achieve higher aircraft availability rates at little or no increased costs does not appear to be valid. After the new model was implemented, safety level requirements increased by about \$482 million. This increase occurred from March 1988 to March 1989 when the Air Force's future projected parts usage decreased by \$4 billion, which should have decreased safety level requirements and procurement and repair expenditures.

The Air Force had not analyzed the causes for this increase in requirements or the increase in procurement and repair cost that would result. Air Force officials cited factors other than the model that could have contributed to increased safety level requirements. DOD agreed that safety level requirements increased by \$482 million 1 year after the aircraft availability model was implemented and stated that Air Force data showed that \$391 million of this increase was due to using the new model. DOD said they believed that some of the increased requirements would be met with extra stock. However, the Air Force has not determined the amount of the increased requirements that would be met through the use of extra parts rather than procurements. Furthermore, even if extra parts were available, many would be unserviceable (i.e., requiring repair). If all the increased requirements were met through repair of extra stock, the additional one-time repair costs would be about \$72 million, based on a standard repair cost at 15 percent of purchase cost.

Costs Reduced If Availability Is Based on Operational Needs

The Air Force's stated purpose in developing the aircraft availability model was to better relate logistics support to operational needs. However, in implementing the model, the Logistics Command appeared to have moved away from the model's purpose. The command chose a higher level of aircraft availability based on prior costs rather than operational needs as reflected by mission capable rates, the primary measure to determine readiness. The mission capable rate is that portion of total time that the aircraft can perform its mission.

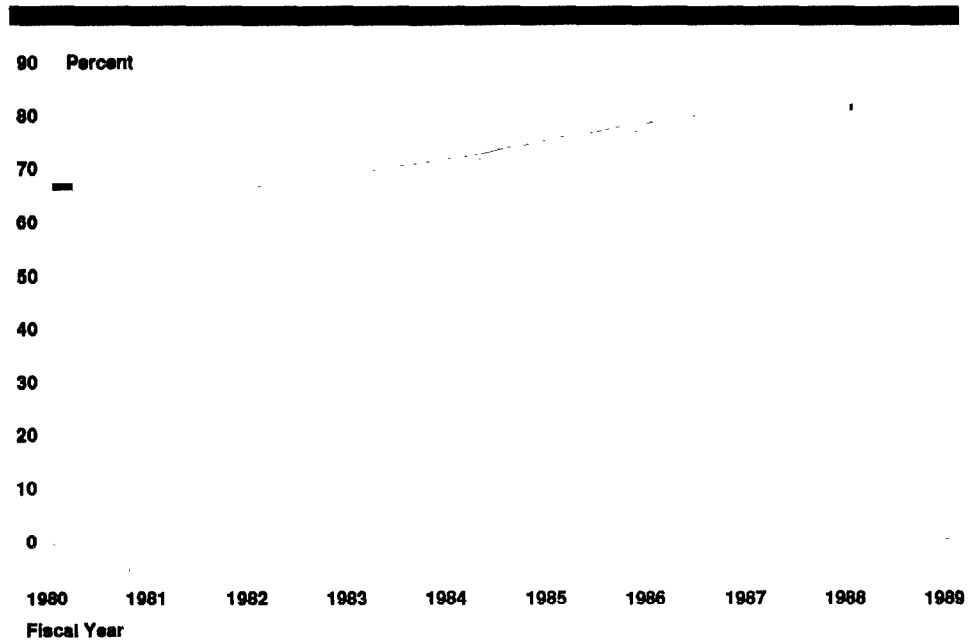
The new model provides the Air Force with the flexibility to adjust aircraft availability goals, which drive the quantities of spare parts required by 1-percent increments, from 0 to 100 percent. However, rather than setting the goals at the level needed to support operational needs at the least cost, the Air Force Logistics Command set the goals based on prior spending. The goals were set at the maximum level that could be achieved when spending the same amount that was spent using the prior model. The Air Force determined that aircraft availability

model costs equaled prior model costs when the targets were set to achieve an average aircraft availability of 85 percent, or about a 30-percent increase over the average aircraft availability of 66 percent calculated under the prior model.

The aircraft availability rates used in the model are theoretical numbers that the Air Force cannot and does not plan to measure. The rate for any specific type of aircraft is essentially the percent of aircraft not missing designated parts. The calculated rate cannot be directly translated into a mission capable rate and does not account for activities such as lateral support and maintenance actions that the Air Force normally uses to meet operational needs. However, increases in aircraft availability rates should produce increases in mission capable rates.

The Air Force has reported satisfaction with its ability to perform needed missions and has neither requested nor justified an increase in mission capable rates. A senior Air Force official testified in May 1989 before the Subcommittee on Defense, House Committee on Appropriations, that aircraft operational readiness had improved significantly since 1980 (see fig. 1) and that aircraft mission capable rates looked exceptionally good.

Figure 1: Mission Capable Rates



Because the mission capable rates of the late 1980s were achieved when safety level requirements were equivalent to an aircraft availability rate of 66 percent, this lower rate apparently met the Air Force's operational needs. We recognize that either increases or decreases to the availability rates for specific aircraft could be needed to satisfy mission capability requirements at the least possible cost. However, if the aircraft availability model is reprogrammed using the rate of 66 percent rather than the rate of 85 percent, we estimate that fiscal year 1991 safety level requirements can be reduced by about \$590 million. Such a reduction could reduce fiscal year 1991 budgeted procurement and repair costs by an estimated \$95 million and \$75 million, respectively. These estimates are based on the Air Force's latest procurement and repair cost ratios for meeting safety level requirements.

Unneeded Parts Purchased Using Prior Model

Several months after the new model was implemented, the Logistics Command directed the Air Logistics Centers to evaluate the impact of the model on its parts purchases. The Logistics Command instructed the Logistics Centers to implement the model in June 1988, even though they had made buy decisions for fiscal year 1989 based on requirement computations in March 1988 under the prior model.

In December 1988 the Logistics Centers notified the Logistics Command that an estimated \$115 million of planned buys and \$632 million of recent buys (a total of \$747 million) were not needed. The unneeded buys were due to changes in requirements caused by the new model and other changes such as decreased demand. The Logistics Centers' estimates were based on data generated by the automated requirement computation system and were not manually validated. Although the Logistics Command instructed the Logistics Centers to avoid and cancel unnecessary purchases, the Air Force was unable to determine whether the unneeded buys were avoided and/or canceled. In response to a Logistics Command request in December 1988, none of the Logistics Centers indicated that they had canceled unneeded buys, and two indicated that they planned to continue using the March 1988 computation for purchasing parts. The Logistics Centers stated that the purchases were too far advanced for changes of such magnitude and that such changes would imperil the Air Force's goal of obligating 100 percent of the available funds in fiscal year 1989.

DOD advised us that although no termination actions were taken in response to changes that were identified by the June 1988 quarterly

computation, the Logistics Centers did terminate excess buys during subsequent quarters.

Conclusions and Recommendation

We concur with the Air Force's intent in implementing the aircraft availability model to control spare parts costs by better relating requirements to readiness. However, we believe subsequent actions—setting goals based on prior cost rather than operational needs; accepting large, unexplained requirement increases without investigation; and continuing unjustified procurements to achieve obligation goals—are inconsistent with an objective of controlling costs. We believe the Air Force can avoid millions of dollars in potentially unjustified procurements and repairs through timely actions to lower target availability rates and adjust requirements.

We recommend that the Secretary of the Air Force direct the Commander, Air Force Logistics Command, to reevaluate the cost and benefits of using the aircraft availability model to compute safety level requirements. The reevaluation should be completed promptly to preclude procurement and repair of potentially unjustified safety levels and should include (1) an investigation and resolution of the increase in safety level requirements associated with implementing the aircraft availability model and (2) a determination of the availability rate for each aircraft that will provide minimum safety levels to achieve acceptable mission capability in the most cost-effective manner.

Agency Comments and Our Evaluation

In its comments on our report, DOD said it did not concur with most of the findings and recommendations. DOD said that it disagreed with our report primarily because we equate safety level costs to gross safety level requirements, whereas DOD (1) equates safety level costs to what must be spent to buy or repair stock to fill those requirements and (2) indicates that increases in safety level requirements may not affect expenditures. Our report discusses increased safety level requirements and recognizes such an increase, except in unusual cases, will result in costs to buy or repair parts.

Our analysis of DOD's detailed comments shows a high degree of acceptance of our major findings and/or the initiation of DOD actions that are responsive to our recommendation. For example, DOD

- agreed that safety level requirements increased by \$482 million 1 year after the new model was implemented;

-
- acknowledged that the Air Force chose to improve availability, rather than meet operational needs at minimum cost, when it initially implemented the aircraft availability model;
 - recognized that future safety level procurement and repair costs could be substantially reduced if availability goals were reset at the prior average level; and
 - advised us that the Air Force is expected to complete an analysis by August 1990 that will better relate aircraft availability goals to operational needs and will include a standard method to update the goals for future computations.

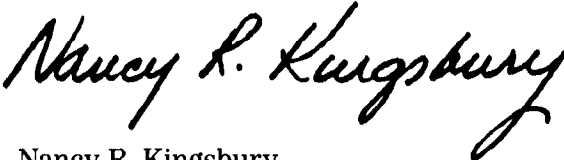
In our draft report, we recommended that the Air Force Logistics Command direct termination reviews of procurements of safety level stock that were determined to be excess to requirements after implementation of the aircraft availability model. In its comments, DOD assured us that this had been done. We had also recommended that when the model is rerun using lower availability goals, the Logistics Command should ensure that timely termination reviews are made of affected procurements. DOD commented that the Air Force had recently implemented stricter controls, including quarterly reviews, to ensure timely terminations of on-order excesses. According to DOD, changes in requirements due to changes in aircraft availability goals will be reviewed as part of the Air Force's mandatory quarterly reviews. On the basis of DOD's comments, we have deleted the two recommendations concerning termination reviews.

Our objectives, scope, and methodology are discussed in appendix I. DOD's comments appear in appendix II.

We are sending copies of this report to the Chairman, Subcommittee on Defense, Senate Committee on Appropriations; the Chairmen, House and Senate Committees on Armed Services; the Secretaries of Defense and the Air Force; the Director, Office of Management and Budget; and other interested parties.

Please contact me at (202) 275-4268 if you or your staff have any questions concerning this report. Major contributors to this report are listed in appendix III.

Sincerely yours,

A handwritten signature in black ink that reads "Nancy R. Kingsbury". The signature is written in a cursive style with a large, prominent 'N' and 'K'.

Nancy R. Kingsbury
Director
Air Force Issues

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Figure 1: Mission Capable Rates

Abbreviation

DOD Department of Defense

Objectives, Scope, and Methodology

The Chairman, Subcommittee on Defense, House Committee on Appropriations, requested that we evaluate the Air Force's justification for and implementation of the aircraft availability model. We focused our work on the effect that the aircraft availability model has had on safety level spare parts requirements and costs and the predicted benefits of the model.

We reviewed the analysis made by the Air Force Logistics Command that was used to justify implementing the aircraft availability model, but we did not independently assess the model's logic or test its computational accuracy. We examined studies made by the Air Logistics Centers to assess the impact of the model on aircraft spares budget and buy decisions for fiscal years 1989, 1990, and 1991. We compared aircraft safety level requirements and related procurement and repair costs computed as of March 31, 1988, under the previous model with those computed as of March 31, 1989, under the aircraft availability model. We also analyzed statements provided to Air Force Logistics Command by the Logistics Centers on the impact of the model on safety level procurement and repair requirements. These statements identified the magnitude of the changes in the types of spare parts required using the aircraft availability model.

We obtained information from Air Force records on aircraft mission capable rates, which are used to measure aircraft readiness, and analyzed the relationship of these rates to the aircraft availability rates of the model. We also compared the aircraft availability target of the new model to the aircraft availability target of the prior model. We reviewed data to determine whether the mission capable readiness rates achieved using the prior model were adequate or whether a need exists to increase mission capability through additional safety level spare parts.

In addition, we assessed the opportunity for the Air Force to reduce spare parts costs by decreasing the aircraft availability target of the new model and the impact that such a reduction would have on mission capability. We obtained Air Force Logistics Command data that show changes in safety level requirements based on changes in aircraft availability rates.

We discussed our work with officials at Air Force Headquarters, Washington, D.C.; the Air Force Logistics Command, Wright-Patterson Air Force Base, Ohio; and the Oklahoma City Air Logistics Center,

**Appendix I
Objectives, Scope, and Methodology**

Oklahoma. We performed our work between February 1989 and February 1990 in accordance with generally accepted government auditing standards.

Comments From the Assistant Secretary of Defense for Production and Logistics

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



PRODUCTION AND
LOGISTICS
(L/SD)

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-8000

June 19, 1990

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "AIR FORCE LOGISTICS: Increased Costs For Spare Parts Safety Levels Not Justified," dated April 16, 1990 (GAO Code 393450, OSD Case 8282). The Department nonconcurs with the principal findings and both of the recommendations contained in the draft report.

Fundamental to the DoD disagreement is the use of the term "safety level costs." The GAO equates safety level costs to gross safety level requirements; the DoD equates safety level costs to what it must spend to buy or repair stock to fill those requirements. For that reason, safety level costs did not substantially exceed predictions. The Air Force use of the model to improve aircraft availability, rather than reduce costs, was reasonable during its initial implementation. The Air Force is currently aggressively terminating unneeded buys. Terminations of total potential on-order excess have increased from 8 percent in 1986 to 19 percent in 1989. Even stricter controls have recently been implemented, and potential terminations are now reviewed on a quarterly basis.

The detailed DoD comments on the report findings and recommendations are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

David J. Berteau
Principal Deputy

Enclosure

Discussed on p. 6.

Appendix II
Comments From the Assistant Secretary of
Defense for Production and Logistics

GAO DRAFT REPORT - DATED APRIL 16, 1990
GAO CODE 392450 - OSD CASE 8282

"AIR FORCE LOGISTICS: INCREASED COSTS FOR SPARE PARTS SAFETY LEVELS
NOT JUSTIFIED"

DEPARTMENT OF DEFENSE COMMENTS

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FINDINGS

- **FINDING A: Background: The Aircraft Availability Model.** The GAO reported that, in June 1988, after several years of study, the Air Force Logistics Command implemented the aircraft availability model to better relate requirements to aircraft readiness. The GAO noted the Command also maintained that the model would improve, with little or no increase in safety level costs, the average aircraft availability rate from the 66 percent under the prior model, to 85 percent. The GAO also reported that one study predicted no increase in requirements, while a subsequent study, using revised factors, predicted about a \$70 million increase.

According to the GAO, the Air Force expected the new model to provide a capability to select a better mix of spare parts by identifying those parts that are most essential to keeping aircraft operational. The GAO pointed out that the model was designed to weight the impact of each part on operational needs. The GAO explained that the prior model concentrated on (1) individual parts and the number of times they failed and needed to be replaced and (2) generally resulted in more requirements for low cost, high demand items. The GAO observed, however, that the aircraft availability model focuses on availability of the entire aircraft, which could result in more requirements for larger, higher cost end items where failure may be more likely to make aircraft non-operational. (pp. 2-3/GAO Draft Report)

DOD RESPONSE: Partially Concur. The DoD does not agree with the GAO interpretation of safety level costs. The GAO equates safety level costs to gross safety level requirements; the DoD equates safety level costs to what it must spend to buy or repair stock to fill those requirements. The Aircraft Availability Model does not minimize gross safety level requirements; rather, it

ENCLOSURE

Now on p. 2.

Discussed on p. 6.

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Comments From the Assistant Secretary of
Defense for Production and Logistics

Discussed on pp. 3, 6.

See comment 1.

minimizes expenditures to achieve availability goals. To accomplish that objective, the model increases the safety level requirements for some items with extra stock to avoid buying or repairing others to fill deficits. The model increases the DoD return on investment and reduces expenditures by taking advantage of sunk costs in existing inventory. The DoD disagrees that the value of gross safety level requirements is relevant when it does not affect expenditures.

The DoD also disagrees with the GAO description of what the Air Force studies predicted. The first Air Force study predicted expenditures would not increase; it did not address gross safety level requirements. The second study predicted a \$70 million increase in gross safety level requirements in the budget year, but a decrease in expenditures. It should be noted that the second Air Force study examined only the budget year impact of changing models; it did not examine the current year impact, and it was limited only to the Air Force top weapon system programs. Had the study evaluated the current year impact of changing models for all weapons, it would have predicted that the model would increase gross safety level requirements by \$391 million.

• **FINDING B: Costs Under The New Model Substantially Exceeded Predictions.** The GAO found that, after implementing the new model, safety level requirements increased by about \$482 million. The GAO observed that the increase occurred during the March 1988 to March 1989 period, when future projected parts usage decreased by \$4 billion--a change that should have decreased safety level requirements. The GAO reported that the Air Force has not analyzed the causes for the increase in requirements. The GAO reported that, according to Air Force officials, factors other than the model could have contributed to the increased safety requirements. The GAO observed, however, that the Air Force did not provide supporting data for that position. The GAO also reported that, while Air Force officials agreed the model could increase safety level requirements, they also believed many of the requirements will be met by repair of on-hand parts, rather than purchase. The GAO concluded that, even if all the increased requirements could be met through repair, the additional one time repair costs would be about \$72 million--based on a standard repair cost at 15 percent of purchase cost.

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Comments From the Assistant Secretary of
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The GAO acknowledged that the new model provides the Air Force with the flexibility to adjust aircraft availability goals--which drive the quantities of spare parts required--by one percent increments. The GAO found, however, that rather than setting the goals at the level needed to support operational needs at the least cost, the Command set the goals based on prior spending. The GAO noted that based on the model's predictions, the goals were set at the maximum level that could be achieved when spending the same amount as spent using the prior model. According to the GAO, the Air Force determined that aircraft availability model costs equalled prior model costs when targets were set to achieve an average availability of 85 percent--an increase of about 30 percent over the 66 percent average availability calculated under the prior model. The GAO concluded that setting goals based on prior cost, rather than operational needs, is inconsistent with an objective of controlling costs. The GAO further concluded that the Command's prediction that the new model could achieve higher aircraft availability rates at little or no increased costs does not appear to be valid. (p. 1, pp. 3-4, p. 8/GAO Draft Report)

Now on pp. 1, 3-4, 6.

Discussed on p. 6.

DOD RESPONSE: Nonconcur. As discussed in the DoD response to Finding A, the DoD disagrees with both the GAO definition of safety level costs and the GAO description of what the Air Force studies predicted. The costs of increasing safety level requirements did not change appreciably from what they would have been under the previous model, as the Air Force expected. From a business perspective, it is inappropriate to focus on the size of safety level requirements when they bear no relation to expenditures.

See comment 2.

As discussed in the DoD response to Finding A, Air Force data indicates that about \$391 million of the \$482 million increase in gross safety level requirements is attributable to use of the new model. The other \$91 million is attributable to changes in other factors, such as increases in order and ship times.

See comment 2.

The GAO estimate of how much of the change in gross safety level requirements is attributable to the change of models is speculative. The GAO estimate of the gross safety level requirements increase was based upon a comparison of the models using dissimilar inputs, i.e., March 1988 data input into the prior model and March 1989 data into the new model. In

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contrast, the Air Force estimate of a \$391 million increase is based upon a comparison using data from the same period. Constraining the new model based on prior costs was reasonable for the initial use of the model, for reasons discussed in the DoD response to the Finding C.

FINDING C: Costs Reduced If Availability Based On Operational Needs. According to the GAO, the stated purpose in developing the aircraft availability model was to better relate logistics support to operational need. The GAO observed, however, that the Command appeared to move away from that objective in implementing the model, since higher availability was based on prior costs rather than operational needs, as reflected by mission capability rates. The GAO explained that aircraft availability rates used in the model are theoretical numbers that are not measured. In addition, the GAO noted that the rate for a specific aircraft is essentially the percent of aircraft missing designated parts and is not directly translated into a mission capability rate--nor do the rates take into account other activities the Air Force normally uses to meet operational needs. The GAO observed that increases in aircraft availability rates should produce increases in mission capability rates.

The GAO pointed out that the Air Force has reported satisfaction with its ability to perform needed missions, and has neither requested, nor justified, an increase in mission capability rates. The GAO observed that, since the mission capability rates of the late 1980s were achieved when safety level requirements were equivalent to an availability rate of 66 percent, this lower rate apparently met Air Force operational needs. The GAO acknowledged that either increases or decreases in the prior rates for specific aircraft could be needed to satisfy mission capability requirements at the least possible cost. The GAO estimated, however, that if the model is reprogrammed using the 66 percent rate, the FY 1991 safety level requirements can be reduced by about \$560 million--and the budgeted procurement and repair costs reduced by about \$90 million and \$70 million, respectively. The GAO concluded that costs could be reduced if availability was based on operational needs, rather than prior costs. (p. 2, pp. 4-6, p. 8/GAO Draft Report)

Now on pp. 1, 3-5.

Discussed on p. 7.

DOD RESPONSE: Partially concur. If availability goals in the model were held constant, costs would predictably decrease.

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Discussed on p. 7.

However, while the model had been studied for several years, in June 1988 it was still operationally untested. In view of that, the Air Force properly decided to initially implement the model to improve availability, rather than the riskier alternative of immediately using it to reduce costs.

Discussed on p. 7.

The Air Force Operations/Logistics Working Group, in conjunction with the Logistics Management Institute, is currently analyzing ways to relate aircraft availability goals to primary operating stock spares requirements. That analysis will include a standard method to update the goals for future computations and is expected to be completed by August 1990.

See comment 3.

While it is true that the Air Force did attempt to increase aircraft availability rates using the new model, the high mission capable rates achieved during the late 1980s were not achieved solely by an average aircraft availability rate of 66 percent. Forty-five percent of the Air Force mission outages were satisfied by extraordinary actions, such as cannibalization of other equipments and use of War Reserve Material. Those special actions increase mission capable rates above the model's expectations, but they postpone problems, such as parts shortages--which, ultimately, can be more expensive to correct. Although such extraordinary support actions are used when necessary, to improve mission capable rates above aircraft availability goals, the DoD disagrees that the setting of aircraft availability goals should necessitate exceptional support actions to achieve them routinely

FINDING D: Unneeded Parts Purchased Using Prior Model. The GAO reported that several months after the model was implemented, the Logistics Command directed the Air Logistics Centers to evaluate the impact of the new model on parts purchases. The GAO noted the Command instructed that the new model be implemented in June 1988, but the Centers had made buy decisions for the next fiscal year based on requirement computations under the old model in March 1988. The GAO found that, in December 1988, the Centers notified the Command that an estimated \$115 million of planned buys and \$632 million of recent buys were not needed under the new model. The GAO noted that the estimates were based on data generated by the automated requirement computation system and were not manually validated. The GAO further found that, although the Command instructed the Centers to avoid and cancel unnecessary purchases, the Air Force was unable to determine

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whether the unneeded buys were, in fact, actually avoided and/or cancelled. The GAO reported that in December 1988, none of the Centers indicated cancellation actions had been taken--while two of the five centers indicated they planned to continue using the March 1988 computation for purchasing parts. According to the GAO, the reasons cited were (1) that the purchases were too far advanced for changes of such magnitude and (2) that such changes would imperil Air Force goals of obligating 100 percent of the available funds in FY 1989. The GAO concluded that continuing unjustified procurements to achieve obligation goals is inconsistent with an objective of controlling costs. The GAO further concluded that the Air Force needs to ensure that unneeded procurements to fill requirements under the prior model are cancelled. (p. 2, pp. 7-8/GAO Draft Report)

Now on pp. 2, 5-6.

Discussed on pp. 5-6.

DOD RESPONSE: Nonconcur. The June 1988 cycle was not used to initiate or cancel buys because the computations were not validated, as the GAO acknowledges. However, the Air Logistics Centers did terminate buys based on safety level changes, as well as other reasons, in subsequent cycles. The June 1988 cycle was used to estimate the potential buy and termination impact of changing models. The estimates of potential terminations cited by the GAO were not solely attributable to changes in safety level, but included all sources. The Air Force does not separately track terminations of unneeded orders due to safety level changes.

Discussed on pp. 2, 7.

The Air Force has an aggressive program to identify and reduce unneeded orders, whether generated by safety level changes or other sources, such as changes in demand or flying hour programs. As evidence of this, terminations of total potential on-order excess have increased from 8 percent in 1986 to 19 percent in 1989. Recently, even stricter controls were implemented to ensure timely terminations. Economic termination analysis models have been developed and implemented for both consumable and recoverable requirements systems, with contract termination coordinators assigned at each inventory control point. Procedures are in place to revalidate requirements prior to award of contract. Potential terminations caused by any source, including safety level changes, are now reviewed on a quarterly basis.

* * * * *

RECOMMENDATIONS

- **RECOMMENDATION 1:** The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Logistics Command, to reevaluate the cost and benefits of using the aircraft availability model to compute safety level requirements. The GAO further recommended that the reevaluation should be completed promptly to preclude procurement and repair of potentially unjustified safety levels--and should include the following:

- an investigation and resolution of the increase in safety level requirements associated with the implementation of the aircraft availability model; and

- a determination for each aircraft of the availability rate that will provide minimum safety levels to most cost effectively achieve acceptable mission capability. (p. 8/GAO Draft Report)

Now on p. 6.

Discussed on pp. 6-7.

DOD RESPONSE: Nonconcur. The DoD disagrees that a reevaluation of the costs and benefits of using the Aircraft Availability Model is warranted. The Air Force studied the costs and benefits of using the model for two years prior to implementation. The model produced what was expected--an increase in gross safety level requirements with little or no increase in expenditures--as discussed in the DoD response to Finding A. The Air Force is refining and standardizing the method of setting aircraft availability targets based on operational need, as discussed in the DoD response to Finding C.

Discussed on p. 7.

- **RECOMMENDATION 2:** The GAO recommended that the Commander, Air Force Logistics Command, direct termination reviews of procurements of safety level stock, which were determined to be excess to requirements following implementation of the aircraft availability model. The GAO further recommended that, when aircraft availability goals are lowered following such an evaluation, the Commander should direct termination reviews of the affected procurements. (p. 8/GAO Draft Report)

Discussed on pp. 6-7.

DOD RESPONSE: Nonconcur. The Air Force has an aggressive program to identify and reduce unneeded items on order. That

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termination policy was recently reemphasized to the Air Force inventory control points. Tracking potential terminations caused by individual elements in the June 1988 computation is not feasible and would not be productive. Any changes in requirements due to changes in aircraft availability goals will be reviewed as part of mandatory quarterly termination reviews.

The following are GAO's comments on DOD's letter dated June 19, 1990.

1. We revised page 2 to include language suggested by DOD.
2. We did not speculate on how much of the \$482 million increase in safety level requirements was attributable to the change in models. As stated on page 3 and confirmed by DOD, safety level requirements increased by \$482 million after the new model was implemented. We have included DOD's statement that \$391 million of the increase was attributable to the model.
3. We agree that the high mission capable rates achieved during the late 1980s were achieved in part by actions such as use of war reserve material and cannibalization of parts from aircraft. However, these are acceptable support actions, when within established goals, and have historically been used by the Air Force to improve mission capable rates. Accordingly, we believe that these actions should be considered in setting aircraft availability rates.

Major Contributors to This Report

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