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ANALYSIS

DEPARTMENT OF DEFENSE  
**NATIONAL GUARD AND  
RESERVE EQUIPMENT REPORT**  
FOR FY 1985

AD-A143 150



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JUL 1 8 1984  
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**ANNEX TO VOLUME II:  
FORCE READINESS REPORT**

Prepared by

Office of the Assistant Secretary of Defense  
(Reserve Affairs)



Department of the Army  
Department of the Navy  
Department of the Air Force

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## EXECUTIVE SUMMARY

This is an analysis of the information provided by the Services and reported in the Fiscal Year 1985 Force Readiness Report Volume II Annex, "National Guard and Reserve Equipment." The Annex was forwarded to the Congress on 15 February 1984, with a Supplement provided on 1 March 1984. The analysis satisfies the Annex requirement for a summary analysis provided by the Assistant Secretary of Defense for Reserve Affairs. The analysis is performed exclusively from data input by the Services to the Annex.

It must be emphasized from the outset that this analysis must not be construed as representing a complete picture of the equipment status of the respective Guard and Reserve Components. While the Annex contains most if not all of the major high-cost items of equipment, it is by no means a complete listing of all Guard and Reserve equipment. For example, the Army Reserve Components report less than 300 items of equipment in the Annex yet the Army inventory consists of approximately 10,000 major items of equipment. Ammunition, spares, repair parts, some tools and test sets, i.e., those items of equipment normally considered in bulk as opposed to separate line entries, also are excluded from Annex reporting.

Therefore, to accommodate the "sampling" consideration of the Annex equipment, dollar costs are used as the basis for this analysis rather than calculations based on comparisons of numbers of items. Such comparisons are relevant only on an item-by-item review basis and are readily available in the Annex tables. However, the size of the gross dollar values of the requirements and assets which result from the cost analysis suggest that the sampling of equipment is sufficient to render a good indication of the equipment situation in each Component. The possible exceptions are the Navy and Marine Corps whose data input to the Annex did not include sufficient aircraft or ship costs to permit a representative analysis. These exclusions are discussed in greater detail in SECTION I, Equipment Summaries.

The shortages of Guard and Reserve equipment estimated to be remaining at the end of Fiscal Year 1987 amount to \$14.3 Billion as computed from Annex data. This shortfall is displayed graphically at Figure 1 and summarized by Component at Table 1. Each Component is further analyzed by appropriation and by fiscal year in the first Section of this Analysis.

To some degree, these shortages could be offset by equipment now contained in mobilization or other equipment stocks. Examples include the Army's war reserves, and equipment which would be "uncovered" by active units deploying to stocks already prepositioned overseas. However, until the Services are able to

identify the specific recipient(s) of this equipment in the event of mobilization, these assets cannot be considered as "on hand" in the Guard or Reserve.

The Air Reserve Forces possess nearly all of their required equipment while the Army Reserve Components face the bulk (\$13.7B) of this shortfall. The Army's requirements are also the largest, constituting 55% of the total Annex requirement. The Naval and Marine Corps Reserve fall between the Army and Air Force equipment postures but, again, their computations do not include ships or aircraft.

All Services are making progress in equipping their Guard and Reserve Components over the Annex period, FY 83-87. The Army is providing almost \$4.5 Billion to the ARNG and USAR and the Air Force almost \$3.7 Billion to the ANG and AFR. The Marine Corps and Navy follow, with \$.5 Billion and \$48 Million, respectively.

At the same time, however, to satisfy the needs of modernization and to accommodate the increasing role of the Guard and Reserve in this nation's defense, equipment requirements also are increasing. Figure 2 illustrates the trend of assets versus requirements. Given these trends, only the Air Reserve Forces and Marine Corps Reserve appear to have a reasonable opportunity to meet their requirements in the near future. The Army National Guard actually ends the period with 1% less fill than it started due to increasing requirements. But as will be displayed in the Budget Year FY 85 Snapshot Section of this analysis, it is clear also that these trends, especially in the Army and Navy, are not unique to the Guard and Reserve. They are applicable to the total Service and Active Components as well.

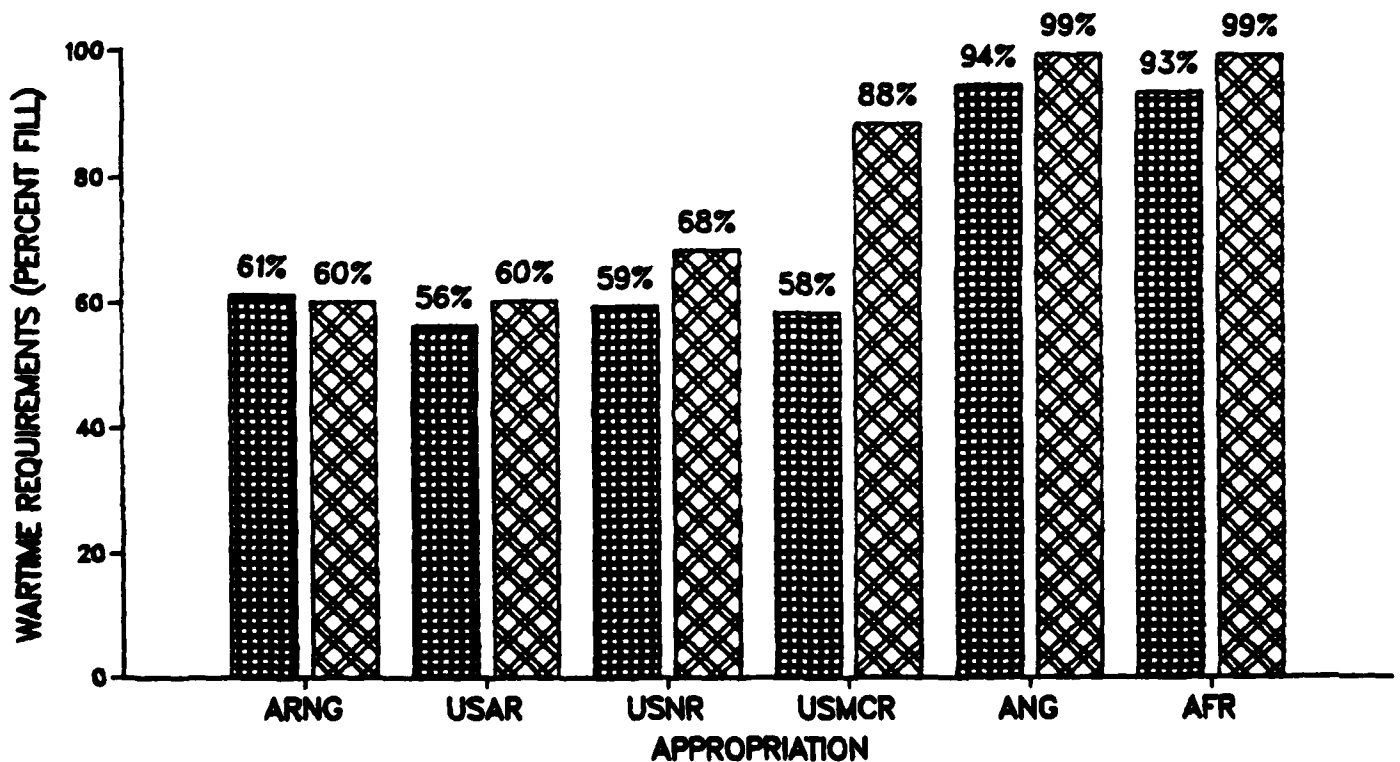
A final segment of the analysis looks back at Fiscal Year 1983 to determine how well the Services actually met their projections contained in last year's FY 84 Annex, for equipping the Guard and Reserve. This is the first such analysis performed on Annex data and therefore it may be considered somewhat inconclusive. If this year's analysis is borne out through analyses of subsequent Annexes, however, the estimates of shortfalls as of the end of the Annex reporting periods may be considerably understated. None of the six Components actually achieved their projections, with the Army Reserve receiving only a little more than a third of its FY 83 projected equipment distribution. The Marine Corps Reserve topped the list with over 86% of its projection actually attained. This aspect of the analysis is discussed in greater detail in SECTION III.

In summary, progress is evident in equipping the Guard and Reserve but more must be done, especially in the Army and Navy. But the need for progress is not limited to the Reserve Components; equipment shortages prevail throughout the total Services. And

these shortages generally do not consider such related equipment deficiencies as problems of incompatibility, aging, and non-deployability, all of which would exacerbate estimated shortfalls. The Annex will continue to monitor the annual progress toward resolving the equipment issues, but, lacking substantial TOA(\$) increases and/or major changes to the current ways of equipping the force, only marginal improvement is foreseen.

FIGURE 1

**EQUIPMENT SUMMARY (FY 83-87)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
NATIONAL GUARD AND RESERVE**



**Legend**  
■ END FY 83  
▨ END FY 87

Computations do not include USNR ships or  
USNR/USMCR aircraft

TABLE 1

**EQUIPMENT SUMMARY TABLE  
NATIONAL GUARD AND RESERVE  
(\$MILLION)**

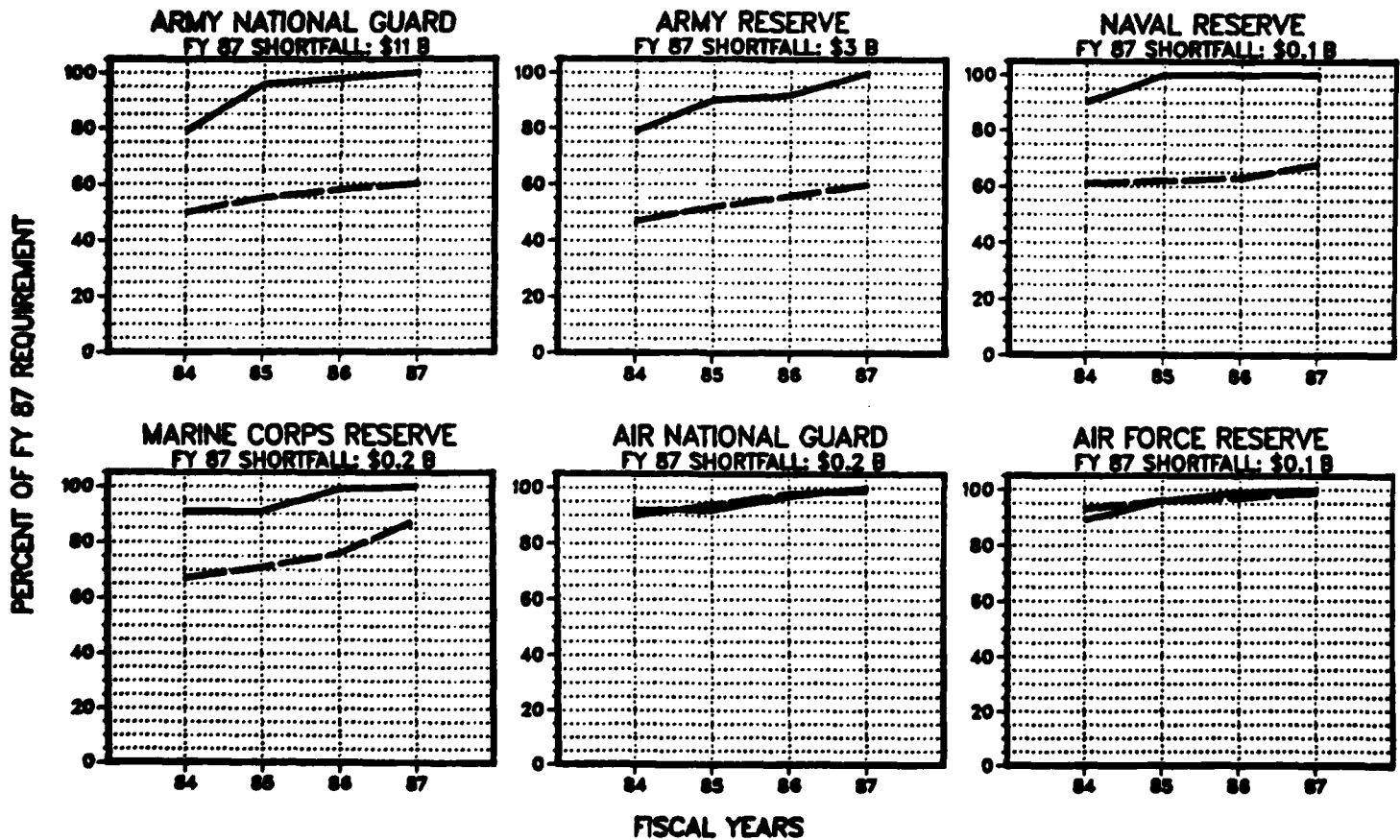
|                              | FY 83       |                   | FY 84       |                   | FY 85       |                   | FY 86       |                   | FY 87       |                   |
|------------------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
|                              | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        |
| ARNG<br>(% fill)             | 22,002      | 13,386<br>(61%)   | 22,002      | 13,931<br>(63%)   | 26,670      | 15,274<br>(57%)   | 27,087      | 16,158<br>(60%)   | 27,748      | 16,722<br>(60%)   |
| USAR<br>(% fill)             | 5,245       | 2,916<br>(56%)    | 5,245       | 3,148<br>(60%)    | 6,008       | 3,502<br>(58%)    | 6,154       | 3,718<br>(60%)    | 6,677       | 4,000<br>(60%)    |
| USNR*<br>(% fill)            | 286         | 168<br>(59%)      | 286         | 194.1<br>(68%)    | 316.6       | 197.5<br>(62%)    | 316.6       | 200.1<br>(63%)    | 316.6       | 215.6<br>(68%)    |
| USMCR**<br>(% fill)          | 1,184       | 687<br>(58%)      | 1,184       | 870<br>(74%)      | 1,183       | 920<br>(78%)      | 1,279       | 986<br>(77%)      | 1,295       | 1,134<br>(88%)    |
| AMG<br>(% fill)              | 18,591      | 17,491<br>(94%)   | 18,591      | 18,258<br>(98%)   | 18,718      | 19,176<br>(102%)  | 19,688      | 19,913<br>(101%)  | 20,301      | 20,090<br>(99%)   |
| AFR<br>(% fill)              | 6,058       | 5,614<br>(93%)    | 6,058       | 6,323<br>(104%)   | 6,524       | 6,512<br>(100%)   | 6,699       | 6,590<br>(98%)    | 6,785       | 6,685<br>(99%)    |
| ALL (\$ MILLION)<br>(% fill) | \$53,366    | \$40,262<br>(75%) | \$53,366    | \$42,724<br>(80%) | \$59,420    | \$45,582<br>(77%) | \$61,224    | \$47,565<br>(78%) | \$63,123    | \$48,847<br>(77%) |

\* Excludes Aircraft, Ships.

\*\* Excludes Aircraft.

FIGURE 2

## EQUIPMENT SUMMARY (FY 84-87) PROGRAMMED INVENTORIES VS REQUIREMENTS



Legend  
 INVENTORY \_\_\_\_\_  
 REQUIREMENTS \_\_\_\_\_

Computations do not include USNR ships or  
 USNR/USMCR aircraft

## INTRODUCTION

This evaluation is based upon information and data provided by the Services in the subject Annex and in the Supplement to the Annex. The analysis is not all-inclusive; the Annex itself is not all-inclusive but rather a sampling of equipment postures. This is not a final analysis but rather a snapshot in time of the information provided. The updating of data, the researching to fill gaps in the information provided, and the follow-on analysis of the data interpretations set forth in this evaluation will continue through submission of next year's Annex.

The FY 85 Annex is the third annual submission but the first in which the data were compiled from an automated data base. While this analysis compares only the Fiscal Year 1983 data from the preceding Annex, automation will enable much broader data comparisons and analysis across all fiscal years reported in subsequent Annexes.

Except where otherwise noted, the following specific information is applicable:

Equipment enters a Reserve Component (RC) as either "new" or "used". "New" equipment is either designated for the RC from the Service procurement appropriations or as a result of specific Congressional direction. These "new" equipment data are found in the Annex Tables under the sub-columns "RC DIST" and "RC PROC", respectively. "Used" equipment is that equipment which is re-distributed to the RC from existing stockpiles, e.g., the Active Component, war reserve stocks, etc. These data appear under the subcolumns "RC RE-DIST". Conversely, data reflecting removal of equipment from the RC appear in the subcolumn "W/D fm RC".

All percentages provided in this analysis are based on COST data as opposed to numbers of items. The COST data were developed simply by multiplying the numbers of items by their unit cost. Generally, the Budget Year (FY 85) procurement cost of an item is the cost used. If the item is no longer procured but is being replaced, then the cost of the replacement item is used. This takes into account at least some of the implications of modernization. Items no longer being procured and which are not being replaced generally show no cost data. Items for which no costs are shown are not included in the analysis computations. Significant items of equipment for which no or insufficient cost data were submitted include Naval Reserve aircraft and ships and Marine Corps Reserve aircraft. It is extremely important to again note that all computations in this analysis represent only those items of equipment reported in the Annex and not the entire equipment status of the respective components.

This analysis does not address those problems related to equipment shortages such as aging, substitutability or whether or not a given item of equipment may or may not be deployable. While it is the intent of the Annex to display as clearly as possible the equipment shortages facing the Guard and Reserve, these associated problems pose a far more complex process of definition than is within the scope of the Annex. The Department is reviewing them in separate actions.

The remainder of the Analysis consists of three sections:

SECTION I - Equipment Summaries

SECTION II - Budget Year 1985 Snapshot

SECTION III - Fiscal Year 1983 Performance

## SECTION I

### EQUIPMENT SUMMARIES (FY 83-87)

With the exception of the Air National Guard and the Air Force Reserve, all Reserve Components continue to sustain considerable equipment deficiencies through the end of the Annex reporting period, FY 87. While some progress is evident, it is not sufficient to counter the growing needs for modernization and the expanding roles of the Guard and Reserve. Even more would be needed if the associated equipment problems of aging; incompatibility (radios which cannot "talk" to one another); and non-deployability were considered. These issues are beyond the scope of the Annex; thus, only shortages are addressed. Worthy of special note, however, is the issue of aircraft aging. This is a growing problem in all components, active as well as reserve, but it is more acute in the Reserve Components. Each Service has modernization programs underway but aircraft aging continues to be an intensifying issue. A brief discussion of the equipment status in each Guard and Reserve Component follows:

#### Army National Guard

Although the Annex indicates a distribution of almost \$3.4 billion of equipment to the ARNG, the actual per cent of fill drops 1% by FY 87 from the FY 83 level. This is caused by the influx of assets failing to keep pace with requirements in every area except for Missiles and Weapons and Tracked Combat Vehicles. Increases in M-1 tanks, Bradley Fighting Vehicles, Improved Tow Vehicles, Howitzers and Guided Missile equipment support the enhanced posture of those two appropriations. Other areas of progress include trucks; UH-1A/1V Helicopters; armored carriers; some communications/electronics items; and engineer bridge equipment. Significant deficiencies remain in such items as attack helicopters; aircraft support equipment; modernization items as the M-1 tank, Bradley Fighting Vehicle, ITV; night vision equipment; repair and maintenance shop vans; and chemical defensive equipment. The end FY 87 ARNG equipment shortfall is \$11 billion, which equates to a per cent of fill of wartime requirements of 60%. To at least some extent, however, this shortage is reflective of the Total Army situation which shows a 70% fill rate of the same equipment as of FY 85. Details of the ARNG equipment status are at Figure 3 and Table 2.

#### Army Reserve

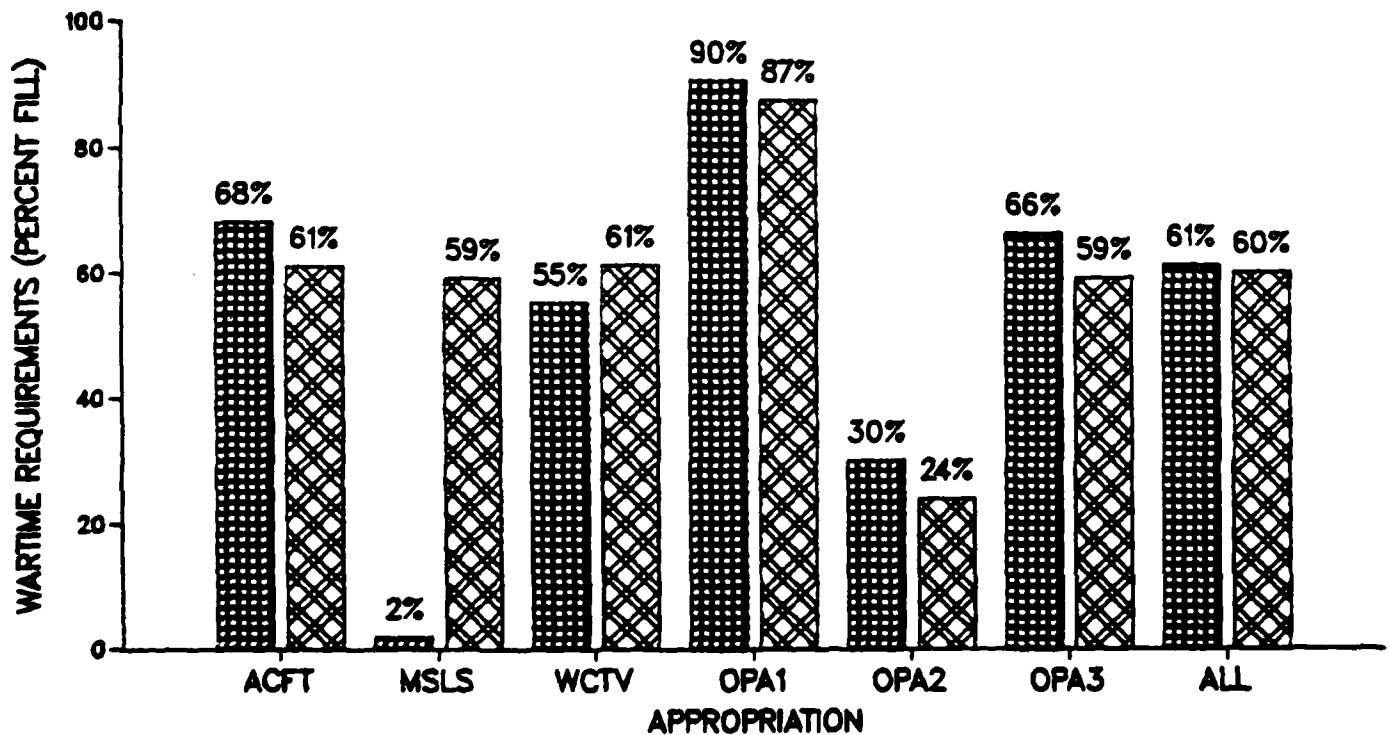
The Army Reserve is scheduled to receive approximately \$1.1 billion of equipment over the reporting period which improves its fill rate from 56% to 60%. The considerable improvement in the Weapons and Tracked Combat vehicles appropriation is due to a

large increase in M60A3 tanks projected for FY 87. Increases in the OPA3 account include scoop loaders; fork lifts; welding and maintenance repair shops; and earth scrapers. The large decrease in the aircraft fill is due primarily to substantial increases in the requirements for the UH-60A (Blackhawk) and UH-1V aircraft. Other shortages include armored carriers; trucks, trailers and semi-trailers; chemical defensive equipment; and diving equipment. The most critical shortages remain in the OPA 2 account in communications and electronics equipment where no improvement is noted over the Annex period; less than one-fifth of the requirement is met through FY 87. The USAR equipment shortfall at the end of FY 87 is approximately \$2.7 billion. As in the ARNG, this posture is at least partially reflective of the Total Army situation, again in FY 85, which shows a 72% rate of fill of the same equipment. Details of the USAR equipment status are at Figure 4 and Table 3.

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FIGURE 3

**EQUIPMENT SUMMARY (FY 83-87)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
ARMY NATIONAL GUARD**



**Legend**  
■ END FY 83  
▨ END FY 87

TABLE 2

**EQUIPMENT SUMMARY TABLE  
ARMY NATIONAL GUARD  
(\$MILLION)**

|                                                              | FY 83       |                   | FY 84       |                   | FY 85       |                   | FY 86       |                   | FY 87       |                   |
|--------------------------------------------------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|-------------|-------------------|
|                                                              | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        |
| Aircraft (ACFT)<br>(% fill)                                  | 4,471       | 3,038<br>(68%)    | 4,471       | 3,077<br>(69%)    | 5,428       | 3,180<br>(59%)    | 5,531       | 3,503<br>(63%)    | 5,835       | 3,553<br>(61%)    |
| Missiles (MSLS)<br>(% fill)                                  | 29          | .6<br>(2%)        | 29          | 29<br>(100%)      | 29          | 29<br>(100%)      | 58          | 44<br>(75%)       | 173         | 101<br>(59%)      |
| Weapons and Tracked<br>Combat Vehicles<br>(WTCV)<br>(% fill) | 11,942      | 6,539<br>(55%)    | 11,942      | 6,766<br>(57%)    | 13,169      | 7,529<br>(57%)    | 13,276      | 7,876<br>(59%)    | 13,378      | 8,149<br>(61%)    |
| Tactical and Support<br>Vehicles (OPAL)<br>(% fill)          | 2,726       | 2,469<br>(90%)    | 2,726       | 2,584<br>(95%)    | 3,411       | 2,764<br>(81%)    | 3,508       | 2,983<br>(85%)    | 3,538       | 3,065<br>(87%)    |
| Comm. and Elect.<br>Equip. (OPA2)<br>(% fill)                | 1,460       | 435<br>(30%)      | 1,460       | 556<br>(38%)      | 2,674       | 664<br>(25%)      | 2,732       | 617<br>(23%)      | 2,808       | 668<br>(24%)      |
| Other Support<br>Equipment (OPA3)<br>(% fill)                | 1,374       | 905<br>(66%)      | 1,374       | 919<br>(67%)      | 1,959       | 1,108<br>(57%)    | 1,982       | 1,135<br>(57%)    | 2,016       | 1,186<br>(59%)    |
| ALL (\$ MILLION)<br>(% fill)                                 | \$22,002    | \$13,386<br>(61%) | \$22,002    | \$13,931<br>(63%) | \$26,670    | \$15,274<br>(57%) | \$27,087    | \$16,158<br>(60%) | \$27,748    | \$16,722<br>(60%) |

FIGURE 4

**EQUIPMENT SUMMARY (FY 83-87)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
ARMY RESERVE**

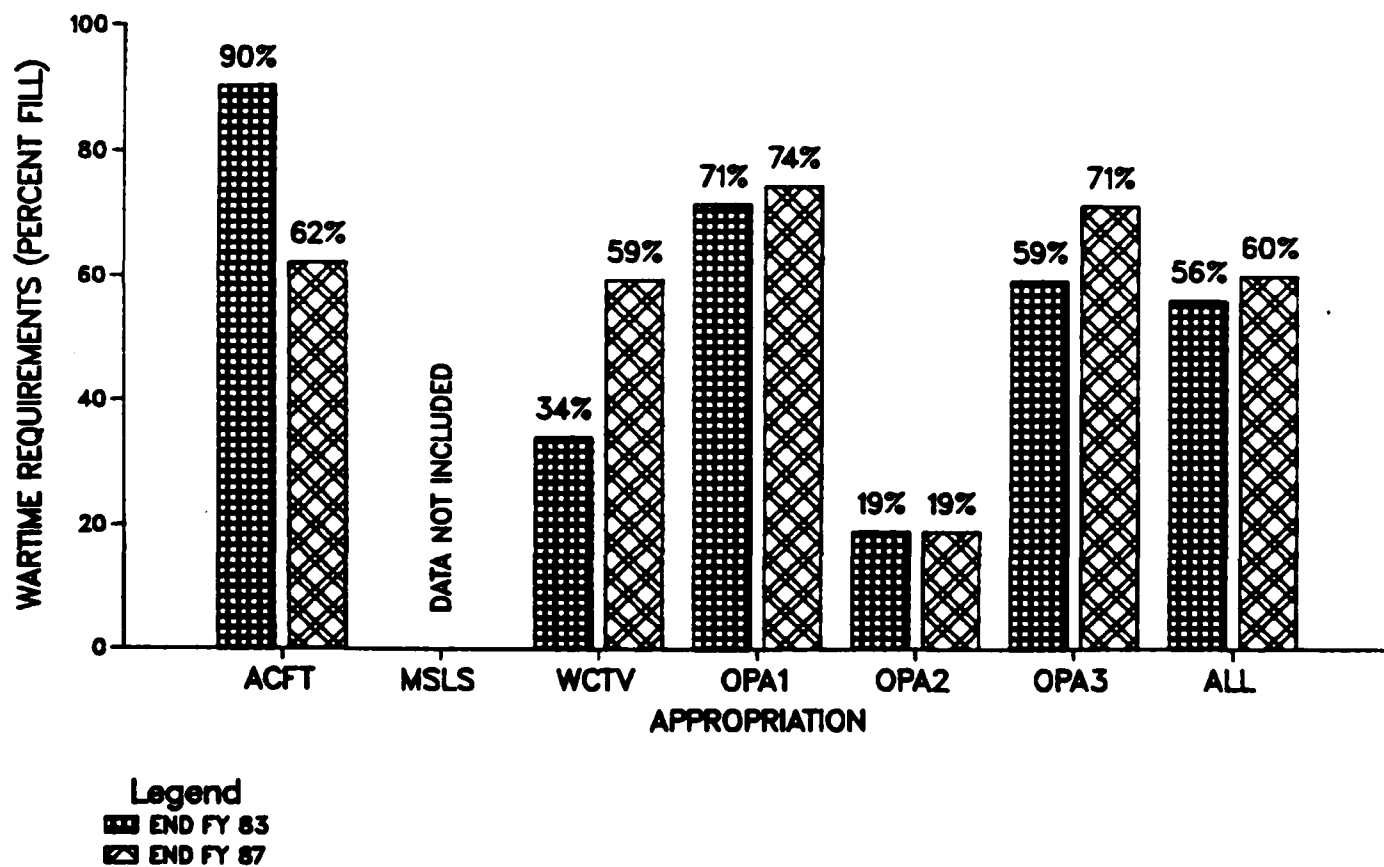


TABLE 3

**EQUIPMENT SUMMARY TABLE  
ARMY RESERVE  
(\$MILLION)**

|                                                           | FY 83                                        |                  | FY 84       |                  | FY 85       |                  | FY 86       |                  | FY 87       |                  |
|-----------------------------------------------------------|----------------------------------------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|-------------|------------------|
|                                                           | <u>RQMT</u>                                  | <u>O/H</u>       | <u>RQMT</u> | <u>O/H</u>       | <u>RQMT</u> | <u>O/H</u>       | <u>RQMT</u> | <u>O/H</u>       | <u>RQMT</u> | <u>O/H</u>       |
| Aircraft (ACFT)<br>(% fill)                               | 828                                          | 742<br>(90%)     | 828         | 755<br>(91%)     | 1,158       | 797<br>(69%)     | 1,165       | 855<br>(73%)     | 1,570       | 972<br>(62%)     |
| Missiles (MSLS)<br>(% fill)                               | Amount insufficient for meaningful analysis. |                  |             |                  |             |                  |             |                  |             |                  |
| Weapons and Tracked<br>Combat Vehicles (WTCV)<br>(% fill) | 1,525                                        | 532<br>(34%)     | 1,525       | 538<br>(35%)     | 1,220       | 553<br>(45%)     | 1,230       | 583<br>(47%)     | 1,233       | 731<br>(59%)     |
| Tactical and Support<br>Vehicles (OPAL)<br>(% fill)       | 1,342                                        | 955<br>(71%)     | 1,342       | 1,103<br>(82%)   | 1,549       | 1,200<br>(77%)   | 1,616       | 1,265<br>(78%)   | 1,683       | 1,243<br>(74%)   |
| Comm. and Elect.<br>Equip (OPA2)<br>(% fill)              | 551                                          | 99<br>(19%)      | 551         | 114<br>(21%)     | 890         | 135<br>(15%)     | 933         | 172<br>(18%)     | 969         | 180<br>(19%)     |
| Other Support<br>Equip (OPA3)<br>(% fill)                 | 999                                          | 588<br>(59%)     | 999         | 638<br>(64%)     | 1,191       | 817<br>(69%)     | 1,210       | 843<br>(70%)     | 1,222       | 874<br>(71%)     |
| ALL (\$ MILLION)<br>(% fill)                              | \$5,245                                      | \$2,916<br>(56%) | \$5,245     | \$3,148<br>(60%) | \$6,008     | \$3,502<br>(58%) | \$6,154     | \$3,718<br>(60%) | \$6,677     | \$4,000<br>(60%) |

## Naval Reserve

Insufficient cost data are provided for aircraft or ships to permit meaningful analysis. These omissions are due in part to the fact that some of the equipment is no longer produced or procurable. Decisions as to the replacements for some of these items have not been made. Also pending are decisions concerning just which aircraft and/or ships and how many should be in the Naval Reserve vice the Regular Navy. Until these issues are resolved, any assessment of Naval Reserve aircraft and ship requirements and assets is speculative. Pending these decisions, which are under intensive review at the present time, it appears from the Annex data that the requirements shown continue to reflect the number of assets available. An exception is the shortfall reported of 13 landing craft as of the end of FY 87. On a positive note, the modernization of some Naval Reserve aircraft is underway with the planned conversions to F/A-18, E-2C, F-4S, and F-14 aircraft. Surface fleet modernization is ongoing with the conversion to FF/FFG frigates and the conversion of minesweepers to the new MCM class ship beginning in FY 86. Without cost data, the analysis is limited to weapons and ordnance (WPNS); communications and electronics (C/E); and engineering and support (ENG) equipment. Excellent progress is shown regarding increases in weapons and ordnance equipment, of which almost nothing was on hand at the beginning of the Annex period. The C/E appropriation decreased due to introduction of a new requirement for a R/T/O/A Three Terminal Training System in FY 85. Eventually this system will replace aging equipment and reduce some of the current requirements now filled by the older equipment, but currently it represents a substantial shortfall. Increases were noted of some other types of communications equipment and of some types of trucks, but the Naval Reserve remains short of such items as trucks and trailers and digging/excavating equipment. Details of the Naval Reserve equipment posture are at Figure 5 and Table 4.

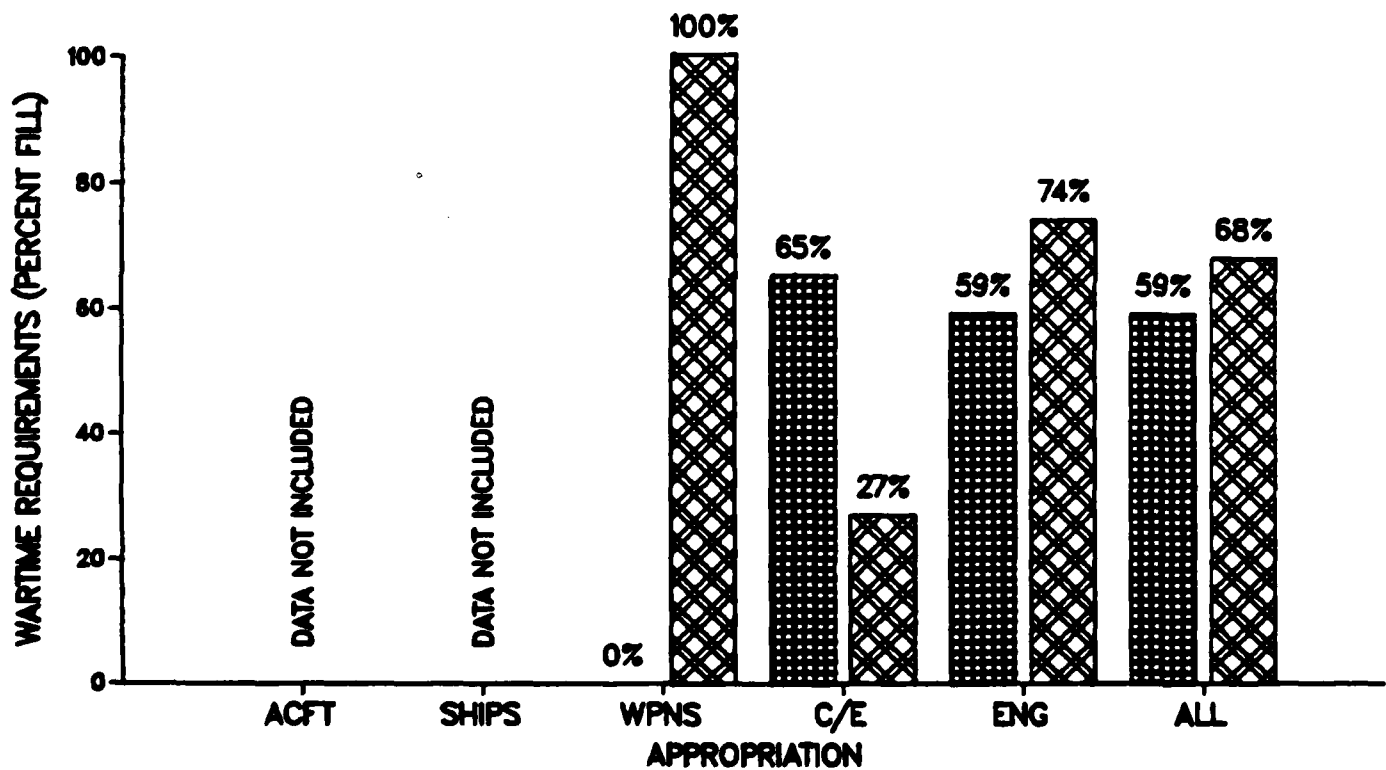
## Marine Corps Reserve

Insufficient data are provided for aircraft to permit meaningful cost analysis, the reason cited being that the majority of aircraft used within the Marine Corps Reserve are no longer in production or procurable. A determination of the requirements for specific replacement aircraft requires structure decisions which have not been made, thus leaving any assessment of Marine Corps Reserve aircraft requirements versus assets an estimate at best. Excluding aircraft, the Marine Corps reserve is scheduled to receive almost \$.5 billion of equipment over the Annex period, raising its per cent fill of wartime requirements from 58% to 88%. Significant increases are indicated in M60A1 tanks; Light Armored Vehicles; radar equipment; some communications/electronics equipment; and some trucks and loaders.

Shortages include howitzers; recovery vehicles; tow launchers; cranes; water purification units; and fuel systems equipment. It also is noted that ground assets counted as "On-hand" include items which are unserviceable but reparable. Those items are projected to be available for reserve use within 6 months after mobilization. Details of the Marine Corps Reserve equipment posture are at Figure 6 and Table 5.

FIGURE 5

**EQUIPMENT SUMMARY (FY 83-87)**  
**PERCENT FILL OF WARTIME REQUIREMENTS (\$)**  
**NAVAL RESERVE**



**Legend**  
■ END FY 83  
▨ END FY 87

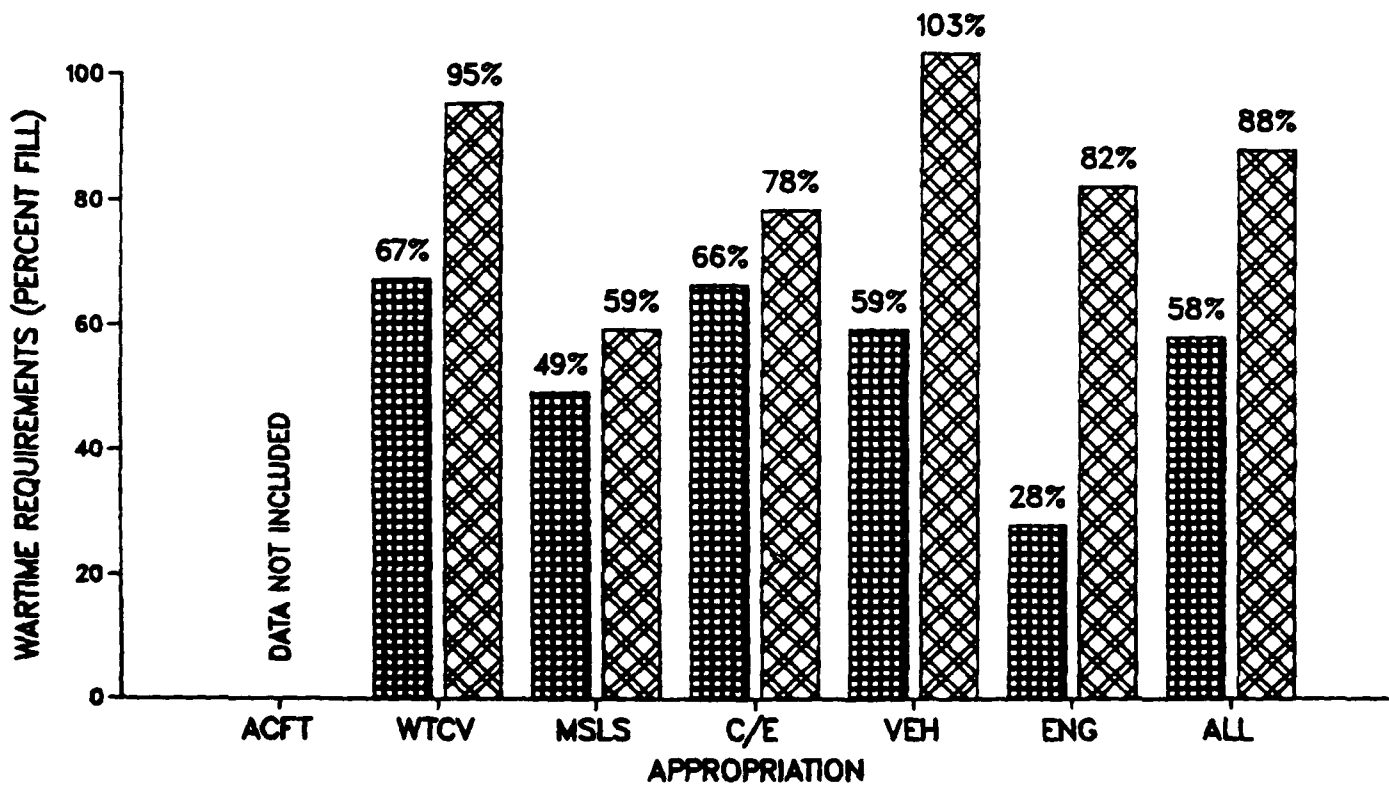
TABLE 4

**EQUIPMENT SUMMARY TABLE  
NAVAL RESERVE  
(\$MILLION)**

|                                             | FY 83                                                                                                                                                                                              |            | FY 84       |            | FY 85       |            | FY 86       |            | FY 87       |            |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------|------------|-------------|------------|-------------|------------|-------------|------------|
|                                             | <u>RQMT</u>                                                                                                                                                                                        | <u>O/H</u> | <u>RQMT</u> | <u>O/H</u> | <u>RQMT</u> | <u>O/H</u> | <u>RQMT</u> | <u>O/H</u> | <u>RQMT</u> | <u>O/H</u> |
| Aircraft                                    | Cost data were excluded from Navy input to the Annex for aircraft and ships. Therefore, no cost analysis is possible for these two categories. A discussion is provided in the analysis narrative. |            |             |            |             |            |             |            |             |            |
| Ships                                       |                                                                                                                                                                                                    |            |             |            |             |            |             |            |             |            |
| Weapons and Ordnance<br>(WPNS)<br>(% fill)  | 2.9                                                                                                                                                                                                | -0-        | 2.9         | -0-        | 2.9         | 2.9        | 2.9         | 2.9        | 2.9         | 2.9        |
|                                             | (0%)                                                                                                                                                                                               |            | (0%)        |            | (100%)      |            | (100%)      |            | (100%)      |            |
| Comm. and Elect.<br>Equip (C/E)<br>(% fill) | 6.1                                                                                                                                                                                                | 4          | 6.1         | 6.1        | 39.7        | 6.6        | 39.7        | 8.2        | 39.7        | 10.7       |
|                                             | (65%)                                                                                                                                                                                              |            | (100%)      |            | (17%)       |            | (21%)       |            | (27%)       |            |
| Engineering Spt<br>Equip (ENG)<br>(% fill)  | 277                                                                                                                                                                                                | 164        | 277         | 188        | 274         | 188        | 274         | 189        | 274         | 202        |
|                                             | (59%)                                                                                                                                                                                              |            | (68%)       |            | (69%)       |            | (69%)       |            | (74%)       |            |
| ALL (\$ MILLION)<br>(% fill)                | \$286                                                                                                                                                                                              | \$168      | \$286       | \$194.1    | \$316.6     | \$197.5    | \$316.6     | \$200.1    | \$316.6     | \$215.6    |
|                                             | (59%)                                                                                                                                                                                              |            | (68%)       |            | (62%)       |            | (63%)       |            | (68%)       |            |

FIGURE 6

**EQUIPMENT SUMMARY (FY 83-87)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
MARINE CORPS RESERVE**



**Legend**  
■ END FY 83  
▨ END FY 87

TABLE 5

**EQUIPMENT SUMMARY TABLE  
MARINE CORPS RESERVE  
(\$MILLION)**

|                                                               | FY 83                                                                                                                                                                                   |                | FY 84       |                | FY 85       |                | FY 86       |                | FY 87       |                  |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|------------------|
|                                                               | <u>RQMT</u>                                                                                                                                                                             | <u>O/H</u>     | <u>RQMT</u> | <u>O/H</u>     | <u>RQMT</u> | <u>O/H</u>     | <u>RQMT</u> | <u>O/H</u>     | <u>RQMT</u> | <u>O/H</u>       |
| <b>Aircraft</b>                                               | Cost data were excluded from Marine Corps input to Annex. Therefore, no cost analysis is possible. A discussion of Marine Corps Reserve aircraft is provided in the analysis narrative. |                |             |                |             |                |             |                |             |                  |
| <b>Weapons and Tracked<br/>Combat Veh (WTCV)<br/>(% fill)</b> | 474                                                                                                                                                                                     | 319<br>(67%)   | 474         | 438<br>(92%)   | 473         | 440<br>(93%)   | 581         | 452<br>(78%)   | 586         | 557<br>(95%)     |
| <b>Missiles (MSLS)<br/>(% fill)</b>                           | 175                                                                                                                                                                                     | 85<br>(49%)    | 175         | 86<br>(49%)    | 175         | 103<br>(59%)   | 175         | 103<br>(59%)   | 175         | 103<br>(59%)     |
| <b>Comm. and Elec. (C/E)<br/>(% fill)</b>                     | 183                                                                                                                                                                                     | 121<br>(66%)   | 183         | 127<br>(70%)   | 183         | 136<br>(75%)   | 184         | 140<br>(76%)   | 185         | 144<br>(78%)     |
| <b>Support Vehicles (VEH)<br/>(% fill)</b>                    | 205                                                                                                                                                                                     | 121<br>(59%)   | 205         | 154<br>(75%)   | 205         | 168<br>(82%)   | 209         | 206<br>(98%)   | 215         | 221<br>(103%)    |
| <b>Engineer Equip (ENG)<br/>(% fill)</b>                      | 147                                                                                                                                                                                     | 41<br>(28%)    | 147         | 65<br>(44%)    | 147         | 73<br>(49%)    | 130         | 85<br>(65%)    | 134         | 109<br>(82%)     |
| <b>ALL (\$MILLION)<br/>(% fill)</b>                           | \$1,184                                                                                                                                                                                 | \$687<br>(58%) | \$1,184     | \$870<br>(74%) | \$1,183     | \$920<br>(78%) | \$1,279     | \$986<br>(77%) | \$1,295     | \$1,134<br>(88%) |

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### Air National Guard

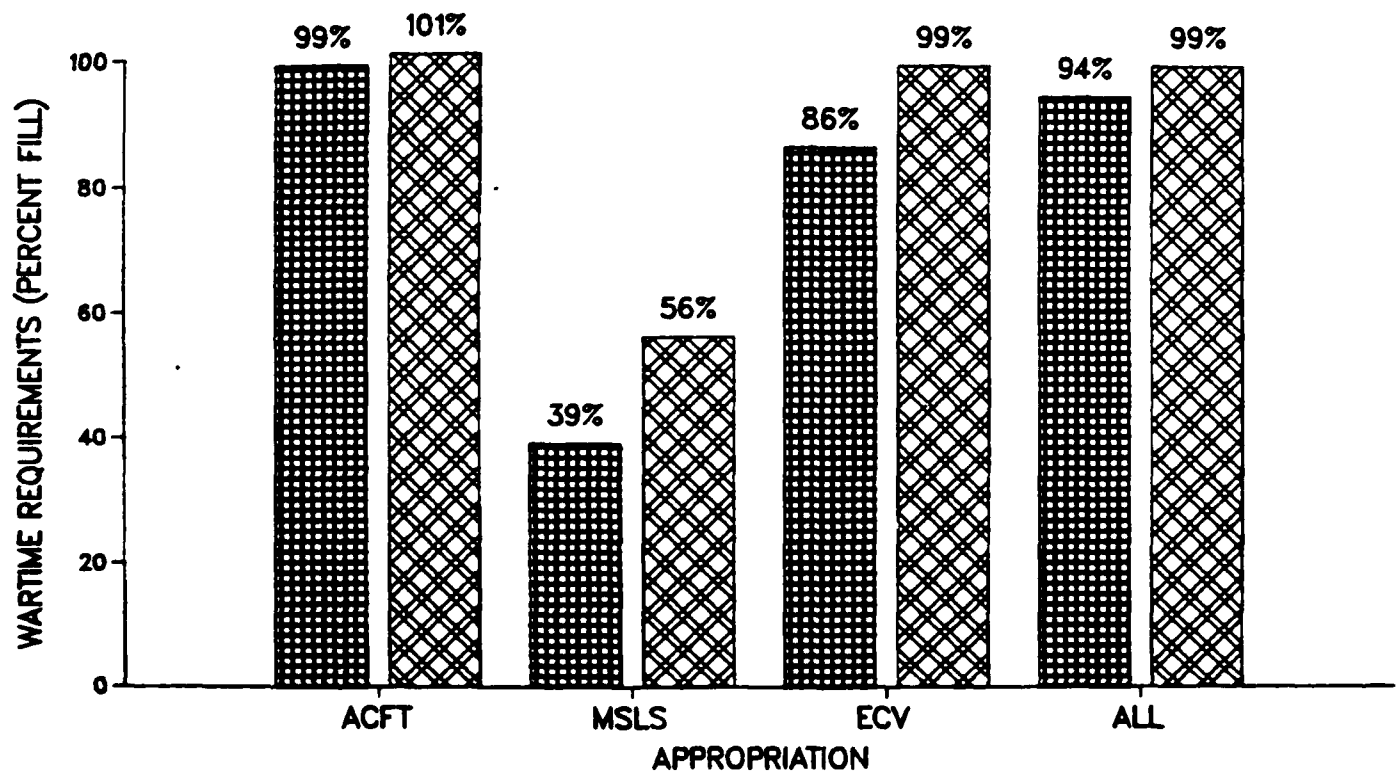
The ANG attains 100% of its aircraft requirement except for one rescue helicopter by the end of FY 87. Aging aircraft represent a serious problem, however, and the Annex indicates modernization taking place in almost every category of aircraft to alleviate the aging situation. Almost \$2 billion are dedicated to improving the ANG aircraft and aircraft support equipment status over the Annex period. Another \$.7 billion for missiles, vehicles, and communications/electronics equipment will fill the ANG to 99% of its wartime equipment requirements. The only serious shortages remaining at the end of FY 87 are some electronic countermeasures pods (ECM) and a few items of communications equipment. Details of the Air National Guard equipment posture are at Figure 7 and Table 6.

### Air Force Reserve

Like the ANG, the Air Force Reserve has an extensive modernization program underway to address its aging aircraft problem and is doing so with its aircraft requirements fully met. Over \$.7 billion is directed to this effort while almost \$.4 billion is improving missiles, vehicles, and communications/electronics equipment to 99% fill of its wartime requirement by end FY 87. Electronic countermeasures pods (ECM) and some tractors and trucks are included in the few remaining shortages. Details of the Air Force Reserve equipment posture are at Figure 8 and Table 7.

FIGURE 7

**EQUIPMENT SUMMARY (FY 83-87)**  
**PERCENT FILL OF WARTIME REQUIREMENTS (\$)**  
**AIR NATIONAL GUARD**



Legend  
■ END FY 83  
▨ END FY 87

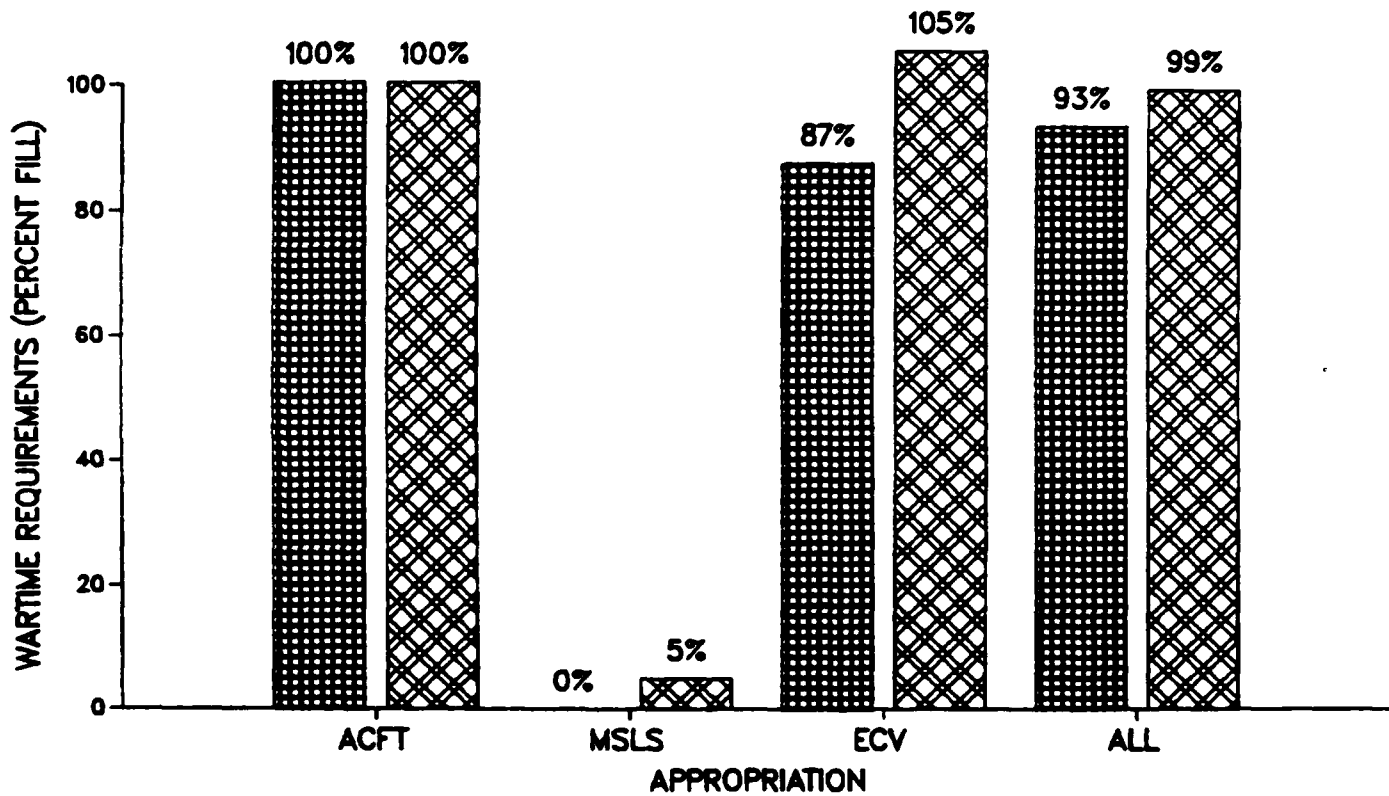
TABLE 6

EQUIPMENT SUMMARY TABLE  
AIR NATIONAL GUARD  
(\$MILLION)

|                                                           | FY 83       |                   | FY 84       |                   | FY 85       |                    | FY 86       |                    | FY 87       |                   |
|-----------------------------------------------------------|-------------|-------------------|-------------|-------------------|-------------|--------------------|-------------|--------------------|-------------|-------------------|
|                                                           | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>        | <u>RQMT</u> | <u>O/H</u>         | <u>RQMT</u> | <u>O/H</u>         | <u>RQMT</u> | <u>O/H</u>        |
| Aircraft/Aircraft<br>Spt Equip (ACPT)<br>(% fill)         | 13,413      | 13,369<br>(99%)   | 13,413      | 13,589<br>(101%)  | 13,541      | 14,473<br>(107%)   | 14,486      | 15,102<br>(104%)   | 15,111      | 15,273<br>(101%)  |
| Missiles (MSLS)<br>(% fill)                               | 690         | 272<br>(39%)      | 690         | 300<br>(44%)      | 687         | 309<br>(45%)       | 711         | 393<br>(55%)       | 701         | 393<br>(56%)      |
| Electronic/Comm./<br>Vehicular/Equip<br>(ECV)<br>(% fill) | 4,488       | 3,850<br>(86%)    | 4,488       | 4,369<br>(97%)    | 4,490       | 4,394<br>(98%)     | 4,491       | 4,418<br>(98%)     | 4,489       | 4,424<br>(99%)    |
| ALL (\$ MILLION)<br>(% fill)                              | \$18,591    | \$17,491<br>(94%) | \$18,591    | \$18,258<br>(98%) | \$18,718    | \$19,176<br>(102%) | \$19,688    | \$19,913<br>(101%) | \$20,301    | \$20,090<br>(99%) |

FIGURE 3

**EQUIPMENT SUMMARY (FY 83-87)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
AIR FORCE RESERVE**



**Legend**  
END FY 83  
END FY 87

TABLE 7

EQUIPMENT SUMMARY TABLE  
AIR FORCE RESERVE  
(\$MILLION)

|                                                   | <u>FY 83</u> |                  | <u>FY 84</u> |                   | <u>FY 85</u> |                   | <u>FY 86</u> |                  | <u>FY 87</u> |                  |
|---------------------------------------------------|--------------|------------------|--------------|-------------------|--------------|-------------------|--------------|------------------|--------------|------------------|
|                                                   | <u>RQMT</u>  | <u>O/H</u>       | <u>RQMT</u>  | <u>O/H</u>        | <u>RQMT</u>  | <u>O/H</u>        | <u>RQMT</u>  | <u>O/H</u>       | <u>RQMT</u>  | <u>O/H</u>       |
| Aircraft/Aircraft<br>Spt Equip (ACFT)<br>(% fill) | 3,914        | 3,899<br>(100%)  | 3,914        | 4,365<br>(112%)   | 4,376        | 4,543<br>(104%)   | 4,544        | 4,619<br>(102%)  | 4,619        | 4,619<br>(100%)  |
| Missiles (MSLS)<br>(% fill)                       | 169          | -3<br>(0%)       | 169          | .5<br>(0%)        | 183          | 10<br>(5%)        | 190          | 10<br>(5%)       | 201          | 10<br>(5%)       |
| Electronic/Comm/<br>Vehicular Equip<br>(% fill)   | 1,975        | 1,715<br>(87%)   | 1,975        | 1,957<br>(99%)    | 1,965        | 1,959<br>(100%)   | 1,965        | 1,961<br>(100%)  | 1,965        | 2,056<br>(105%)  |
| ALL (\$ MILLION)<br>(% fill)                      | \$6,058      | \$5,614<br>(93%) | \$6,058      | \$6,323<br>(104%) | \$6,524      | \$6,512<br>(100%) | \$6,699      | \$6,590<br>(98%) | \$6,785      | \$6,685<br>(99%) |

## SECTION II

### A BUDGET YEAR SNAPSHOT

The next four Figures (9-12) are included to display the status, in the Total Service and Active Component, of the same equipment items which are reported in the Annex for the respective Guard and Reserve Components. They represent only a Fiscal Year 1985 snapshot and cannot be used to give a year-by-year comparison. The purpose is to permit the equipment problems of the Reserve Components surfaced elsewhere in the Annex to be viewed with perspective in an appropriate context.

From these graphs it is clear that with the exception of the Air Reserve Forces, equipment shortfalls are not unique to the Guard and Reserve Components. Less clear is any interpretation of the equity of distribution of equipment between the Active and Reserve Components based upon the total Service equipment status. Considering the peacetime deployment of many active forces, the percentages of fill shown may be within reasonable limits of the Department's policy that the first to fight must be the first equipped.

The Marine Corps appears to be reasonably well-equipped, the Navy and Army much less so. It must be noted, however, that for these computations ships and aircraft were excluded for the Navy and aircraft for the Marine Corps.

FIGURE 9

**EQUIPMENT SUMMARY (BUDGET YEAR FY 85 SNAPSHOT)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
ARMY**

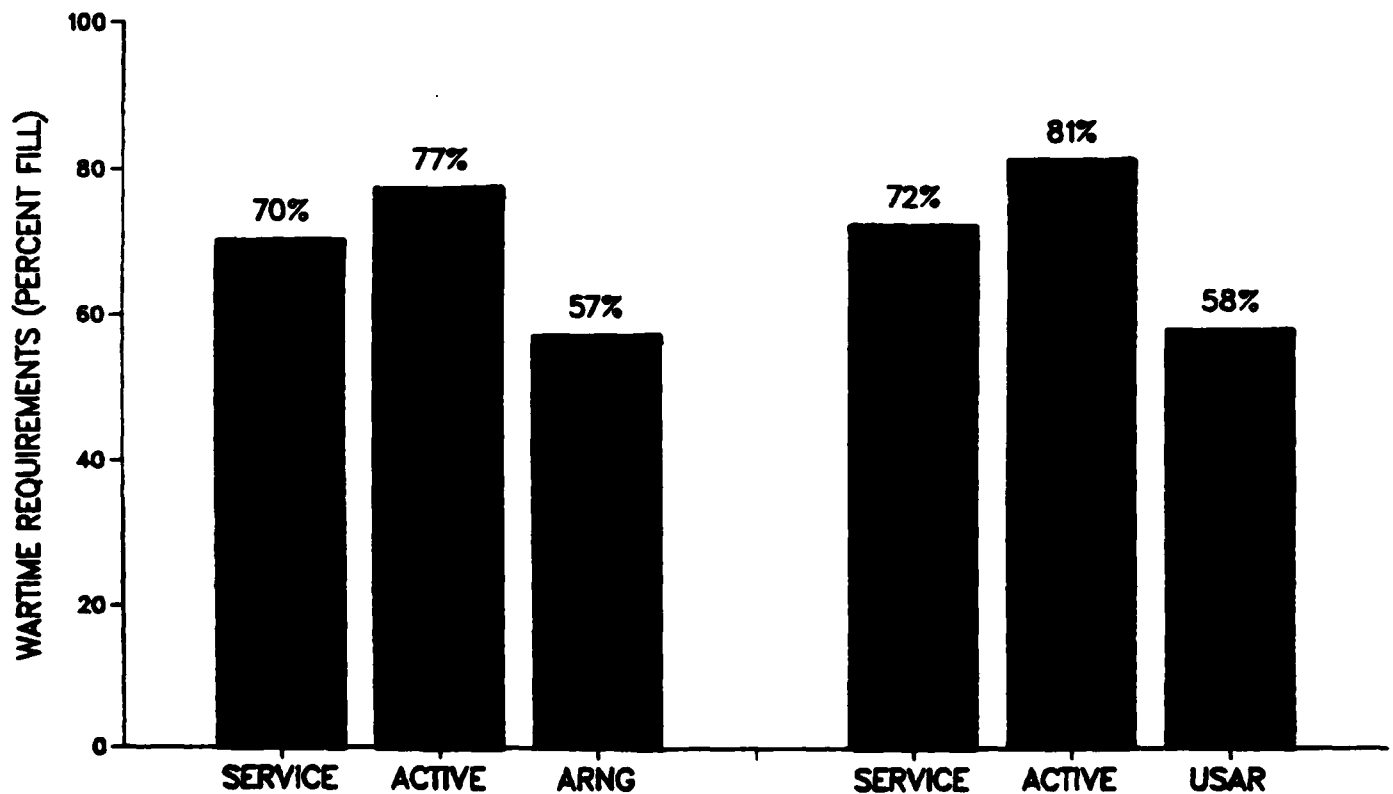
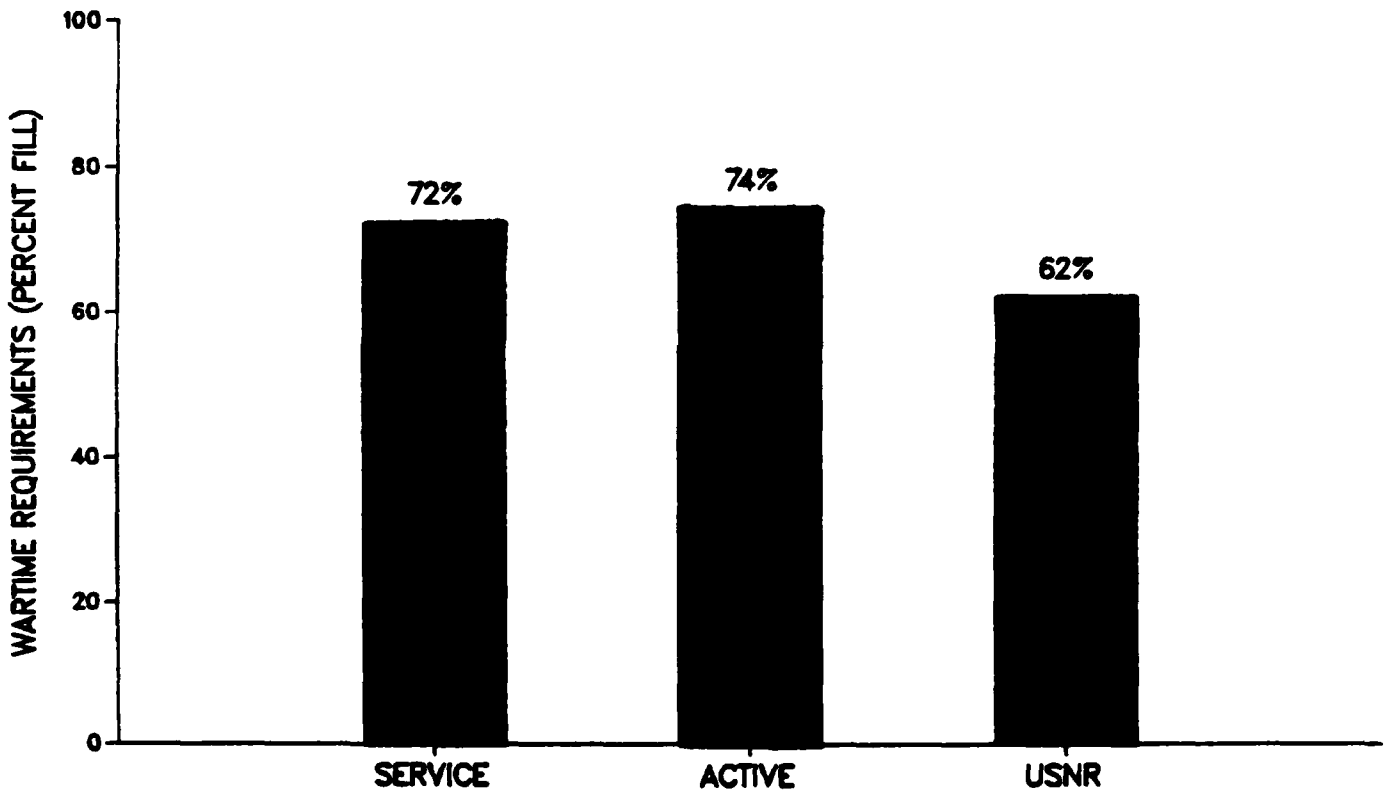


FIGURE 10

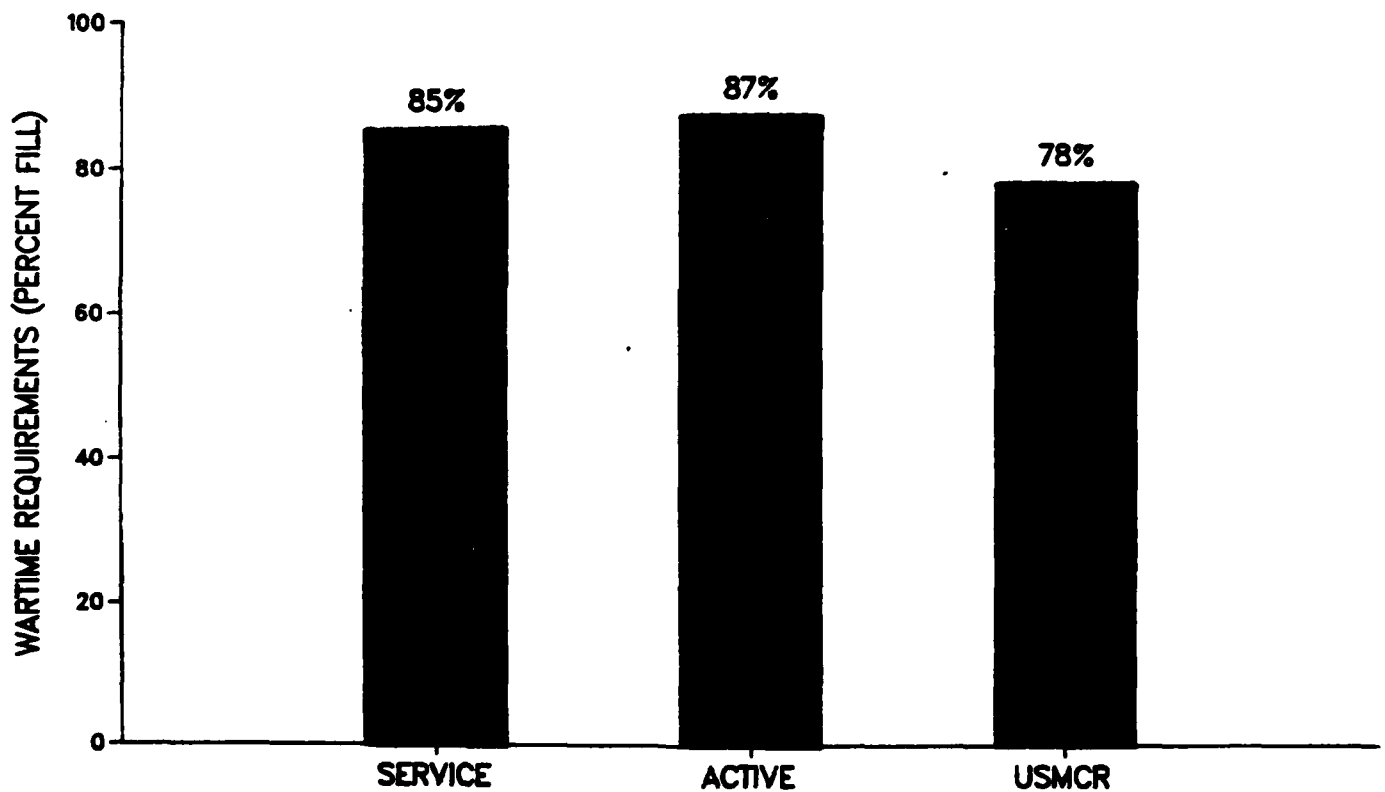
**EQUIPMENT SUMMARY (BUDGET YEAR FY 85 SNAPSHOT)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
NAVY**



Computations do not include ships, aircraft

FIGURE 11

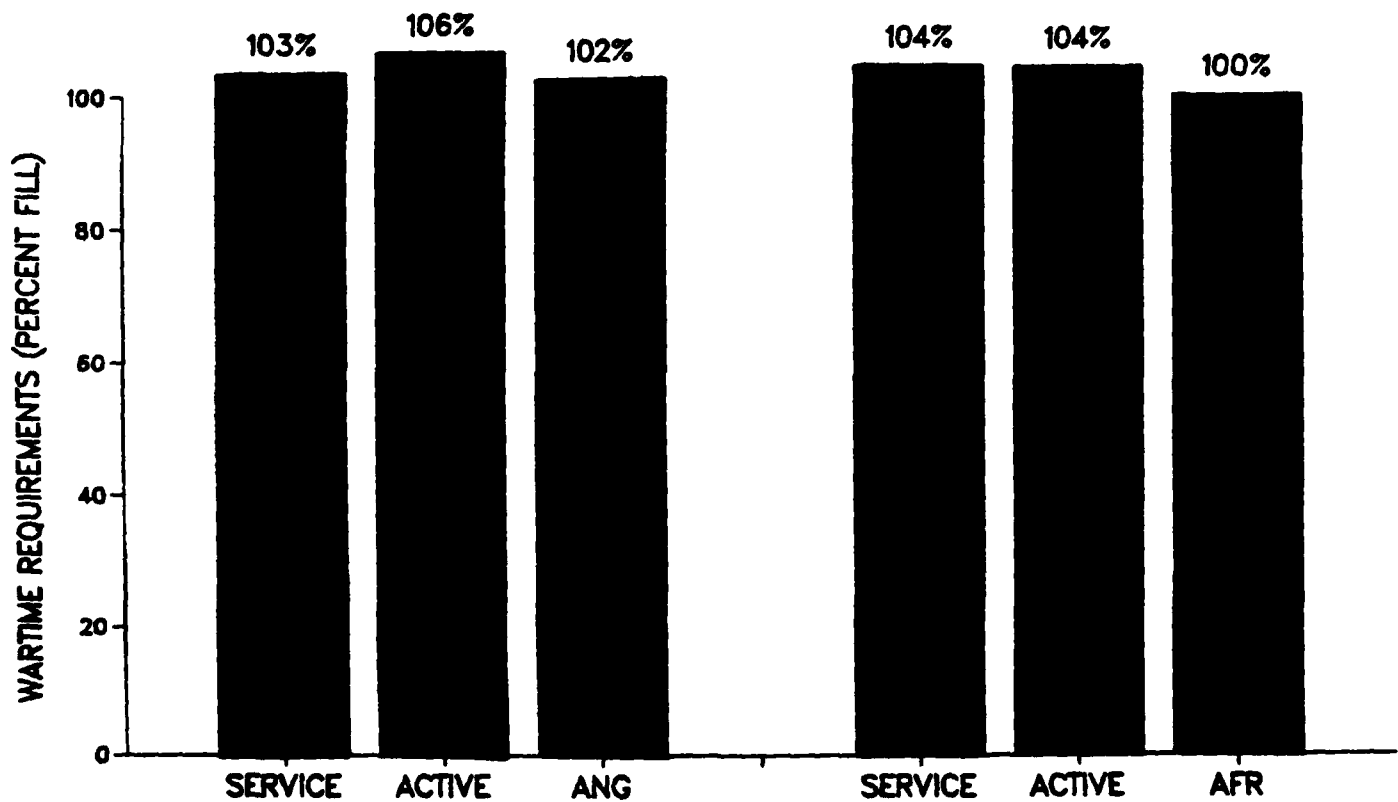
**EQUIPMENT SUMMARY (BUDGET YEAR FY 85 SNAPSHOT)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
MARINE CORPS**



Computations do not include aircraft

FIGURE 12

**EQUIPMENT SUMMARY (BUDGET YEAR FY 85 SNAPSHOT)  
PERCENT FILL OF WARTIME REQUIREMENTS (\$)  
AIR FORCE**



### SECTION III

#### FY 83 PERFORMANCE

Equipment distribution/withdrawals projected for Fiscal Year 1983 in last year's Annex are compared with actual data contained in the FY 85 Annex. The purpose of this segment of Annex analysis is to determine the degree of accuracy with which the Services planned for the equipping of their respective Guard and Reserve Components. The basis for the analysis is dollar cost, using the value of total distribution less the value of total withdrawals. Where item costs were omitted from data input to the Annex, e.g., Naval Reserve aircraft and ships and Marine Corps aircraft, no analysis is provided. Also, since Air Force data indicate no Air Reserve Force aircraft shortages, aircraft distribution and withdrawals are limited to modernization and replacement and not the fill of shortfalls. Air Reserve Force aircraft, therefore, are excluded from this analysis. A discussion of these areas, however, is provided in the brief narratives for each component which follow.

This is the first edition of the Annex to include a fiscal year performance analysis. While these performance indicators cannot be considered as absolute, they provide perspective in evaluating projection data contained in the Annex. The utility of this perspective will become more apparent with the analysis of succeeding editions of the Annex.

Where planned distribution was not achieved, or withdrawals exceeded those planned, the following reasons were cited by the Services. They generally are applicable to all Guard and Reserve Components.

- a. Diversion of planned distribution, or withdrawal, to higher priority claimants.
- b. Procurement/distribution cancelled, reduced, or delayed primarily as a result of budgetary actions.
- c. Requirements eliminated, reduced or revised.

On the other hand, the converse of these reasons contributed to a number of instances where actual distribution exceeded the plan or occurred where no distribution had been programmed. Some planned withdrawals did not occur or were reduced, which also led to increased inventories.

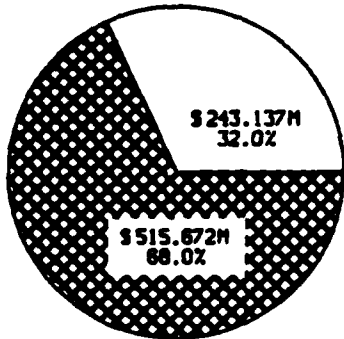
As previously noted, a cost basis analysis was used for the FY 83 evaluation. The net result, when all of the distribution and withdrawals had been considered, was that none of the six components had met their respective programs as set forth in the FY 84 Annex. The Marine Corps Reserve had the best success rate --86%--, but only 10 different items of equipment were included and aircraft data were not reported. The Army Reserve, with the lowest actual per cent (38) of program, considered well over 100 items of equipment. The FY 83 performance of each component is provided at Figure 13 and Table 8.

A brief discussion by component follows:

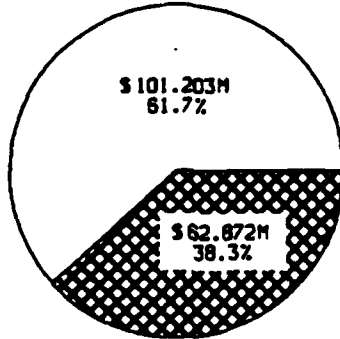
FIGURE 13

# **EQUIPMENT DISTRIBUTION AND WITHDRAWAL (FY 83) ACTUAL EXPENDITURES AS A PERCENT OF TOTAL PROGRAM**

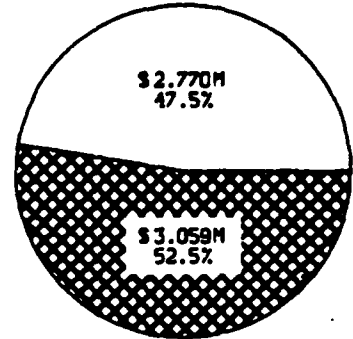
**ARMY NATIONAL GUARD**



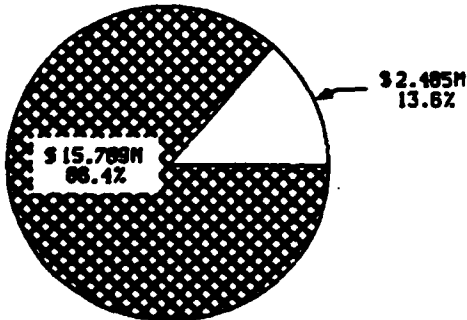
**ARMY RESERVE**



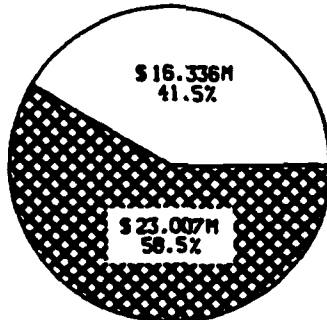
**NAVAL RESERVE**



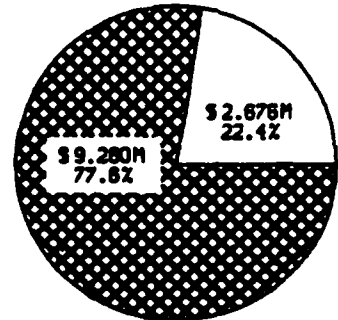
**MARINE CORPS RESERVE**



**AIR NATIONAL GUARD**



**AIR FORCE RESERVE**



**TOTAL PROGRAM = SHORTFALL + ACTUAL**

**Legend**  
 □ SHORTFALL  
 ▨ ACTUAL

TABLE 8

FY 83 COMPARISONS  
ACTUAL VERSUS PROGRAM

(\$000)

|         | <u>DISTRIBUTION</u> |            | <u>WITHDRAWALS</u> |            | <u>NET FY 83</u> |            |                     |
|---------|---------------------|------------|--------------------|------------|------------------|------------|---------------------|
|         | <u>PROG</u>         | <u>ACT</u> | <u>PROG</u>        | <u>ACT</u> | <u>PROG</u>      | <u>ACT</u> | <u>% OF PROGRAM</u> |
| ARNG    | 762,769             | 515,672    | 3,960              | -0-*       | 758,809          | 515,672    | 68%                 |
| USAR    | 164,075             | 62,872     | -0-                | -0-        | 164,075          | 62,872     | 38%                 |
| USNR**  | 5,829               | 3,059      | -0-                | -0-        | 5,829            | 3,059      | 52%                 |
| USMCR** | 18,274              | 15,789     | -0-                | -0-        | 18,274           | 15,789     | 86%                 |
| ANG**   | 42,030              | 32,486     | 2,687              | 9,479      | 39,343           | 23,007     | 58%                 |
| AFR**   | 13,375              | 10,818     | 1,419              | 1,538      | 11,956           | 9,280      | 78%                 |

\* Does not count unprogrammed FMS withdrawals of tanks and howitzers totalling \$66.1 million.

\*\* Computations do not include aircraft.

\*\*\* Computations do not include ships.

### ARMY NATIONAL GUARD

Actual changes to FY 83 inventory projections affected 107 items of equipment, of which 58 of the changes were not programmed in last year's Annex. Of the 107 changes, 84 resulted in equipment increases, although 12 of the 84 were at levels below those originally programmed. Of the remaining 23 items, the inventory levels were unchanged or reduced from FY 82 levels even though all but two of the items had shown projected increases. The two items (68 M48A5 tanks and 3 howitzers) were withdrawn to meet FMS requirements. (These two items were excluded from computations since such withdrawals are usually beyond the control of the Service involved and certainly beyond the control of the Reserve Components). Examples of reductions to program included the AH-1S helicopter (26 vice 50); M60A3 tanks (42 vice 120); some trucks, truck tractors and semi-trailers; radar equipment; some communications and electronics equipment; forklifts; and graders. Increases to program included the C-12D Aircraft (6 vice 0); the OH-6A aircraft (13 vice 0); Howitzers (21 vice 0); machineguns; night vision equipment; engineer bridge equipment; and generators. A programmed withdrawal of 4 CH-47A helicopters was cancelled.

### ARMY RESERVE

Actual changes to FY 83 inventory projections affected 119 items of equipment, of which 46 of the changes were not programmed in last year's Annex. Of the 119 changes, 82 resulted in equipment increases, although 23 of the 82 were at levels below those originally programmed. The inventories of the remaining 37 items remained unchanged from FY 82 levels despite projected increases. There were no projected or actual withdrawals. Examples of reductions to program included aircraft electrical maintenance shops (3 vice 16); UH-60A Blackhawk Helicopters (2 vice 4 - two slipped to FY 84); 34 ton semi-trailers (2 vice 1160); trucks and truck tractors; miscellaneous communications/electronics equipment; and chemical defensive equipment. Increases included UH-1H Helicopters (2 vice 0); engineer bridge equipment; generators; refrigeration/air conditioning equipment; and some communication/electronics equipment.

### NAVAL RESERVE

Although no cost data were submitted in conjunction with aircraft and ships, thus precluding cost analysis, the FY 83 Naval Reserve aircraft projections were actually exceeded and ship projections met. In aircraft, the transitions from the A7B to A7E and the E2B to E2C were accelerated into FY 83 from FY 84. The planned withdrawal of two destroyers was slipped to FY 84 as part of the overall plan to replace FRAM's with FFs/FFGs, two of

which were distributed to the USNR in FY 83. Four minesweepers were withdrawn, an action which appears to leave a gap in the minesweeping capability since no replacements are planned until FY 86. Other changes to FY 83 projections affected 14 items programmed in last year's Annex, all of which were programmed increases to inventory. The program was attained in 8 of the 14 items, with the majority of the reductions to program being in small arms. Increases occurred primarily in trucks and in communications/electronics items.

#### MARINE CORPS RESERVE

Cost data were excluded for aircraft in the Marine Corps input to the Annex. The FY 83 projected distribution and withdrawals were attained except for 4 KC-130T and 1 OV-10 aircraft whose planned distribution to the Reserve was deferred until FY 84. Highlighting the FY 83 Marine Corps Reserve aircraft posture was some replacement of the A-4E/F with the A-4M and the CH-46D with the CH-46E aircraft. Inventory changes affected 10 other items of equipment, 9 of which had been programmed in the FY 84 Annex. The lone exception was the unprogrammed distribution of 37 trucks. There were no withdrawals but two of the 9 items were at levels below program. These were night vision and radio equipment. Increases included radar equipment and other communications equipment.

#### AIR NATIONAL GUARD

According to Air Force data input to the Annex, the aircraft program for the Air National Guard and Air Force Reserve is one of replacement and modernization only, not fill of shortages since PAA requirements are indicated as filled. Highlighting the FY 83 ANG aircraft program were the transitions of KC-135A to KC-135E tankers; 02-A to F-4C fighters; and F-105G to F-4D fighters. Conversions of these aircraft as projected in the FY 84 Annex were met or exceeded. In addition to aircraft, changes to the FY 83 inventory projections affected 63 items of equipment, of which 20 of the changes were not programmed in last year's Annex. Of the 63 changes, 49 resulted in equipment increases although 17 of the 49 were at levels below those originally programmed. Net reductions to program/inventory affected the remaining 14 items of equipment, including night vision goggles (0 vice 102); 5 Ton Trucks (2 vice 98); Commercial Utility Cargo Vehicles (0 vice 73); and aircraft loaders (0 vice 2). Increases included fuel trucks (19 vice -9); cargo trucks (38 vice -75); tools and test equipment; and some trucks and generators.

## AIR FORCE RESERVE

Highlights of the FY 83 AFR aircraft modernization program included the withdrawal of the 18 remaining C-7A aircraft in the AFR although only 2 aircraft had been programmed for withdrawal. Six C-130H were distributed as replacements. The AFR also received 24 A-10A Fighter aircraft. In addition to aircraft, 71 changes to FY 83 projections and inventory took place of which 58 of the changes were programmed in the FY 84 Annex. Increases occurred in 56 of the 71 changes, although 16 of these were at less than programmed levels. Decreases (15) included such items as tow tractors (-47 vice 14); lift trucks (17 vice 32); and aircraft loaders (0 vice 6). Increases were noted in such areas as tools and test sets; generators; communications/electronics equipment; ambulances (7 vice 0); and buses (13 vice -3).