MANAGING REAL PROPERTY MAINTENANCE: MEETING THE CHALLENGE OF DECLINING BUDGETS

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The Army Materiel Command (AMC) is the primary agent for research and development, acquisition, supply, and maintenance of Army materiel. It fulfills its mission by managing a system of research laboratories, depots, arsenals, and ammunition plants employing approximately 114,000 people at 63 installations. Each year, AMC spends more than half a billion dollars on real property maintenance activity (RPMA), yet its maintenance backlog continues to grow. RPMA is funded from four separate sources: the Army Industrial Fund; Procurement, Army appropriation; the Research, Development, Test, and Evaluation appropriation; and the Operations and Maintenance, Army appropriation. Managing AMC's RPMA program requires effective programming and budgeting while minimizing installation-level RPMA costs.

Historically, decreasing Army budgets result in underfunded RPMA programs, and currently, AMC installations are experiencing budget reductions at the same time that new major maintenance requirements are being identified. To meet this challenge, AMC must enhance its RPMA management by improving the flow of information from installations to AMC Headquarters so that the information is more accurate and consistent. Having more credible information will make it easier to defend the RPMA program and budget requests before the various appropriation managers. Better information will also increase the effectiveness of overall RPMA resource allocations.

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We are recommending that the Facilities Division at AMC Headquarters take the following actions to improve the management of AMC's RPMA program:

- Clearly define RPMA reporting roles, definitions, methodologies, channels, and responsibilities at all levels and fund types to ensure that the information used by RPMA managers to defend the RPMA program is accurate, consistent, and credible.
- Make thorough reviews of the entire reporting process for the Unconstrained Requirements Report, the Technical Data Feeder Report, and the Quarterly Backlog Status Report to determine where the individual processes can be streamlined. These reviews should focus on reducing reporting requirements and eliminating redundant data.
- Establish resource allocation procedures based on project-level data and annual recurring RPMA requirements. To ensure that allocated RPMA funds are spent where budgeted, AMC Headquarters must consider fencing RPMA funds to installations.
- Assert itself as the advocate for all RPMA fund types; monitor all programming and budgeting actions at the major subordinate command, major command, and Army staff levels; and ensure that senior commanders are aware of the consequences of RPMA funding decisions.
- Increase the manpower devoted to RPMA management so the unmet management responsibilities can be met.
- Establish an automated management information system that tracks installation-level annual RPMA requirements, project-level information, programmed levels, and budgets for all fund sources.

Executive Summary

MANAGING REAL PROPERTY MAINTENANCE: MEETING THE CHALLENGE OF DECLINING BUDGETS

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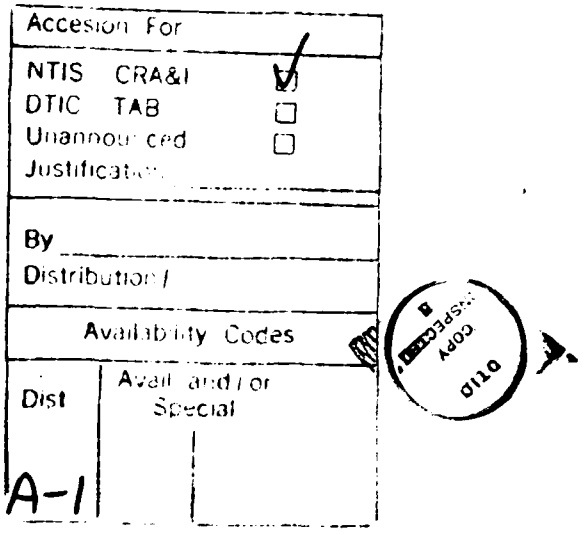

CONTENTS

CONTENTS (Continued)

CHAPTER 1

INTRODUCTION

The Army Materiel Command's (AMC's) primary mission is to support the active Army and reserve forces through research and development, acquisition, supply, and maintenance of Army materiel. To accomplish this mission, AMC must manage more than 114,000 personnel (approximately 92 percent are civilian), over 300,000 line items of inventory costing about $60 billion, more than 350,000 procurement transactions annually, and 4.5 million acres of land and real property consisting of 63 installations (33 Government operated and 30 contractor operated) located in 43 states and Europe. Real property maintenance enhances the productivity of AMC employees and prolongs the useful life of AMC's extensive facilities. General maintenance and preventative maintenance deter degradation of facilities and reduce the risk of more costly repairs in the future, while facility improvements and repairs reduce the incremental cost of maintaining the facilities.

Managing AMC installations' real property maintenance activity (RPMA) is complex and expensive. At Government-operated installations, the Directorate of Engineering and Housing (DEH) or facility engineering organization has responsibility for effectively managing RPMA. At Government-owned, contractor-operated (GOCO) installations, or where RPMA operations are under a commercial activities (CA) contract, a contractor manages day-to-day maintenance as part of contract overhead. The Government continues to manage those minor construction and large maintenance requirements that are governmental in nature.

In 1989, AMC's RPMA program, including labor and material for operation of utilities, minor construction, maintenance and repair of real property, and engineering support required over $700 million. The total AMC RPMA program is funded from four separate sources: the Army Industrial Fund (AIF); the Procurement, Army (PA) appropriation; the Research, Development, Test, and Evaluation (RDTE) appropriation; and the Operations and Maintenance, Army (OMA) appropriation. Each source possesses its own unique programming and

budgeting procedures. Since senior Army managers are most familiar with the OMA process, it tends to be the one upon which they concentrate.

Overall command responsibility for managing RPMA lies with the AMC engineering community in the Facilities Division of the Deputy Chief of Staff for Engineering, Housing, and Installation Logistics (DCSEH&IL). AMC Regulation 10-2, *Headquarters, AMC, Organization, Mission, and Functions*, outlines the Facilities Division's mission functions, which are comprehensive in nature. They include:

- Coordinating program and budget submissions from the installations and major subordinate commands (MSCs) through the planning, programming, budgeting, and execution system (PPBES) process
- Developing and coordinating all policy, guidance, and standards for the AMC RPMA program
- Defending funding requests and manpower resource requirements
- Reviewing and evaluating energy program, inspector general, General Accounting Office, and commercial activity guidance and reports.

The Installation and Services Activity (I&SA) at Rock Island Arsenal, Illinois, provides technical support to the AMC engineers during the RPMA programming phase by collecting and assimilating all installation-level unconstrained requirements. Also, it validates all backlog of maintenance and repair (BMAR) projects by site visits to each AMC installation at least once every 3 years.

AMC is one of only two Army major commands (MACOMs) comprised of MSCs. Each of the ten MSCs has responsibility for managing various aspects of RPMA programming and budgeting, depending on the installation's predominant RPMA fund source. However, this supervision is typically limited in nature.

At the installation level, the DEH, facility engineer, CA contractor, or Government representative (at GOCOs) is responsible for preparing RPMA programming and budgeting reports/documents. At this level, the programming and budgeting processes vary dramatically according to the installation's predominant RPMA fund source. Depending on the fund type, reporting occurs through engineering functional channels, the Directorates of Resource Management (DRM), and/or the respective appropriations management.

Because of multiple fund sources and multiple MSCs, managing AMC's RPMA program is a particularly complex task, and it is difficult to present the total RPMA program clearly to the Army staff. In the past, Headquarters Department of the Army (HQDA) has focused its attention on OMA RPMA appropriations, although they account for only 20 percent (excluding OMA funds for inactive facilities) of AMC's total RPMA funding. During periods of generous RPMA funding, such an approach was adequate; but as appropriations supporting AMC decrease, the problems created by focusing solely on OMA become major. One area of concern is that AMC HQ managers lack the information necessary to compete effectively with other MACOMs and/or mission areas for limited funding within each appropriation. In this scenario, RPMA would become underfunded, with a resultant degradation in working and living conditions at AMC installations. A related concern is, that for the limited funds that are available, AMC HQ engineers lack the relevant information needed for tracking the funds and establishing priorities for effectively allocating them throughout AMC. Therefore, installations may be funded disproportionately in relation to the priority of their RPMA requirements.

Our study, by nature, was broad in scope since AMC's RPMA management structure is diverse. We visited and conducted interviews at ten installations, four MSCs, the I&SA, relevant AMC HQ functional program managers, AMC appropriation managers, and two RPMA management organizations at other MACOMs to gain a perspective in the following areas:

- AMC's role in the Army's PPBES as well as DoD's planning, programming, and budgeting system (PPBS)
- AMC's RPMA programming and budgeting processes for all fund sources
- The RPMA management techniques employed by other MACOMs, namely the U.S. Army Training and Doctrine Command (TRADOC) and Forces Command (FORSCOM)
- The AMC engineering organizations managing RPMA and their responsibilities.

The remainder of this report presents our findings, conclusions, and recommendations. Chapter 2 presents findings regarding the Army's PPBES and outlines AMC's interactions with the system and how RPMA funding is implemented. Chapter 3 examines other MACOMs and how they manage RPMA. The responsibilities of organizations managing RPMA at DA, AMC HQ, MSC, and installation

levels are presented in Chapter 4. In Chapter 5, conclusions based on the findings lead to recommendations for improving RPMA management at AMC. Appendix A provides an overview of the PPBES as it relates to Army-level and DoD actions. Since programming and budgeting procedures are different for each appropriation, Appendices B through E discuss their unique aspects, identify the major participants in the process, and highlight important PPBES milestones at which the Facilities Division can exert influence over the RPMA program and budget levels.

CHAPTER 2

ARMY MATERIEL COMMAND'S REAL PROPERTY MAINTENANCE ACTIVITY PROGRAMMING AND BUDGETING PROCESSES

DoD spends only about 1 percent of its total facilities replacement value on revitalization[1] (RPMA), while the Government, overall, spends about 2 percent and private industry, about 3 to 4 percent. This disparity indicates that an increase in the level of RPMA funding for Army, AMC, and installation-level activities may be appropriate. Congress has made this point clear during its most recent appropriation hearings and is beginning to show keen interest in the level of RPMA funds programmed and allocated to DoD installations.

This chapter presents an overview of the important aspects of the Army's PPBES as it relates to programming and budgeting RPMA funds supporting AMC installations. The PPBES is described in greater detail in Army Regulation (AR) 1-1, *Planning, Programming, Budgeting, and Execution System*, and DA Pamphlet 5-9, *Planning, Programming, Budgeting, and Execution System.*

PPBES OVERVIEW

The DoD's overall resource management system is called the PPBS. The Army's counterpart, known as the PPBES, parallels DoD's PPBS but adds a program and budget execution phase to provide important feedback on program issues, thus improving resource management decision making. The PPBES is used at all levels of the Army from installations through HQDA to translate force requirements into an authorized program. Its product, the Army's budget estimate, becomes part of DoD's portion of the President's Budget and updates the Army's portion of DoD's Five Year Defense Program (FYDP). Figure 2-1 is a flow chart showing the important PPBES and PPBS milestones that influence RPMA programming and budgeting at AMC and the rest of the Army. It is important that the AMC engineering community understand the PPBES since it is the mechanism by which the entire RPMA program

[1]Capital revitalization figures were presented by the Assistant Chief of Engineers, Resources Branch, during the "Congressional Update" presentation at the *DEH and Environmental World Wide Conference*, Baltimore, Md., 12 – 15 December 1989.

is eventually funded. It should be noted that the flow chart shows the PPBES and PPBS as time-phased processes, when in reality many of the events occur simultaneously, and events shown in the latter part of the chart do affect events shown in the early phases. The processes are not independent of each other. For example, the President's Budget, shown as nearly the last step in the PPBES, provides an update to the subsequent program objective memorandum (POM) development process, results in an updated FYDP, and may be used as programming guidance.

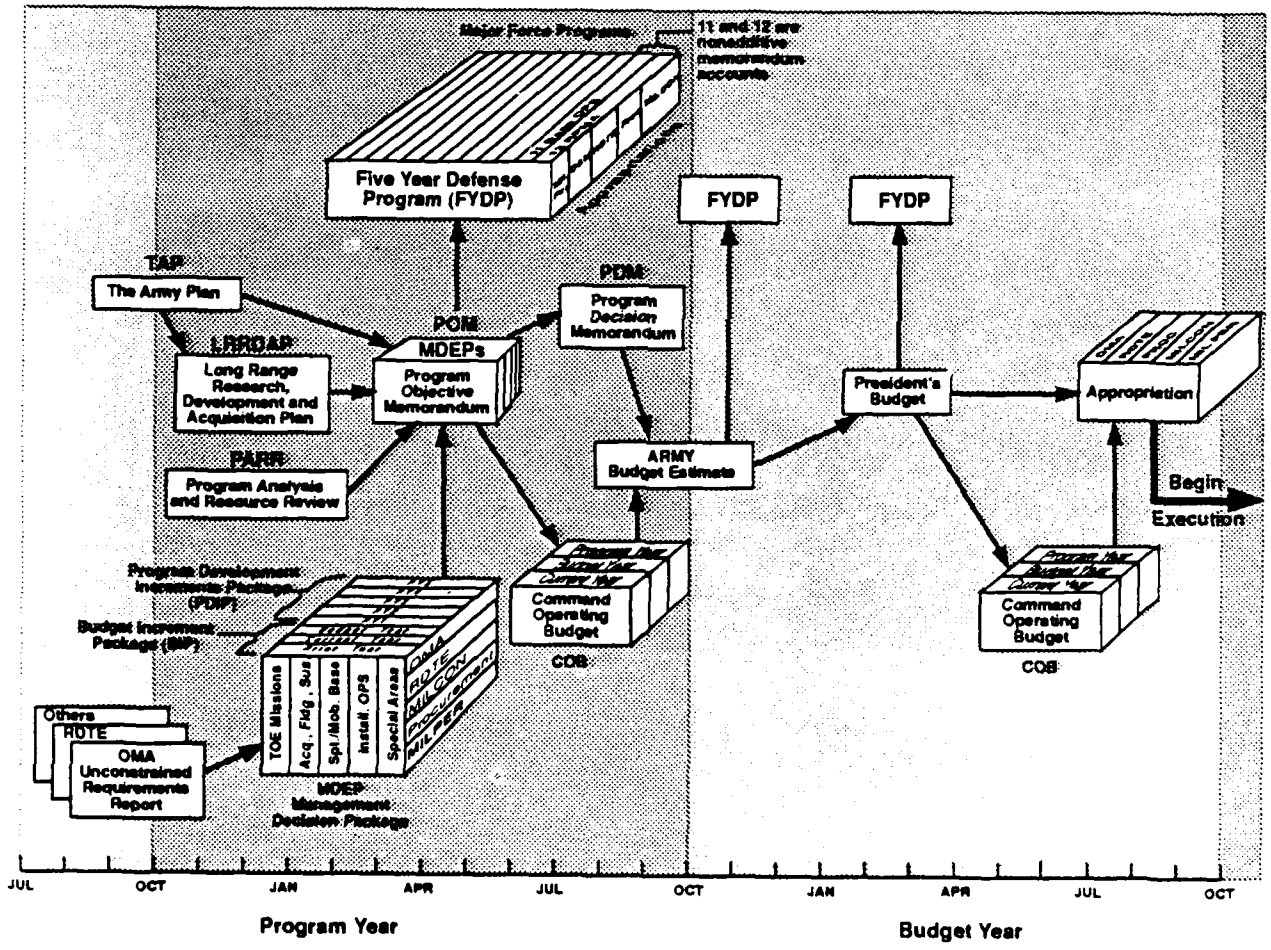

FIG. 2-1. ARMY PROGRAMMING AND BUDGETING OVERVIEW

The PPBES requires that AMC HQ compete for RPMA funding on several fronts. First, AMC's RPMA program competes with other mission areas or activities

within AMC. AMC in turn competes with other MACOMs for a portion of Army's total resources, and so forth. Each front requires that information be presented differently to compete successfully, and AMC HQ must fully understand at which front they are competing and what other activities RPMA is competing against. AMC's RPMA program historically has not fared well at any of these levels.

RPMA PROGRAMMING

Programming translates Army's strategic planning objective and guidance into a proposed and detailed allocation of funds covering a 5-year period – called the Army POM. The RPMA portion of the POM is developed from program information collected from the field and aggregated at various levels of Army command. This RPMA program information is reported through two distinct channels. First, the various functional appropriation managers request program submissions from the installation's resource managers. The RDTE Appropriation Management Division requests a field Long Range Research, Development and Acquisition Plan (LRRDAP) from RDTE-funded installations. The OMA Resource Management Division collects program (and budget) information through the annual budget and program resource review (BPRR). The BPRR replaces the program analysis and resource review (PARR) reports. The PA functional appropriation managers collect consolidated program data from the MSCs on electronic format for 5 to 15 years to parallel the LRRDAP and POM submissions.

Second, since the Office of the Chief of Engineers is both the OMA appropriation functional manager and the RPMA program manager, the engineering community has established its own parallel programming process in order to defend its RPMA program before the resource and appropriation managers. At the installation level, all operation of utilities, maintenance and repair, minor construction, engineering support (known as the .J, .K, .L, and .M RPMA functional accounts, respectively), and other related information must be identified and reported up the engineering functional channels from the I&SA to the Army staff. At Government-operated installations (RDTE-funded, OMA-funded, and AIF-funded), the DEH or Directorate of Installation Services (DIS) is responsible for generating and reporting RPMA information using the Unconstrained Requirements Report (URR). Although the AIF URR is prepared and submitted to AMC HQ (I&SA) and HQDA, the information is not used for any practical purpose – at least in the detail provided by the report. However, the information contained in the URR is used by the MSC engineers to

determine the RPMA portion of the applicable rates charged by the installations for providing services. At contractor-operated facilities, RPMA information is not reported by the URR. Appendix B provides details on this unique PA fund's programming process.

Unconstrained Requirements Report

The URR shows an installation's total unconstrained RPMA requirements – without regard to resource constraints – for the budget (2 years) and the 2 consecutive program years for each RPMA appropriation (except PA) supporting AMC installations. The URR is reported through engineering channels, not resource management. The reporting process is fund-type dependent and is discussed in more detail in Appendices B through E.

The URR classifies RPMA requirements into one of three categories as shown in Figure 2-2 and described below:

- Annual Recurring Requirements (ARRs) – The minimum-level maintenance and repair, operations, and service requirements needed to sustain the installation's real property and to avoid deterioration. All essential utilities costs, scheduled maintenance and repairs, service and requirements contracts, custodial costs, and other work force costs are examples of ARRs.

- One-Time Requirements (OTRs) – These are nonrecurring RPMA requirements caused by changes to an installation's mission, program, operational needs, or environmental compliance programs that are not otherwise covered by the ARR.

- Backlog of Maintenance and Repair (BMAR) – BMAR can best be described as the year-end measurement of maintenance and repair work that remains as a firm requirement at the end of the fiscal year because of a shortage in RPMA resources. BMAR is used as a management tool to determine the physical condition of Army real property. It includes work needed to restore deteriorated or failing facilities but is limited to maintenance and repair work. Numerous exceptions apply in the definition of BMAR; they can be found in AR 420-16, *Facilities Engineering Reports*.

DEHs (except PA-funded) prepare their URRs from a number of information sources. ARRs are normally estimated from historical records modified for known or expected changes such as utility rate changes or salary increases. They also include projects that are considered routine cyclical maintenance. The most definitive measures of maintenance and minor construction requirements are the project

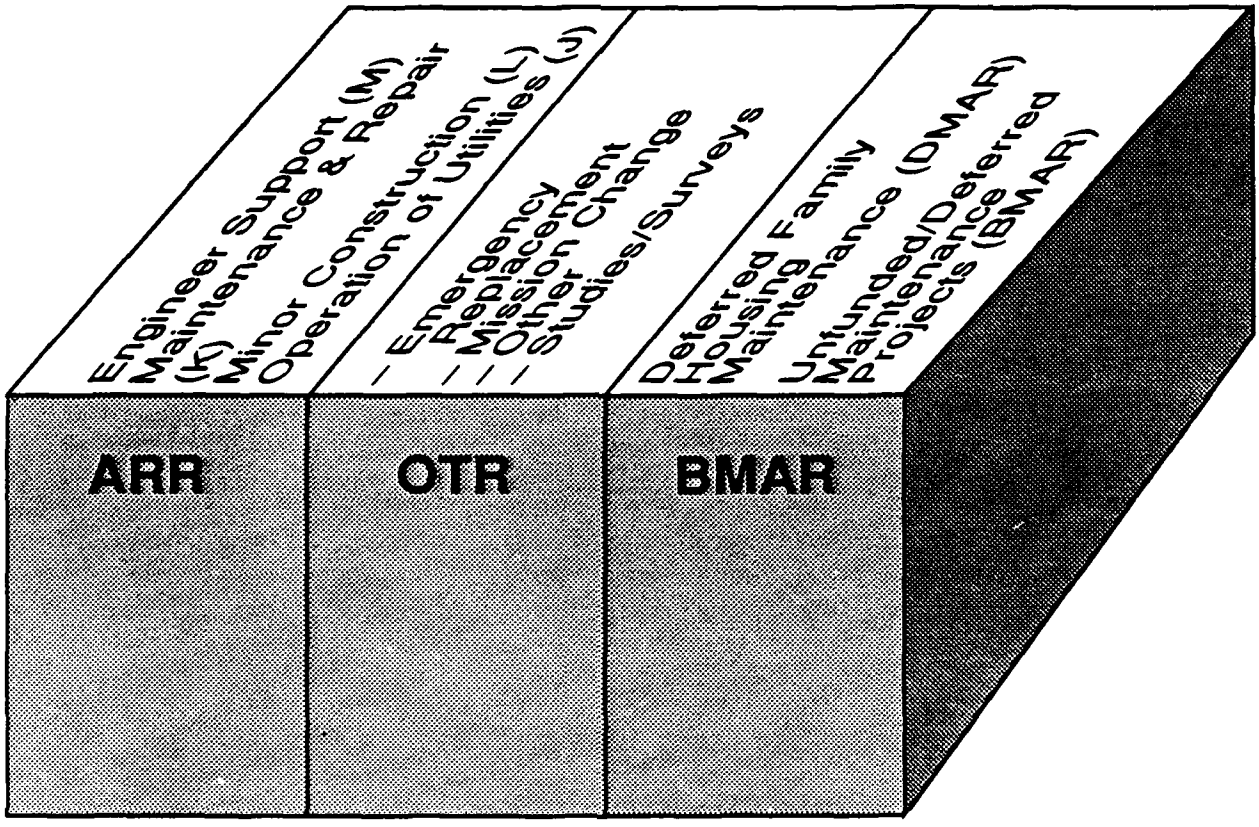

FIG. 2-2. UNCONSTRAINED REQUIREMENTS REPORT

listings or annual work plans that most DEHs develop as part of their requirements determination. OTRs are estimated by analyzing expected mission changes or extraordinary operational requirements (for instance, renovating barracks to accommodate a new unit would be an OTR).

The BMAR is by far the most difficult to estimate and define. In a strict sense, BMAR should be the accumulation of unfunded ARRs and OTRs. However, this is seldom true. In practice, some installations estimate BMAR by subjectively evaluating facilities and identifying needed maintenance projects. Most DEHs simply stop identifying BMAR at the point beyond which they can reasonably expect funding. Identifying all of an installation's BMAR takes a great deal of resources, which many DEHs are reluctant to expend given the low probability that everything they identify will be funded. Consequently, BMAR is the least accurate of the URR components.

Typically, ARRs define the minimum level of required annual maintenance funding. However, in recent years most AMC installations have not initially been receiving enough RPMA funding to accomplish even their ARRs. When installations are continually funded under the level of the total ARR, invariably there will be some critical BMAR and OTR projects that become critical and get accomplished at the expense of ARRs. As a result, the level of RPMA services decreases significantly and BMAR grows. In addition, when BMAR projects are deferred, the cost of repair generally increases significantly. Some installations have been underfunded for such a long period that maintenance and repair requirements are even growing exponentially. As roofs deteriorate, for instance, water causes additional damage to building interiors and structures and significantly increases the original cost of repair. Therefore, it is less expensive to maintain facilities than to repair them after damage has been caused. We observed a degradation of facilities at most AMC installations we visited. The installation DEHs concurred with our observation and pointed out that the problem has worsened in recent years. The greatest problems were observed at predominantly RDTE-funded installations where the facility managers were forced into a purely reactive mode (e.g., only repair work, no preventative maintenance) as a result of a lack of adequate RPMA funding.

Definitional differences between ARR and OTR create much difficulty for the DEHs when preparing their reports. Most Army installations we visited define their URR categories inconsistently, and what is considered an ARR at one installation is an OTR at another. Definitions of BMAR also vary widely, and BMAR estimates are sometimes manipulated – up or down – by the installations or MSCs to emphasize the condition of their real property. These definitional problems result in a great deal of confusion and frustration when preparing this rather time-consuming report. HQDA RPMA managers are aware of these definitional differences, and as a result, they often find the URR submissions suspicious and will therefore tend to adjust the numbers on the basis of past funding levels.

When installations finish their URRs, they are generally submitted directly to the I&SA in October. The U.S. Army Test and Evaluation Command (TECOM) installations are an exception, since they submit their URRs to their MSC functional engineers first, who adjust them, if necessary, before submitting them to the I&SA. There has been some concern over this additional layer of management, since the installations under TECOM receive conflicting advice from two sources (TECOM and

the I&SA) concerning category definitions, timing, and forecasting methodology. The extra level of supervision also delays its timely submission. In other MSCs, installations may or may not submit informational copies of the URR to their functional counterpart at the MSC, where submissions are checked and verified but little is done to support the installations' programming processes.

Although forecasting the future-year portions of the URR is an important aspect of URR preparation, most installations we visited put little effort into forecasting out-year URR information. They spend most of their time preparing exacting and accurate budget-year URRs in the hope of influencing their next year's RPMA budgets. As a result, the out-years are generally straight-lined and/or inflated from the budget years and historical data – for lack of a better system. Typically, the DEHs perceive URR preparation as a futile exercise, since its effect on programming levels is minimal, in their judgment, while their budget submissions appear closely associated with the RPMA dollars allocated to them. If an installation has historically been underfunded, these types of URR forecasts will do little to identify and correct that situation. Some DEHs and MSCs do base their out-year URR forecasts on future project information and sound economical analysis, but they represent a minority of AMC's RPMA managers. TECOM, for one, does check and verify installation forecasts before passing them along to the I&SA.

Recently, AMC has issued policy guidance to create uniformity in URR submissions. The out-years are now presented and forwarded in "then-year" dollars, so that they compare favorably with the program forecasts also presented in "then-year" dollars.

Some effort has been made to establish predictive models to help DEHs forecast future RPMA requirements, most notably by the Construction Engineering Research Laboratory (CERL). However, technical issues are still a major impediment to the widespread use of such models. Consequently, most DEHs still rely on locally developed procedures for extrapolating current expenditure levels into the future.

Engineer's URR Process

Since URRs are strictly engineering RPMA informational documents, they are submitted through engineer channels. When the I&SA receives the installation (all but PA-funded) URR submissions, it validates the information and checks for consistency with previous submittals. AMC installations do not submit RPMA

project-level information with the URR submissions; thus the I&SA is unable to validate the installations' RPMA programs or check the out-year forecasts for little more than deviations from the previous years. The information is then entered into a personal computer-based hierarchical database. The automated system consolidates the information and checks for mathematical errors but does not look for significant changes from previous years – nor does it perform an analysis of the forecasts. These are performed manually, requiring significant effort. After the URRs are analyzed and validated, they are consolidated by appropriation, MSC, and AMC totals and submitted to the U.S. Army Corps of Engineers (USACE) RPMA Programs Branch. Informational copies are sent to the Facilities Division at AMC HQ.

The USACE RPMA Programs Branch is both the functional manager for the OMA appropriation and the HQDA proponent for all RPMA funds. The three OMA subaccounts – two mission (depot maintenance and lay away) and one base operations (BASOPS) – are kept at USACE, while the RDTE and AIF URRs are passed along to their respective appropriation managers for separate coordination. Because of recent congressional interest in Army RPMA, the Chief of Engineers has directed the RPMA Programs Branch to coordinate the RDTE and PA RPMA appropriations at the HQDA level, beginning with the 1991 program process.

Over the last several years, the information contained in the RDTE URR was not used during the RDTE POM or budget building processes. However, recently, the AMC HQ Facilities Division has been successful using this information to defend the RPMA portion of the RDTE appropriation. The RDTE appropriation managers now find the URR methodology a credible source for RPMA information. The PA appropriation managers, on the other hand, have not adopted the URR as a credible RPMA information source and so PA-funded installations still do not prepare URRs.

At USACE, the RPMA Programs Branch checks the OMA URR submissions once again for consistency and accuracy and consolidates AMC's information with the other MACOMs' RPMA requirements. The URR data for OMA are adjusted, as necessary, to meet Army-wide programming objectives. Any problems concerning AMC's URR submissions are resolved at the I&SA. By the time the URR submissions reach this level, it is assumed that the entries are accurate; however, large differences from previous years are a matter of concern. The RPMA Programs Branch is fully aware of the recent increases in the .K, .L, and .M accounts (particularly .M) as environmental projects are programmed more frequently by the

DEHs. Once validated, the program years are entered into a master database, where the data for the program years find their way into the program development increments packages (PDIP) of the management decision package (MDEP). The MDEPs support development of the Army's portion of the POM. The budget-year portion of the URR submission is used by USACE to fine-tune the Army's budget submission for OMA.

The RPMA Programs Branch's policy is to fully program the ARR portion reported in the OMA URRs. ARRs have priority over all BMAR projects. However, it should be noted that the branch has adopted a slightly different definition for ARR. ARR is defined as the combination of the Army engineering community's definition of ARR plus OTR. USACE rationalizes that this is necessary because of the definitional variation between ARR and OTR at the installation and MSC levels. Historically, HQDA has funded AMC between 85 and 95 percent of its total ARR. However, since Army and MSC resource managers frequently reprogram portions of these funds for other purposes, installation DEHs seldom receive this level of funding; therefore, Army RPMA managers are reluctant to provide additional RPMA funds since the funds are frequently reprogrammed anyway. Although AMC's RPMA programs are expected to be slightly higher in the coming years, serious shortfalls are still expected.

Appropriation Manager Programming Actions

At AMC HQ, the various fund managers develop an RPMA program posture at the same time as the engineers. All OMA program submissions, and some RDTE, are coordinated by the AMC HQ Resource Management Division. Most RDTE requirements are coordinated through the AMC HQ RDTE Appropriation Management Division, and PA funds are coordinated by the Deputy Chiefs of Staff for Production (AMCPD) and Ammunition (AMCAM).

The AMC HQ Resource Management Division analyzes the OMA data collected from installations and MSCs in the BPRR as it makes its way into AMC's POM submission. RPMA submissions are compared to those provided through the engineering channels via the URR, and adjustments are made. The Facilities Division acts as the RPMA advocate during this important phase. After the information is scrubbed, MDEPs are updated before review by the various MDEP

committees. Appendix D provides additional detail on the OMA programming process, while Appendix A discusses the MDEPs and BPRR.

For RDTE and PA appropriations, the LRRDAP supports the Army's development of AMC's submission to the POM. The AMC HQ RDTE Appropriation Management Division set the funding levels for RPMA based on historical program and budget levels established in the research and development annex of the Army's FYDP while AMCPD and AMCAM program PA RPMA funds based on expected production levels. The LRRDAP information is organized by mission areas. They undergo a series of reviews by their mission area managers (MAMs) where funding levels are determined and then by the mission area integration team (MAIT) where all MAMs compete for total program funds, followed by a "4-Star Review" consisting of the TRADOC, AMC, FORSCOM, and Information Systems Command commanders. The RDTE Appropriation Management Division, the PA functional managers, and the Facilities Division provide RPMA information during this period to support their respective mission areas. When the mission area levels are finalized, the LRRDAP is published. Typically, the warfighting mission areas have great influence on the levels established in the infrastructure mission areas. When funding is scarce, increases in warfighting areas are generally balanced by decreases in infrastructure areas. The URR is not used by the appropriation managers during the process; however, the Facilities Division does provide information contained in the URR to the various programming committees upon request. Appendices B and E provide additional details on the PA and RDTE programming processes, respectively.

RPMA BUDGETING

Budgeting is primarily a resource management function. RPMA budgets are prepared by the installation DEH, DIS, or contractor and submitted to the DRM. At the installation level, RDTE and OMA budgets are called command operating budgets (COB) or installation operating budgets, depending on local nomenclature. Both present basically the same information to the resource management community. As during all budgeting, the DRM takes the lead role in installation-level budgeting.

At PA-funded installations, minor RPMA requirements have no interaction in the PPBES; they are part of the contractor's overhead cost and paid through its base contract. Each contract is different and establishes a minimum threshold for minor

RPMA requirements. Generally, this minimum threshold is established at $5,000 or less. RPMA requirements greater than the contract minimum are budgeted for Production Base Support (PBS) funds at AMCPD and AMCAM. The other PBS requirements are prioritized together so that the highest priorities are funded for accomplishment.

AIF-funded installations do not budget in similar fashion. Both programming and budgeting occur at the same time during the rate-setting process. RPMA funds received by the DEHs depend upon established rates and the quantity of "business" performed at the installation. In this way, RPMA accounts receive sufficient funds to accomplish their missions.

Installations (except GOCOs) receive budget guidance in the May time frame from the May issuance of the program and budget guidance (PBG), which they use as the basis for their budget preparations. The DEH or responsible agent submits an RPMA budget (in resource management terms) to the DRM for consolidation with the balance of the installations' operating budgets. We found no evidence during our site visits of any effort by DEHs (or contractors) to compare their budget submissions with their program submissions. This was generally considered wasted effort. At most installations, the DEHs put more time into preparing budgets than into preparing URRs, since they believe their budget submissions influence RPMA funding more than the URRs do. Most DEHs find the level of accounting detail and format of DRM budget documents troublesome, making it extremely difficult for them to develop budgets with the same data used in the URR.

Budgeting at AMC HQ

At AMC HQ, the BPRR is used once again to budget OMA funds. Information contained in the BPRR establishes AMC's budget posture for the forthcoming budget submissions to HQDA. In the off-years, AMC HQ provides a resource management update instead of a COB. A series of meetings (three to four times annually) are conducted between the Facilities Division and Resource Management community to compare the budget submission with data presented in the budget years of the URR. The Facilities Division uses these meetings to present AMC's RPMA posture.

The RDTE Appropriation Management Division sends budget guidance established in the May PBG to all RDTE-funded installations before May. Installations and MSCs use this information to formulate their budget submissions.

Once again, the RPMA funding level from the POM is not based on the installation's URR; rather it is an extension of the previous year's levels (i.e., "prior year" plus "salary increases" plus "inflation"). The LRRDAP and prior-year's President's Budget are used together to establish AMC's RDTE budget submission at incremented levels, which is forwarded to OSD in September. Budget submissions must be within the guidelines established in OSD's program decision memorandum.

At PA-funded installations, RPMA requirements beyond the minimum threshold established in the contract, together with equipment requirements, are prepared and submitted in a system that parallels the LRRDAP. Each PA-funded site prepares an Exhibit P-15 or P-25 of the *Production Support and Facilities Project Report* (RCS: DRC-834) and submits it to the appropriate MSC where they are combined into a "funds project" for each installation. These funds projects are then forwarded to AMCAM and AMCPD for final coordination. Ammunition plants use Exhibit P-25 for this submission while all others use the P-15. AMCPD prioritizes the requests using savings, safety, production requirements, and the environment as the criteria. These prioritized lists are then sent forward in the budget process.

RPMA RESOURCE ALLOCATION

By the time AMC receives its appropriations, 2 years have passed since requirements were programmed, and several months have passed since the final budgets were submitted. Congress is aware of the need for the MACOMs to operate in a businesslike manner, so flexibility is granted for shifting money within appropriations – with some limitations.

AMC's final COB is altered, for various reasons, during the congressional appropriations process, so AMC's COB is simply a starting point for the OMA resource allocation process, which determines the final disposition of its AMC resources. AMC has established Resource Allocation Committees (RACs) as their forum for finalizing OMA resource allocations. At these sessions, RPMA competes against other activities for their portions of AMC's OMA appropriation. Three RAC levels at AMC are used to prioritize unfunded requirements and to finalize OMA resource allocations to the MSCs. They are the junior, senior, and executive RACs.

The working level session, which meets around mid-June, is called the "junior" RAC and is cochaired by the Chief of the OMA Resource Management Division. For the most part, unfunded requirements are prioritized during this session as the

functional managers "sell" their resource needs. However, little project-level detail is discussed except for high-visibility items such as environmental or military construction (MILCON) projects, and the lists of top unfunded projects are not identified by MSC or installation. The Facilities Division is the voice for RPMA during the junior RAC sessions. "Senior" RAC sessions meet in mid-July and are made up of Deputy Chief of Staff-level officials. Representatives from the MSCs may attend these sessions, but they do not carry voting power. The senior RAC is chaired by the Resource Manager. The "executive" RAC meets soon after; it is composed of AMC's and the MSC's command groups. Allocations are finalized at these sessions and readied for HQDA approvals.

The resource allocation process is somewhat different for RDTE and PA appropriations. Congress appropriates RDTE and PA funds authorized by major line item and fixed at the appropriation total. RPMA funding levels can be changed. However, the migration of dollars from other mission areas must result in a net zero sum change to the program. Any proposed changes require approval from the appropriation's functional managers. Any fund shifts between appropriations require congressional approval and reprogramming actions.

AMC's policy has been not to fence any appropriations beyond those restrictions imposed by Congress. This policy allows installation commanders the flexibility they need to accomplish their missions. Given this policy, RPMA funds allocated to MSCs and to installations do not always reach the DEH, DIS, or facility manager in the same amounts allocated to them. OMA funds often are diverted to other installations or activities with greater needs at the MACOM and MSC level, and RDTE funds can be transferred to other mission accounts, with limitations, at the MSC and installation level. OMA funds are sometimes withheld from the installations at the AMC HQ and MSC levels for emergencies and for special-purpose programs and are allocated near the end of the fiscal year. However, RDTE funds are totally allocated since the appropriations are so low from the outset. MSC resource managers have the authority to shift funds between mission areas (RDTE, PA) and subactivities (OMA) during the resource allocation process. Additionally, year-end funding creates management problems for DEHs who are not aware of their total RPMA obligational authority until year-end funds are passed down. This occurs oftentimes too late for efficient obligation of the money. For instance, year-end funds must be applied to

projects that are ready or almost ready for contract award or execution. Therefore, the installation's highest priority projects are not always the ones that get funded.

CHAPTER 3

REAL PROPERTY MAINTENANCE ACTIVITY PROGRAM MANAGEMENT AT OTHER MAJOR COMMANDS

As part of our study, we examined RPMA management practices at other MACOMs in order to draw comparisons with AMC's RPMA program. In particular, we looked at the RPMA programs of TRADOC and FORSCOM. Several significant differences are worth noting. Neither TRADOC nor FORSCOM is organized by MSCs, and both have only one primary RPMA fund source – OMA – to contend with. Their direct command links to their installations and their single fund source simplify their RPMA programs in comparison with AMCs. On the other hand, there are similarities between them that offer valuable comparisons. Both MACOMs are comparable in the size of their RPMA budgets, in the value of their real property, and in the number of their facilities. Although TRADOC and FORSCOM manage fewer installations, those installations are generally larger than AMC's. Many problems encountered at AMC's installations also exist at TRADOC and FORSCOM bases, such as BMAR growth, aging physical plant, and underfunding. Those RPMA management practices that provide useful points of comparison are discussed in the remainder of this chapter.

U.S. ARMY TRAINING AND DOCTRINE COMMAND

Overview

TRADOC is responsible for all Army training installations, including 17 major installations and 4 subinstallations. TRADOC's FY90 RPMA budget for monitoring these installations is slightly less than $500 million. Their RPMA mission is carried out by the Deputy Chief of Staff, Engineer, at TRADOC HQ, with 96 personnel organized as shown in Figure 3-1. We interviewed several sources that believe TRADOC's RPMA program is the best managed in the Army. This perception is likely influenced by the fact that TRADOC has no MSCs and is funded almost exclusively through the OMA appropriation, which greatly simplifies its RPMA management mission.

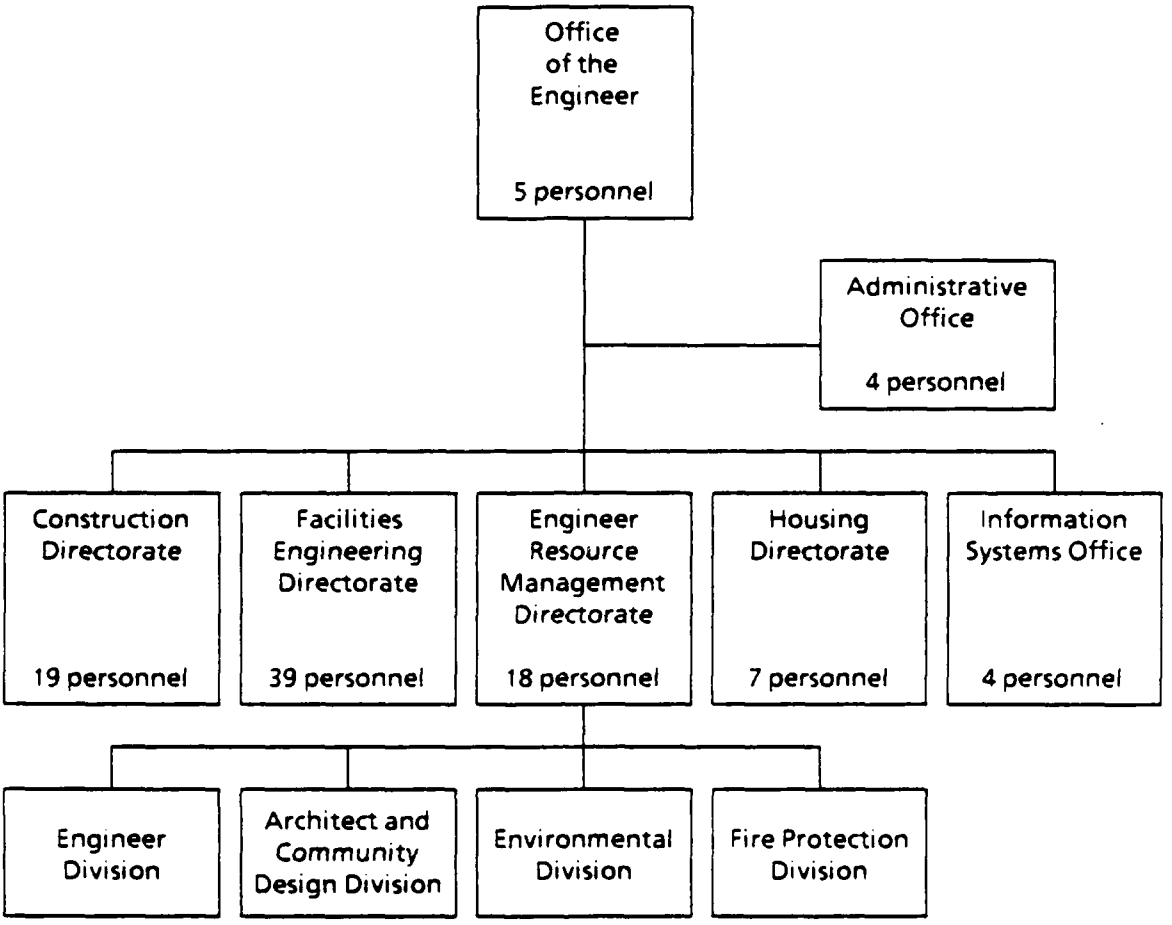

FIG. 3-1. TRADOC HQ DEPUTY CHIEF OF STAFF, ENGINEER, ORGANIZATION

Determining Requirements

At TRADOC installations, DEHs determine RPMA requirements and classify them into one of the three URR categories: ARR, OTR, and BMAR. The DEHs use a number of information sources to develop their URR submissions. ARRs are normally estimated on the basis of historical records modified for known or expected changes such as utility rate changes or salary increases. Recurring requirements also include projects considered to be routine cyclical maintenance. The most definitive measure of maintenance and minor construction requirements is the listing of prioritized projects, which is maintained on TRADOC's Maintenance and Repair (MAR) Project Management System. Approximately 2,300 projects are managed with the MAR system, and it is one of TRADOC's primary RPMA

management tools. All TRADOC installations are required to input data to this system.

OTRs are estimated by analyzing expected changes associated with a specific mission change or an extraordinary operational requirement. For example: renovating a barracks to accommodate a new unit would be an OTR and would be noted on the URR as such.

BMAR is by far the most difficult to estimate and least accurate of the URR components. In a strict sense, BMAR should be the accumulation of unfunded ARRs and OTRs. However, this is seldom true. At TRADOC, BMAR is estimated by evaluating facilities and identifying needed maintenance projects. Most DEHs stop looking for BMAR once the number reaches a point beyond which funding cannot be expected. Identifying all of an installation's BMAR takes resources that many DEHs are reluctant to expend, given the low probability that everything they identify will be funded. TRADOC attempts to improve the accuracy of its BMAR by validating it through direct inspection of installations when manpower is available. Despite these efforts, BMAR is, at best, a rough estimate.

Identifying future projects from the MAR system and estimating other maintenance requirements on the basis of historical records, known mission changes, and extraordinary operating conditions leads to the development of out-year forecasts. The accuracy of the forecast is a function of the MAR project listing and judgments used in estimating other RPMA requirements. TRADOC believes that its forecasts are relatively accurate since they are based in part on identified projects. The USACE RPMA Programs Branch, which is responsible for monitoring the URR forecasts, believes that TRADOC's forecasts are the most accurate and believable of any MACOM's.

Programming RPMA Requirements

Facility requirements are generally programmed in one of two ways. Projects estimated to cost more than $200,000 go through the MILCON review process. Operation of utilities, engineering support, and maintenance projects under $200,000 are programmed through the PPBES.

Projects enter the MILCON review process when a DD Form 1391, *Military Construction Project Data*, is prepared. The project is reviewed by installation

committees and forwarded to TRADOC HQ where it is again reviewed. Recommended projects are forwarded to the Office of the Assistant Chief of Engineers (ACE), which coordinates a DA review of proposed projects. The ACE prepares the MILCON program submission – which includes all recommended projects – for Congress. Congress reviews this submission and provides funding for selected projects through the Military Construction, Army (MCA), appropriation. USACE is charged with the execution responsibility for projects contained in the MCA appropriation.

Programming for other facility requirements is accomplished within the PPBES. After requirements are evaluated, those with a high enough priority become part of the MACOM's budget submission and hopefully are funded. URR requirements are analyzed within engineering functional channels at TRADOC HQ before being forwarded; concurrently, the COB is being developed within resource management functional channels.

The Budget Process

TRADOC has three major points of interaction between the resource manager's budget process and the engineer's RPMA management process. The first occurs at the installation when the DEH communicates its requirements to the DRM for inclusion in the installation's budget submission. The requirements submitted to the DRM should reflect those submitted in the URR. A similar reconciliation occurs at TRADOC HQ, where the engineers compare URR data with the requirements stated in budget submissions. The engineer representative at resource allocation committees serves as TRADOC's proponent for RPMA. The final interaction with the URR submission occurs when the USACE RPMA Management Branch reconciles URR data with the information contained in budget submissions from the Army Comptroller. After consolidating TRADOC's COBs with the other MACOMs' COBs, the Comptroller submits the Army's budget estimate to OSD, which then provides input to the President's Budget.

RPMA Resource Allocation

Allocation of OMA RPMA funds is accomplished in much the same manner as that of other OMA monies. Once Congress acts on the President's Budget and an OMA appropriation is enacted, the allocation of RPMA funds begins. Two information sources influence the allocation of OMA RPMA funds at TRADOC: the

URR is used by the engineering staffs, while the COB is used by resource managers and is the official allocation document.

Funds are allocated for RPMA at the Army, MACOM, and installation levels. At each management level, allocation committees determine how much of the total OMA resources should be spent on RPMA. Staff engineers and DEH personnel are generally members of these committees and have the opportunity to act as advocates for RPMA. In recent years, there has been no guarantee that each level will be consistent with the level preceding it. For example, the MACOM RPMA allocation may be greater or lesser than that of the Army. Although not binding, the allocations made by each level do serve as guidance for subsequent levels of command. TRADOC has recently established greater control over the installation's spending and now tracks budgeted and obligated funds. Since TRADOC now validates spending, the installations are now at risk of losing funds (e.g., for RPMA and/or environmental) when monies are spent where intended. This policy does not preclude the installation commanders' responsibilities to manage their funds effectively.

The allocation of RPMA funds within the installation's DEH is based primarily on a combination of DEH judgments and installation commander prerogatives. There are, however, some policies that govern the suballocation of RPMA funds. One such policy is embodied in TRADOC's guidelines for the prioritization of real property maintenance and repair projects in the MAR system, which provide for the assignment of a numerical score to each project. This score can then be used to prioritize RPMA projects to maximize the benefit received from the RPMA dollar. The priority is assigned by TRADOC HQ and is used by all its installations. Another priority is the longstanding congressional guideline that the maintenance of real property (.K account) equal at least 90 percent of the sum of maintenance of real property and minor construction (.K + .L) accounts.

RPMA Reports

The major reports used to manage RPMA are the URR, the Technical Data Feeder Report [(normally referred to as the "Tech Data Report" (TDR)], and reports generated by the MAR system. The URR provides requirements information for all categories of RPMA. URRs are prepared for the execution year, the budget year, and for forecast years and are the primary mechanism by which DEHs articulate their requirements. The TDR is an execution report that requires installations to identify

where RPMA funds were expended by functional category. It is intended to provide an information base for examining RPMA execution and for analyzing future RPMA needs. The TDR is organized by Army Management Structure Code and contains a great deal of detail on the execution of the RPMA program. The MAR system contains a detailed project listing that includes a significant amount of information on every project. This information system allows TRADOC managers to analyze RPMA projects by type, cost, or timing. The combination of the three information sources – TDR, URR, and MAR system – provides TRADOC managers a comprehensive view of their RPMA programs.

FORCES COMMAND

Overview

FORSCOM installations, consisting of 19 major installations and 21 subinstallations, train and house the Army's forces. FORSCOM manages its RPMA program much as TRADOC does, since it has no MSCs and only a single RPMA fund source, OMA. FORSCOM does not use an automated management system as sophisticated as TRADOC's MAR system, but it does maintain an automated database (using dBASE III) to track and prioritize all RPMA projects.

Determining Requirements

At FORSCOM installations, the DEHs determine all RPMA requirements. The quality of these determinations varies yearly between installations. Prior to 1988, RPMA funding flourished and the DEHs worked hard to identify requirements. BMAR lists actually grew even though RPMA funding had increased. But, during periods of lower RPMA funding, less effort is expended on identifying requirements, since the DEHs see little use in justifying needs that probably will not be met. FORSCOM does not validate BMAR submittals with on-site visits because it does not have the manpower.

The requirements, once identified, are included in the URR and the COB. The URR is submitted within FORSCOM engineering channels, and the DRM has no involvement. As is the case elsewhere, FORSCOM DEHs have little faith in the URR's role in determining funding levels and, consequently, three-quarters of FORSCOM URRs are of poor quality. Identification of out-year requirements is especially poor. These requirements usually represent current requirements

adjusted for inflation or straight-lined historical data. Therefore, FORSCOM's RPMA staff spends considerable effort revising the installations' URRs to reflect a uniform posture before forwarding them to USACE. The data reflected in the final URR for an installation may therefore not match the requirements identified by that installation's DEH.

Programming, RPMA Requirements

RPMA programming at FORSCOM is much the same as it is at TRADOC. RPMA requirements are programmed through the MILCON process or through other PPBES avenues.

The Budget Process

The DEHs see the COB as the real determinant of how much RPMA funding they will receive. They therefore spend much more effort in identifying requirements for the COB submittal than they do for the URR. The COB is a DRM document, and the DRM provides the DEH with budget guidance and limitations on what RPMA funds can be requested. The COB is therefore budget-driven as well as requirements-driven.

FORSCOM's URR is not compared with the RPMA requirements stated in the resource manager's budget process until it reaches the USACE RPMA Programs Branch. There, the FORSCOM URR data are reviewed and consolidated with those of the other MACOMs. The aggregated information is used to update MDEPs in preparation for building the POM. Hence, contrary to the FORSCOM DEH's common perception, the URR does influence FORSCOM's level of RPMA funding. However, since cause and effect are separated by at least 2 years, it is hard for the DEHs to perceive a relationship.

The interaction between facility requirements and the budget process is more immediate and therefore more visible in the COB. The budget year of the COB is essentially only a 1-year look at the requirements. The DEHs tailor identification of their requirements to meet the COB guidance, and the COB is used by resource managers to allocate the funds.

RPMA Resource Allocation

The initial allocation of funds between RPMA, other base operating support, and mission requirements is made by the FORSCOM allocation committees using, as a starting point, the data contained in the COB. The FORSCOM engineering community has only one vote at the committee level and therefore has little influence over this initial split. Once the initial FORSCOM funding levels have been determined by the committee, the distribution of RPMA funds is handled by the FORSCOM engineering staff. That allocation process is done in stages. First, the .J and .M account requirements for each installation are validated and funded. Next, high-visibility projects are identified and funded. Finally, any remaining funds are shared proportionally among the installations regardless of priorities.

FORSCOM HQ determines how the RPMA OMA funds are allocated to the installations, but installation commanders still have the authority to transfer funds to or from other OMA accounts: RPMA funds are not "fenced." Although FORSCOM engineers think they should be, the Commander in Chief of FORSCOM is unlikely to support such a move.

Reporting

Most RPMA reporting at FORSCOM is similar to that at TRADOC and AMC. However, FORSCOM's engineering staff requested permission to combine the URR and COB submissions into a single document. The request was submitted under the Model Installations Program, and permission was denied. The COB therefore remains the focus of FORSCOM's budgeting and RPMA efforts.

CHAPTER 4

REAL PROPERTY MAINTENANCE ACTIVITY MANAGEMENT WITHIN THE ARMY MATERIEL COMMAND

Several AMC organizational elements perform management functions within AMC's real property maintenance program. Responsibilities and authority vary between organizations, and in some instances they overlap. This chapter discusses those organizations having RPMA responsibilities, their relevant functions, and the major RPMA management issues at each.

The Facilities Division of the DCSEH&IL, located at AMC HQ, has the lead responsibility for managing AMC's RPMA program, but the following organizations play a supporting role:

- *The Installation and Services Activity* – Located at Rock Island Arsenal, it provides RPMA engineering and technical assistance to the Facilities Division.
- *Major subordinate commands* – There are ten MSCs, which provide varying degrees of management and engineering support to the installations under their command.
- *Appropriation managers* – RPMA is funded from three different appropriations (RDTE, OMA, and PA) and the AIF. Each fund source supporting AMC installations has functional appropriation managers who have primary responsibility during the programming and budgeting phases for developing the RPMA portion of their respective appropriations.
- *Installation facility managers* – The RPMA program at Government-operated installations is managed by the DEH, the facility engineer, or the DIS. However, at GOCO plants and those installations under CA contract, there is a dual relationship between the contractor and the Government.

FACILITIES DIVISION

The DCSEH&IL is charged with AMC's supervisory and management mission for all AMC's real property, including all incidental operations and maintenance. It is the Facilities Division of the DCSEH&IL that has the primary responsibility for supervising and monitoring the RPMA program. DCSEH&IL's organizational chart

is presented in Figure 4-1, which shows a breakdown of the Facilities Division. The organizational elements shown in bold boxes have the major responsibility for RPMA management.

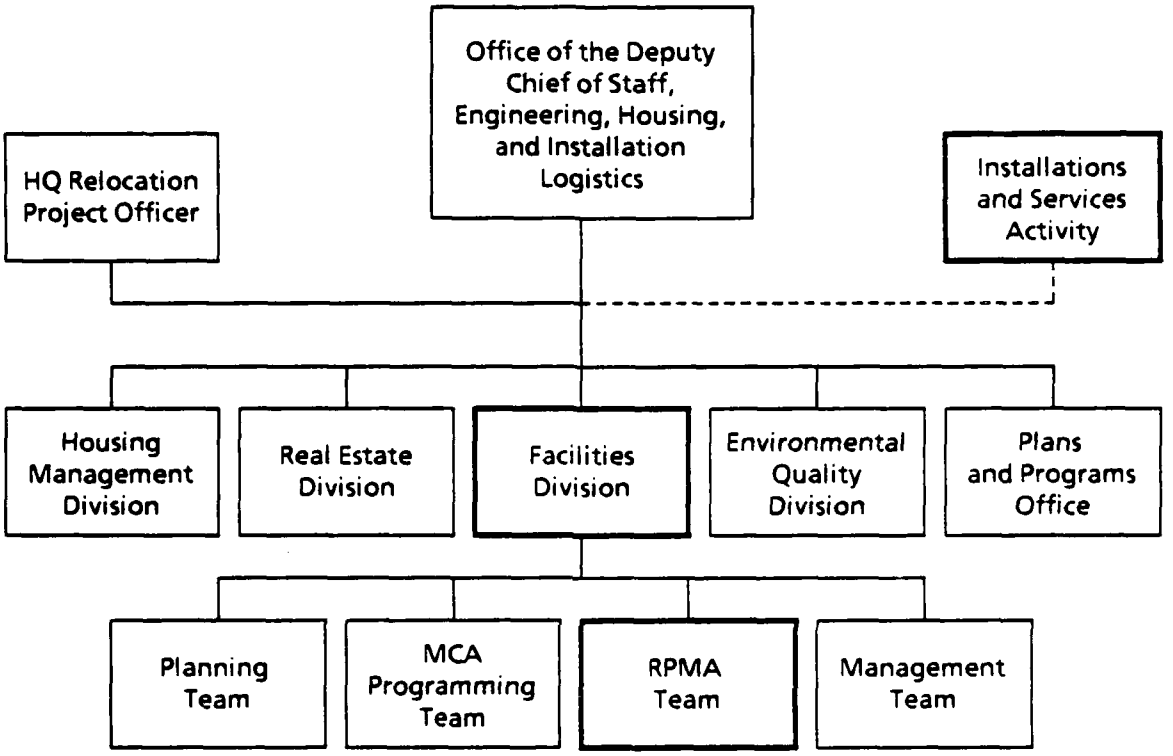

FIG. 4-1. DCSEH&IL ORGANIZATION

The DCSEH&IL is AMC's functional manager for RPMA; some BASOPS; Army Family Housing (AFH); MCA; and Defense Environmental Restoration Account (DERA) appropriations. In addition, the DCSEH&IL oversees the operation of the I&SA.

The RPMA team of the Facilities Division contributes most of the manpower dedicated to AMC's RPMA program. Its responsibilities, defined by AMC Regulation 10-2, *Headquarters, AMC, Organization, Mission, and Functions*, are extensive; yet the team is staffed by only two full-time personnel. There is little support from other groups within the division. The RPMA team's main responsibilities include coordinating RPMA program and budget submissions for all

fund sources and defending all RPMA resource requirements (such as funds and manpower) before AMC HQ and HQDA.

Programming and budgeting are perhaps the division's most visible responsibilities. Despite this high visibility, the Facilities Division does not have the resources to track all RPMA appropriations throughout the PPBES phases, it does not have the capability to track project-level information (like TRADOC's MAR system), and it seldom has current information on the total AMC-wide RPMA posture. The needed information is, however, available in one form or another at some MSCs [e.g., TECOM and the U.S. Army Depot System Command (DESCOM)], most installations, and the I&SA (BMAR projects). Requests for RPMA information from other organizations are frequent, but the RPMA team is unable to easily answer these requests. Instead, it is forced to issue manpower-intensive data calls to appropriation managers, MSCs, and the I&SA for the required information.

INSTALLATION AND SERVICES ACTIVITY

The responsibilities of the I&SA are comprehensive and go beyond RPMA management. Its RPMA role is essentially to provide engineering and technical assistance to the DCSEH&IL. Areas of technical expertise include construction, base operations, maintenance and repair, management of real property, and management of retail logistical support services. Figure 4-2 shows the organizational structure of the I&SA, highlighting those divisions most involved in RPMA.

The I&SA is divided about evenly between engineering and logistics support. However, it is the engineering faction that provides support to AMC's RPMA mission. There are roughly 50 personnel at I&SA supporting the RPMA mission. The two organizations within I&SA that work most closely with the AMC HQ Facilities Division are the Engineering Management and Systems Division and the RPMA Operations Division. Their RPMA management roles are described in the following sections.

Engineering Management and Systems Division

The foremost RPMA-related responsibilities of the Engineering Management and Systems Division are to provide technical, engineering, and/or consulting assistance to AMC HQ, all MSCs, and all installations upon request. They supervise AMC's real property accounting, consolidate and verify TDRs and URRs, and assist

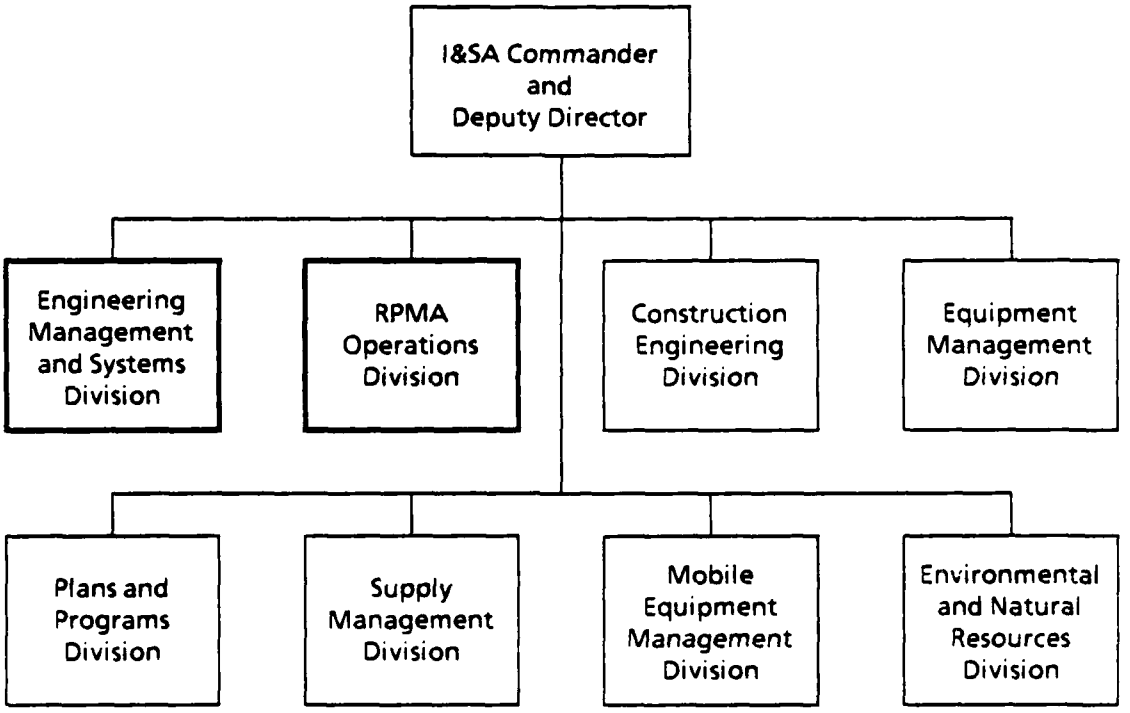

FIG. 4-2. I&SA ORGANIZATION

installations with CA and job-order contracting. Their role verifying, consolidating, and forwarding AMC's URR data is discussed in detail in Chapter 2. In addition to its URR responsibilities, it also verifies all AMC TDRs submitted by the installations. The TDR is used to determine how the installations utilized the resources provided them and to evaluate their relative performance in the RPMA arena. This information is used to assist with installation policy formulation and to assess the impact of changes on installations. It is also used to forecast some types of installations' RPMA requirements such as utilities.

RPMA Operations Division

The RPMA Operations Division is responsible for validating all AMC BMAR projects. The I&SA has established a policy for prioritizing the BMAR projects, and the RPMA Operations Division maintains a local database to keep track of them. According to current AMC policy, each AMC installation should be visited once every 3 years for this purpose.

It is widely agreed within AMC that BMAR is defined differently from installation to installation. Lack of uniformity among the AMC installations creates reporting and evaluation problems at the I&SA. What was intended as an accurate measurement of an installation's RPMA condition, for the purpose of effectively allocating RPMA resources, has become a misunderstood and ineffective measurement. When each installation prepares a Technical Data Feeder Report, it includes an incomplete listing of the installation's unaccomplished BMAR. This report is used by the I&SA as the basis for each installation's BMAR verification visits. RPMA Operations Division inspectors check the BMAR submissions and validate that they are in fact real requirements. Although the inspections generally lead to the discovery of additional RPMA requirements, the visit is not intended as a facilities component inspection. The installation visited and its corresponding MSC both receive a copy of the validated BMAR list for their own use in developing priority lists, URRs, and work plans. Since installations are visited only once every 3 years, the I&SA's database of BMAR is not necessarily up to date.

MAJOR SUBORDINATE COMMAND

Each MSC also has an engineering staff established to support the RPMA mission of installations in its command, although some provide only part-time engineering support. MSC engineering staffs are generally small, and their support capability is limited. Most of the MSCs visited during the study were in favor of more support from AMC HQ during the programming and budgeting phases, so that they could obtain more RPMA dollars. However, they were not in favor of relinquishing any management oversight – particularly when it comes to RPMA resource allocations – of the installations in their command.

MSC organizations managing RPMA have no standard structure and different responsibilities and the number of installations they support varies widely (see Table 4-1). Three of the ten MSCs possess 80 percent of AMC's installations. These size differences can make generalizations misleading. For example, TECOM exerts a high level of management control over its RDTE-funded RPMA program. TECOM's RPMA staff consolidates all URR submissions, analyzes them, and adjusts them as necessary before they are forwarded to I&SA. Moreover, the staff plays a significant role in determining how the RPMA resources received at TECOM are allocated. Project lists are maintained in an automated database, and TECOM engineers have developed a prioritization strategy to determine how to most effectively allocate the

resources among the competing TECOM installations. In contrast, the U.S. Army Tank-Automotive Command's (TACOM's) RPMA staff handles only the URRs for its relatively small OMA program and has little influence over how TACOM's resource management organization allocates and controls OMA RPMA funds. TACOM's other funding – PA – is handled through the project management office.

TABLE 4-1

AMC MSC FUNDING

MSC	Government-operated	Funding	Contractor-operated	Funding
LABCOM	2	RDTE	0	-
TROSCOM	1	RDTE	1	PA
DESCOM	13	AIF and OMA	0	-
AVSCOM	1	OMA	2	PA
MICOM	1	OMA	1	PA
AMCCOM	7	OMA, AIF, and RDTE	25	PA
TECOM	5	RDTE	0	-
TACOM	1	OMA	1	PA
CECOM	2	OMA and RDTE	0	-
Total	33	-	30	-

Note: LABCOM – U.S. Army Laboratory Command; TROSCOM – U.S. Army Troop Support Command; DESCOM – U.S. Army Depot System Command; AVSCOM – U.S. Army Aviation Systems Command; MICOM – U.S. Army Missile Command; AMCCOM – U.S. Army Armament Munitions and Chemical Command; TECOM – U.S. Army Test and Evaluation Command; TACOM – U.S. Army Tank-Automotive Command; CECOM – U.S. Army Communications-Electronics Command

APPROPRIATION MANAGERS

AMC's RPMA appropriations (i.e., OMA, RDTE, PA, and AIF) have Army staff functional managers who exert various degrees of control over their respective appropriations. For example, the OMA appropriation is managed by the Chief of Engineers, who is also program manager for all RPMA program elements. Therefore, the engineers have a great deal of influence over the OMA RPMA funds, and it is this appropriation upon which they concentrate. The RDTE and PA appropriations, on the other hand, are managed by the Assistant Secretary of the Army (Research, Development, and Acquisition) and historically the engineers have done little to

influence the RPMA program elements within them. However, recent congressional interest in RPMA has caused the Chief of Engineers to become more involved in RPMA funding for the RDTE and PA appropriations supporting AMC installations. Starting in FY90, USACE will be taking a more active role defending all the RPMA appropriations during the PPBES process.

INSTALLATION RPMA MANAGERS

At the installation level, management of the RPMA program is the responsibility of the DEH, the DIS, or the facility engineering department. In some cases, such as ammunition plants (GOCOs) or installations under CA contract, the responsibility is shared between the facility contractors and Government agents. However, whether the responsibility is shared or lies solely with Government employees, the RPMA management functions remain the same.

Reporting and funding channels vary between installations with different RPMA fund sources. For instance, those funded by the RDTE appropriation typically turn to the DRM or the RDTE functional appropriation managers for programming and budget guidance, whereas those funded by AIF or OMA appropriations generally turn to engineering channels at their MSCs. This creates some confusion at the installation level, since the players are so varied and the installation facility managers sometimes are not sure who is responsible for resolving RPMA-related problems.

Every installation we visited, regardless of predominant RPMA fund source (except AIF-funded installations), echoed the same message – installation RPMA managers want and need more support from AMC HQ for obtaining additional funding to manage the growing RPMA program. Those installations funded through the AIF recounted quite a different message. They perceived that they were generally adequately funded for maintaining their facilities, felt that this was due to the nature of the AIF funding process (see Appendix C), and did not want to see that process changed.

Most installations' DEHs maintain project listings to establish their own RPMA priorities and to substantiate their total requirements to installation resource managers. Project listings are used also to identify unfinanced requirements that may get funded if resources become available. Macro program and budget requirements, as depicted in the URR, become the basis for the RPMA submissions to

the PPBES. The TDR provides execution information that, unfortunately, does not track directly to the program or budget submissions. These three – the URR, the TDR, and project listings – constitute the major RPMA information sources at the installation.

AMC INFORMATION SYSTEM CAPABILITIES

AMC does not use a management information system to manage RPMA. Information for RPMA is derived from a number of sources, and a "catch as catch can" approach is employed. The I&SA provides macro program and budget requirements from the URRs on a spreadsheet format and sends hard copies to the Facilities Division. Although the information is captured on electronic media, no database capabilities are available to the Facilities Division. Many of the MSCs maintain budget data and consolidated project lists on local database or spreadsheet applications that provide them with limited information system capabilities. The same is true for installations. However, we found no cases where MSCs had coordinated these efforts and had a consolidated information system that aggregated the data and disseminated them among the various levels of RPMA managers.

Some efforts have been made to use existing information systems such as electronic mail to meet RPMA management needs. These efforts have met with little success for a number of reasons, including hardware availability and software capabilities. We do not believe that any of the existing systems will readily provide the information system capabilities necessary. The current version of the Integrated Facility System Mini/Micro (IFS-M) will provide a number of information system capabilities to installations, MSCs, and AMC HQ. Unfortunately, not all AMC installations will be utilizing IFS-M. Even those installations that will be implementing IFS-M will not have the ability to extract data from installation financial databases since, currently, AMC has a number of nonstandard accounting systems. Thus, it is unlikely that IFS-M will provide the means for meeting RPMA information needs within AMC in the near term.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Managing AMC's RPMA program in a decreasing budget environment will be very challenging, particularly while AMC installations are experiencing a steady rise in their backlog of maintenance and repair projects – both in quantity and value. Since past, current, and future funding levels will not meet AMC's annual recurring requirements, the problem is expected to only get worse. To confront these trends, AMC's RPMA managers must improve their effectiveness by reducing installations' RPMA costs and/or by becoming more successful at programming and budgeting RPMA resources.

This report addresses AMC's RPMA funding process; it does not address RPMA cost reduction. Programming and budgeting, resource allocations, organizational structure and responsibilities, and management information systems are critical to an effective RPMA program management strategy. The Facilities Division's and other RPMA managers must change that day-to-day management strategy to support an effective RPMA program. Revisions to AMC RPMA program policy and current organizational structure and functions will also be necessary at the installation, MSC, and AMC HQ levels to implement our recommendations. The following sections present our conclusions and the actions we recommend that the AMC Facilities Division must take to improve management of AMC's overall RPMA program.

RPMA PROGRAMMING AND BUDGETING

Conclusions

The credibility of AMC's RPMA program information provided to the resource management and appropriation management communities has declined over the past several years. This loss of credibility is caused largely by the inaccurate, inconsistent, and dubious information used by AMC's RPMA managers to support their position during the PPBES processes. In order to reverse this trend, the quality of RPMA programming and budgeting information must be improved. This means improving the methodologies for generating, forecasting, reporting, and maintaining

RPMA requirements from the installation level upward throughout all stages of the PPBES. These improvements will lead to a more accurate and credible information base that AMC RPMA managers can use to defend RPMA's program posture during programming and budgeting for all fund types supporting AMC installations.

Armed with accurate information, the Facilities Division can more effectively influence RPMA's resource levels at the DA, AMC, MSC, and installation levels. The Army's "execution" phase of its PPBES provides the Facilities Division an excellent opportunity to provide feedback to the programming and budgeting decision makers and to prove its case during all phases of the process. However, for the overall process to be effective, the information used must be consistent throughout. As programmers develop long-range solutions – to improve the Army's aging physical plant, for instance – and budgeteers refine budgets to ensure that the programs and projects are executable, their decisions must be founded on solid and defensible requirements. Once funds are appropriated and then allocated to each subordinate level of the Army, AMC, MSCs, and installations, consistency with the original planning and programming goals must be maintained. When deviations occur in RPMA accounts, the credibility of RPMA managers and their decisions begins to erode.

Currently, the installation programming and budgeting reports – the URR – used by AMC do not provide RPMA managers with the accurate and consistent information they need. URRs are the proper reporting tool for this purpose, yet they are not prepared accurately and consistently among all AMC installations. Also, their out-year forecasts do not provide believable information, since they are generally the result of straight-lining from historical spending levels rather than actual requirements.

To ensure the consistency and accuracy of the installation's RPMA programming and budgeting requirements entering the system, the URRs' cost category definitions must be universal. Also, the information contained in budgets submitted to resource managers must be supported by the same information presented to RPMA managers for the URRs. To achieve these goals, URR cost category definitions must be standardized. The recent "URR preparation guidance" issued by the I&SA is a step in the right direction.

Currently, information from program submissions is not consistent with that presented on budget submissions. The resource management community does not

always fully understand the engineering technical jargon used in URR submissions, and this miscommunication results in frequent rejection of the DEH's budget submissions when URR data are used to support them. Consequently, many DEHs have little actual input into the budget submissions and therefore little influence on their funding levels. A methodology must be developed to tie the predominantly engineering data contained in the URR to the predominantly resource management data presented in the installation's operating budgets.

Forecasting future RPMA requirements on the URR is an important task. The most common forecasting mistake made by DEHs is that they base their future requirements on simple extrapolations from historical data. To ensure that future program levels from the URR are consistent and accurate, AMC HQ must develop a methodology that will provide sound RPMA out-year forecasts. This methodology must be based on project-level data and sound economic justification and must be applied evenly and without bias to all AMC's URR submissions regardless of the primary RPMA fund source.

When future years are straight-lined from historical spending levels (from TDRs or prior URRs), the forecasts will not be based on actual requirements; rather, they will reflect a simple extension of previous years' underfunding. Also, when forecasts do not accurately reflect true requirements, BMAR will probably not be counted accurately. These points are important because HQDA uses the ARR and BMAR figures to budget OMA RPMA funds. Clearly, if the numbers are too low to begin with, it will be difficult to break out of the underfunding cycle. When funding levels in the URR are suspicious, then HQDA bases its program and budget decisions on the previous years' allocations. The I&SA is in the best position to monitor compliance with this policy during the normal URR submission and analysis process. Adherence to a sound methodology will ensure that AMC's RPMA information entering the POM process is supportable before the various appropriation committees. DEHs must be made aware that the out-year forecasts are used to build the POM and although the program years do not affect an installation's current RPMA allocation, they do have the potential to influence the programmed funds determining the installation's RPMA funding levels 2 and 3 years in the future. Without a solid, justifiable program level, RPMA allocations will most certainly be too low.

Recommendations

To improve the quality of AMC's RPMA data, we recommend that the Facilities Division establish reporting policies and clearly define roles, definitions, methodologies, channels, and responsibilities between installations, MSCs, and AMC HQ under each appropriation. Each appropriation will benefit from better quality and more credible RPMA information. For the OMA appropriation, RPMA proponents will be in a position to compete more effectively in all phases of the PPBES against other MACOMs at the HQDA level and against other OMA activities at the AMC HQ, MSC, and installation levels. RDTE and PA RPMA levels can most effectively be raised during the programming (LRRDAP) process by competing against other mission areas at the MAM and MAIT meetings and during the budget process at MSCs and AMC HQ as budgets are finalized.

The AMC Facilities Division should update current regulations and policy guidance, as necessary, to carry out this recommendation. This will ensure that the information used by the Facilities Division and other RPMA proponents to defend AMC's RPMA position during all phases of the PPBES is accurate and therefore credible to the various programming, budgeting, and appropriation committees. Foremost, it will ensure that the Facilities Division will present a consistent RPMA posture to Army decision makers and regain credibility within the PPBES community.

We recommend that AMC HQ review the entire reporting processes for URRs, TDRs, and the Quarterly Backlog Status Report to determine whether the processes can be stream-lined. The focus of this review should be to reduce the level of tedious reporting requirements imposed on installation facility managers. Any reduction in superfluous reporting will also benefit AMC HQ – including the I&SA – by minimizing the accumulation, analysis, and verification of the information. For example, much of the detailed information contained in URR submissions may not be needed at the AMC HQ or HQDA levels where informational summaries may suffice. The need for AIF URR, in particular, needs to be addressed. Also, AMC HQ's role coordinating Quarterly Backlog Status Report is questionable and the function should be moved where it is of maximum utility.

Additionally, we recommend that the AMC HQ Facilities Division emphasize to installation facility managers the importance of accurate out-year forecasts and

develop a forecasting methodology based on project-level data and sound economic justification. It is the responsibility of the I&SA at Rock Island Arsenal to implement this policy recommendation, since it is clearly in the best position to monitor compliance during the regular URR submissions. This will ensure that the same methodology applies to all AMC installations regardless of RPMA fund sources and internal biases. The I&SA must also begin collecting project-level data from installations during the regular URR submissions so that a complete programming and budgeting posture can be established. The project-level information is essential so that AMC's RPMA program and budget position can be supported during PPBES cycles.

RPMA RESOURCE ALLOCATION

Conclusions

We believe that available RPMA resources are not being and have not been allocated effectively to MSCs and installations and are not based on well-conceived allocation procedures. While some installations are receiving close to the minimum level required to meet their ARRs, others are receiving substantially less. HQDA has historically provided funding for AMC's OMA-funded installations at 85 to 95 percent of total ARR; however, the installations themselves are not receiving that same level of funding during resource allocations.[1] This is particularly true when AMC installations supported by different appropriations are compared. Compounding the problem, allocated RPMA funds are not always reaching the destination for which they were originally intended by AMC HQ. The *1989 RPMA Video Teleconference* illustrates this point, since it demonstrated that there was a considerable and frequent discrepancy between the level of RPMA funds AMC HQ allocated to the MSCs and what the installations actually received. AMC HQ must begin to track RPMA funds for each appropriation at all levels so that these allocations problems can be brought to the attention of senior Army managers when they occur. Also, the RPMA funds should be allocated at AMC HQ based on project-level information made available to AMC HQ.

We expect that AMC's RPMA budgets will be decreasing disproportionally with respect to budget cuts as other Army mission functions compete for the scarce

[1] Year-end funding may bring installations to the 85 to 95 percent level of total ARR, but there is no guarantee that year-end funds will continue to bail out the RPMA program in future years.

resources that will be available. Although RPMA has been receiving considerable congressional attention in recent years, the RPMA funds are still being reprogrammed to mission accounts by all levels of resource managers. Even after the most recent 1990 appropriations, the Army Comptroller reprogrammed RPMA OMA funds to other areas. It is clear that RPMA will continue to be a convenient "bill payer" until the Army's RPMA policy changes. Reprogramming and fund transfers occur for all RPMA fund sources at Army, AMC, MSC, and installation levels at the discretion of MSCs and installation commanders, particularly in the research and development and procurement areas where RPMA is not considered a high-priority mission area.

Recommendations

We recommend that the AMC HQ Facilities Division establish well-defined resource allocation procedures based on URR and project-level data received from installations, so that RPMA funds can be distributed effectively to all AMC MSCs and installations. The criteria should be based on "must needs" first from critical ARR, OTR, and BMAR projects and should apply across all RPMA fund sources. Project information will support resource allocations to determine where available RPMA resources can most effectively be allocated. Members of the resource allocation committees should use project lists, prioritized in accordance with existing AMC guidance, to best determine which of the unfunded projects at the margins should be funded. In addition, the Facilities Division must ensure that allocated resources reach the destinations intended. Without an accepted resource allocation procedure and feedback loop, AMC will get caught in the familiar trap of adequately programming and budgeting RPMA funds, getting the requested funds appropriated, and then reallocating the RPMA funds to accommodate other priorities. AMC's RPMA credibility will continue to suffer, and getting the same levels programmed and budgeted in future years will become that much more difficult.

AMC's BMAR is growing. Attempts by Congress to improve this situation throughout DoD continue to fail regardless of the congressional-level priority. All of AMC's RPMA funding continues to be at levels below its minimum annual recurring requirements measure, and because the facilities continue to deteriorate, we recommend that AMC HQ begin developing a policy to "fence" OMA[2] funds.

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[2]RDTE and PA funds already possess adequate fences, and AIF-funded installations do not need fences.

TRADOC has already begun to exert more control over budgeting and obligations to ensure that RPMA allocations are spent on RPMA requirements.

ORGANIZATION

Conclusions

AMC HQ must decentralize MSC-level programming and budgeting responsibilities to the MSC RPMA support staffs while maintaining control of the overall RPMA program and policy issues at AMC HQ. Current Army organizational philosophy, such as the Army Communities of Excellence (ACOE) Program, suggest decentralization of operational responsibility and authorities to the lowest practicable levels (e.g., installations and MSCs), and prevailing private-sector organization principles and other studies agree with those ACOE recommendations.[3] However, while those studies recommend that operational authorities and responsibilities be decentralized, there continues to be a need to centralize policy and guidance responsibilities. The development of RPMA programming and budgeting policy and guidance is one such area where centralized control is imperative. We do not advocate that the AMC HQ *micromanage* the RPMA Program; we do advocate that AMC HQ take an oversight role in the program. While some programming and budgeting functions that support the AMC-wide RPMA program must remain at AMC HQ, others may successfully be moved to lower levels (e.g., MSCs) where local knowledge bases exist.

The current organizational structure (at all levels) dedicated to managing AMC's RPMA program is not capable of supporting the new RPMA program strategy recommended by this report. Roles of the Facilities Division, the I&SA, MSC engineers, and installation DEHs and facility managers must be redefined, and the manpower devoted to RPMA management must be increased. AMC HQ needs a single management office where all RPMA management issues can be focused and resolved regardless of the installation's predominant fund source. The Facilities Division should continue in this role by becoming the RPMA advocate at the AMC HQ and Army levels for all fund sources supporting AMC installations.

Although DoD directives preclude growth at AMC HQ, growth can take place at the I&SA and MSCs where manpower and RPMA management functions already

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[3]LMI Report AR902R1. *Army Facility Management: A New Strategy for a New Environment.* Neve, Trevor L. and Jeffrey A. Hawkins. December 1989.

exist. MSCs are much closer to the needs of their installations and can better perform such functions as maintaining project-level databases, prioritizing RPMA requirements, competing for RPMA funds at the local resource management offices, and allocating RPMA funds among the installations under their command. Centralizing these functions at the AMC level would require a much larger staff than the two positions currently authorized and may not be feasible. Additionally, engineers at the MSCs have other responsibilities besides prioritizing, funding, and monitoring RPMA. Thus, moving these functions to AMC HQ would likely not result in a staff reduction at the MSC. AMC HQ could not effectively influence MSC RPMA budgeting from its location in Washington, D.C., a factor which could prove detrimental to RPMA allocations at the MSC.

Recommendations

We recommend that the AMC HQ Facilities Division move aggressively to become the advocate for all RPMA fund sources supporting AMC installations. This means that the division must put itself in a position to contend at the AMC HQ level for adequate RPMA funding during the PPBES programming and budgeting phases for all RPMA fund sources. At the HQDA level, the Facilities Division must be in a position to support USACE and other appropriation managers in order to influence program and budget levels for OMA, RDTE, and PA RPMA funds. At the MSC level, MSC engineers must assume a similar role as the MSC's and installation's advocate for RPMA funding. MSC engineers must support AMC HQ Facilities Division in its mission and use AMC HQ clout when intervention is necessary. We also recommend that AMC RPMA proponents increase their manpower to accomplish this task. If this growth cannot take place at AMC HQ, then I&SA and MSC RPMA support staffs should increase and assume additional responsibilities as needed.

Most MSCs already have the ability to automate their current RPMA data. Potentially, their effectiveness can increase if they focus on improving their information flow to AMC HQ; but in return, these RPMA proponents must have access to the same project, URR, and RPMA resource information available to AMC HQ.

MANAGING RPMA INFORMATION

Conclusions

For effective RPMA management, two types of information are needed at AMC HQ and the MSC staff engineers' offices. A macro view of AMC's total RPMA requirements is needed, to provide managers with indicators for making programmatic decisions and the tools for monitoring the impact of such decisions. Concurrently, project-level information is necessary for analyzing requirements at the margin and establishing credibility for the macro requirements of which the projects are a part. Both types of information are required at a variety of levels within AMC (e.g., AMC HQ, MSCs, and installations). An automated management information system (MIS) is a useful vehicle by which such information can be accumulated, analyzed, and disseminated among all RPMA managers.

We believe that three major benefits could be obtained from a well-conceived MIS. First, MSCs and the AMC HQ would have the information needed to address RPMA issues in a timely manner. Second, the quality and consistency of reports would be improved. Finally, the effort needed by installations to develop URRs and TDRs could be reduced, and these reports would be consistent with information presented in budgets.

An automated MIS will add credibility to AMC's position during negotiations for RPMA funds at all levels. The information used by any of the RPMA advocates will necessarily be more accurate, believable, but foremost more defendable in front of respective RPMA resource managers supporting POM, budget, and resource allocations for each fund source at each stage of the PPBES. The information will therefore enhance AMC's RPMA position as it competes against other MACOMs at the Army level and other organizations at the MSC and installation level. RPMA managers at each level also need current information to ensure that RPMA resources are allocated in the most effective manner. For most MSCs, little additional effort is needed to prioritize RPMA requirements. However, listings of prioritized projects are seldom shared with AMC HQ. An automated MIS would facilitate this information sharing and increase the effectiveness of RPMA resource allocation since MSC RPMA proponents will have the same resource information available to AMC HQ.

An MIS may also reduce the reporting and forecasting burden at installations and the I&SA since the system can include functions that would predict acceptable

ARR and BMAR levels for each installation, check information for dramatic changes from previous submissions, apply sound economic justification across all URR submissions thus making them all consistent and incorporating project-level information as appropriate. This verification would then occur automatically during the regular submission and consolidation cycle.

Recommendations

We recommend that the Facilities Division develop and implement an automated MIS to support its informational and RPMA management role. Managing RPMA information is an important aspect of many of our recommendations. Existing manpower constraints make efficient information management an item of critical concern. We believe that development of an effective MIS is central to any improvement to AMC's RPMA program.

Figure 5-1 shows a conceptual model of the recommended system, which should have three basic capabilities:

- It should be capable of aggregating URR information and possess basic database capabilities such as generating aggregated requirements by functional area.
- It should have a project component permitting installations to provide project-level information that can feed into an AMC-wide database. The project component should have query and summation capabilities that would support management information requests.
- The system should provide a means for transforming budget information into the formats required for the URR and the TDRs.

We envision this information system to be microcomputer-based and to utilize off-the-shelf software such as LOTUS 1-2-3 or dBASE. The system should be kept relatively simple to reduce costs. Communication requirements are minimal, since submissions are generally on an annual basis, with the capability of updating more frequently if necessary. Therefore, we believe that most communications among installations, MSCs, and AMC HQ could be accomplished by either mailing floppy disks or through an electronic bulletin board. The system should be designed recognizing that the volume of information that would be maintained is modest and the information contained in it is not very perishable.

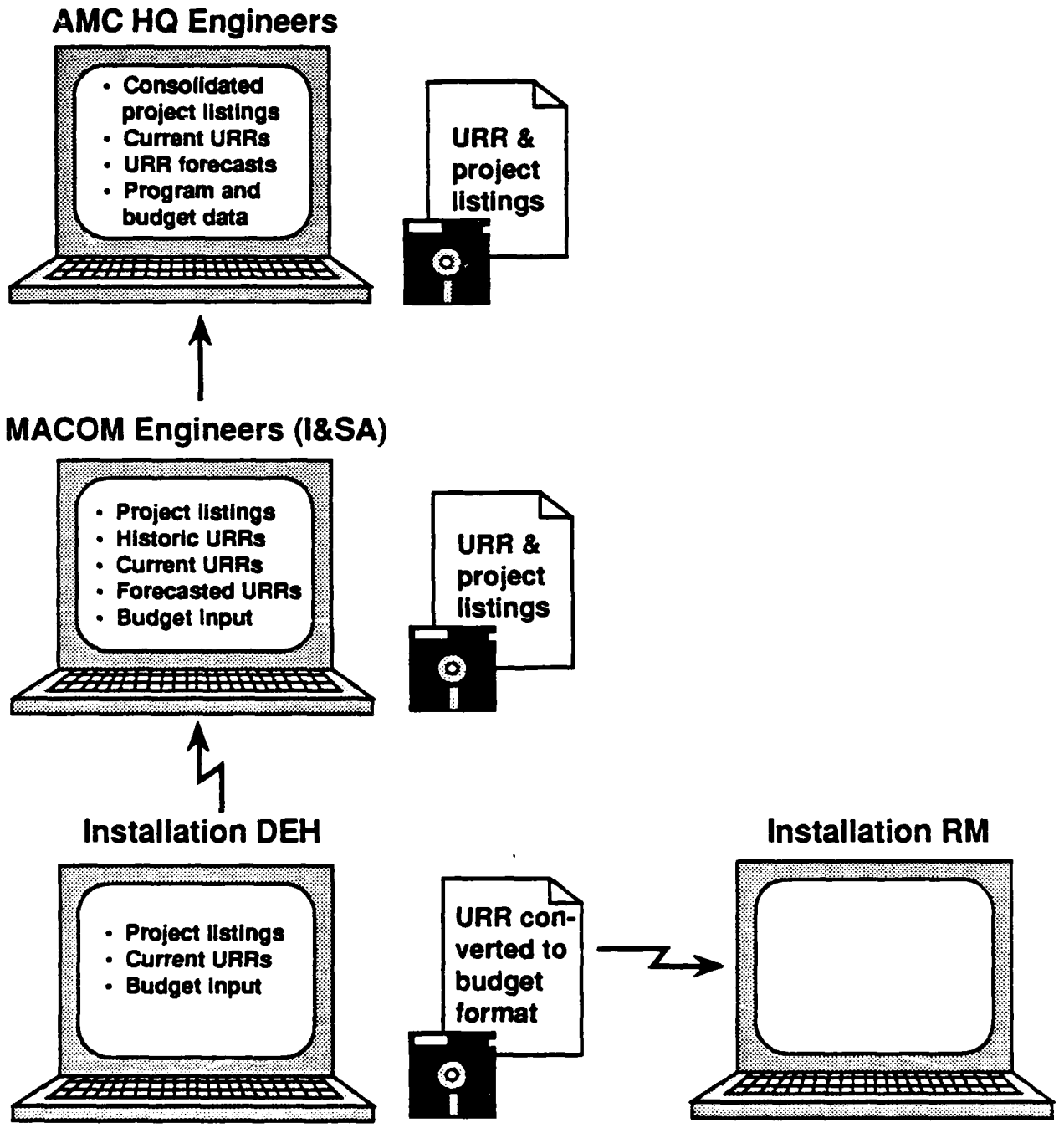

FIGURE 5-1. AUTOMATED RPMA INFORMATION FLOWS

The cost of such a system would be minimal. Most installations currently possess the needed hardware. Nearly all DEH and MSC engineering offices have microcomputers. If a bulletin board approach is chosen, an installation may have to purchase a modem at a cost of $100. The development costs would be low, since standard software packages would be used and because the scope of the system is modest.

The responsibility for developing and maintaining an MIS can be placed at the I&SA, with the Facilities Division and other AMC RPMA proponents having access to the information only. In this way, the Facilities Division's main role will be as advocate for all AMC RPMA funding at the AMC HQ and HQDA levels during the programming and budgeting phases of the PPBES. Armed with accurate information, we feel that the Facilities Division can successfully exert influence over AMC's RPMA funding levels.

Also, we recommend that AMC HQ develop several program modules that can be used to predict ARR and BMAR requirements at the installation and MACOM levels, to forecast out-year RPMA requirements from current submissions, and to prepare budgets and URRs from common data. This module will save DEHs and other installation managers a great deal of effort during these two critical periods. Installations receiving the IFS-M will eventually get this capability, but since not all AMC installations will be receiving IFS-M, and because of the potential time lag for IFS-M implementation, we believe this interim step is necessary.

SUMMARY

There are strong arguments suggesting that the Facilities Division and/or other RPMA proponents can do little to increase AMC's RPMA funding levels since these funds are ultimately governed by the Army Comptroller. Each year, including 1990, RPMA appropriations are increased by congressional authorization committees only to be reprogrammed by the Army Comptroller and resource managers to meet other Army priorities. In the meantime, the RPMA program continues to suffer. However, a "powerless" attitude certainly guarantees that there will be no improvement to the RPMA funding situation. The Facilities Division can, in fact, play an active role in obtaining a more equitable share of all available resources by actively participating in the PPBES process and effectively influencing the right organizations at the right times.

Effectively managing AMC's RPMA program will require a well-conceived, deliberate implementation. Reporting must be improved. Programming and budgeting must become more accurate and consistent. All RPMA appropriations must compete more effectively against other activities and mission areas during budgeting and resource allocations. Resource allocations must become more equitable. AMC HQ must track RPMA funds to determine whether it will be necessary to implement a policy to fence RPMA funds down to the installation level. Finally, more effort must be devoted to the AMC RPMA mission. Given the importance of information for each area, all these recommendations can most effectively be supported by an automated MIS.

As the Facilities Division implements the recommendations of this report and begins to orchestrate its own involvement in the PPBES as well as that of other RPMA managers, it will continue to develop credibility with the managers controlling AMC's RPMA funds. The Facilities Division will be able to assert itself as the leader, or advocate, for all of AMC's RPMA program. At the lowest PPBES levels (installations, MSCs, and AMC HQ), the Facilities Division and other RPMA proponents can influence RPMA budgeting and resource allocation maximally. At the higher levels (OSD and Army) the task becomes more difficult. RPMA proponents will see the results of their efforts during the budgeting phase more often than they will during the programming phase. Nevertheless, programming should not be taken lightly. Only after RPMA accounts are programmed to sufficient levels can the Facilities Division be in a position to defend AMC's RPMA posture during the budgeting process.

We believe that the Facilities Division faces major challenges in areas of RPMA management. The situation is far from hopeless, but it is imperative that a management strategy be developed that recognizes the changing DoD funding environment. It is only through aggressive management that major RPMA problems can be avoided.

APPENDIX A

REAL PROPERTY MAINTENANCE ACTIVITY PROGRAMMING, BUDGETING, AND EXECUTION PROCESSES

DoD's principal resource management system is called the planning, programming, and budgeting system (PPBS). The Army's counterpart, known as the planning, programming, budgeting, and execution system (PPBES), parallels DoD's PPBS but adds a program and budget execution phase to provide important feedback on program issues and improve resource management decision making. The PPBES is used at all levels of the Army from installations through Headquarters Department of the Army (HQDA) to translate force requirements into an authorized program. Its output, the Army's budget estimate, becomes part of DoD's portion of the President's Budget and updates the Army's portion of DoD's Five Year Defense Program (FYDP). Army program managers use management decision packages (MDEPs) as their tool for managing this complicated process.

PPBES OVERVIEW

This appendix gives an overview of the PPBES as it relates to the Army Materiel Command's (AMC's) real property maintenance activity (RPMA) program. Chapter 2 presents findings regarding the PPBES at the Army-wide level and below, while this appendix provides an overview of the process above the HQDA level. Figure A-1 (a repeat of Figure 2-1) shows the relevant events of the PPBES process.

The Five Year Defense Program

The FYDP is the official summary of DoD's ten major force programs as approved by the Secretary of Defense. It includes separate publications for research and development, construction, and procurement. The Army maintains its portion of the FYDP in a similar fashion but has established a number of subprograms so that the system is more compatible with the Army staff responsibilities. Figure A-2 is a graphical representation of Army's version of the FYDP. This figure shows the FYDP sliced by programs and appropriations. Each program is subdivided into program elements, which can include funds from more than a single appropriation. Each appropriation is subdivided into either line items [for Research, Development,

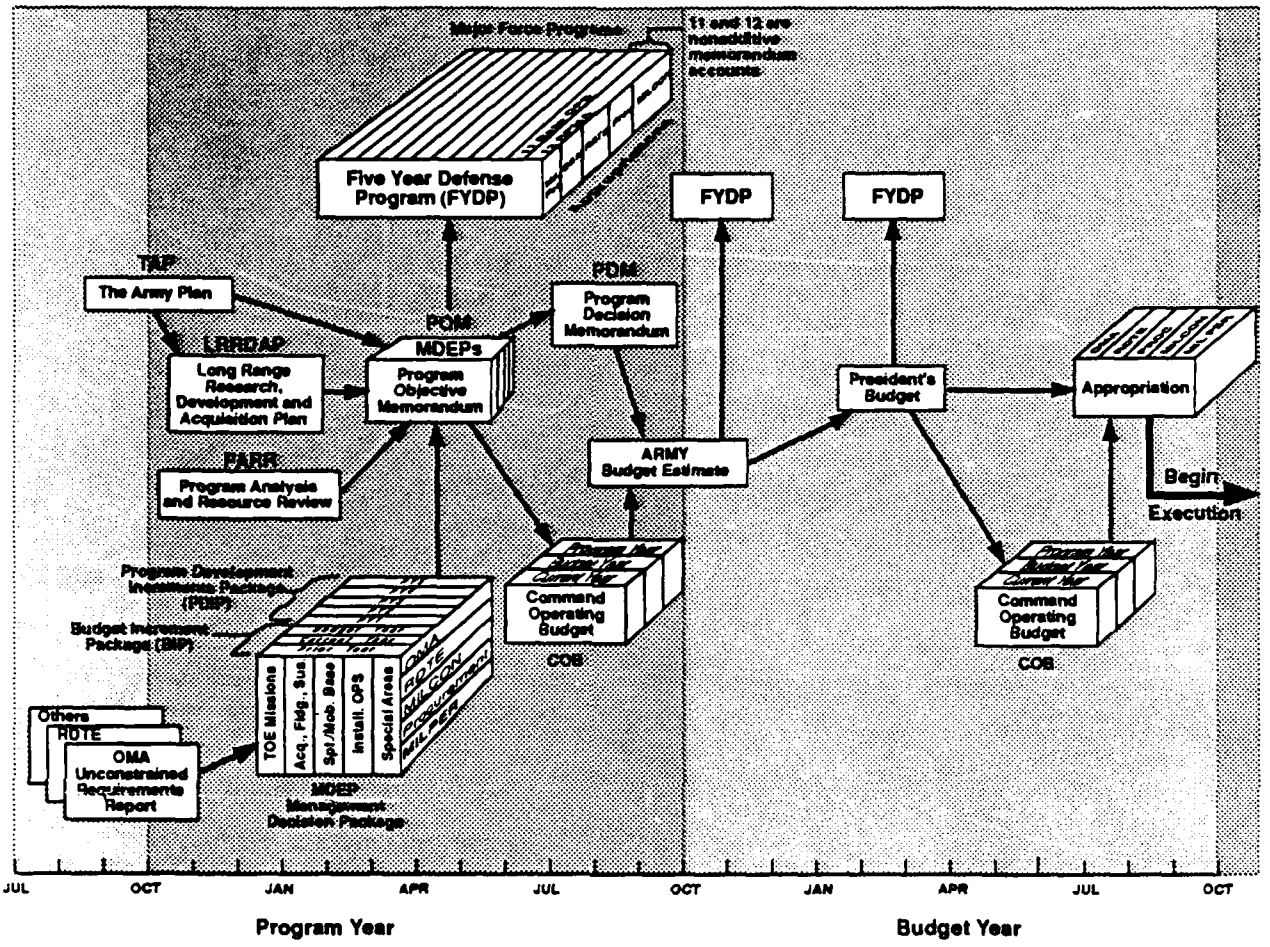

FIG. A-1. ARMY PROGRAMMING AND BUDGETING OVERVIEW

Test, and Evaluation (RDTE); Procurement, Army (PA); and military construction (MILCON)] or budget activities and subactivities [Operations and Maintenance, Army (OMA)]. The FYDP is a database of total Army resources, and its elements can be arranged any number of ways.

The FYDP provides a 10-year horizon for the Army's total obligational authority (TOA) beginning with the prior year and extending to 7 years beyond the budget year. It is important to note that the FYDP is used to examine total resources in a number of different ways: by appropriation, by major Defense program and program element, by MDEPs, by mission areas, and even by major command (MACOM). When "sliced" by major programs, Program 12 shows a nonadditive

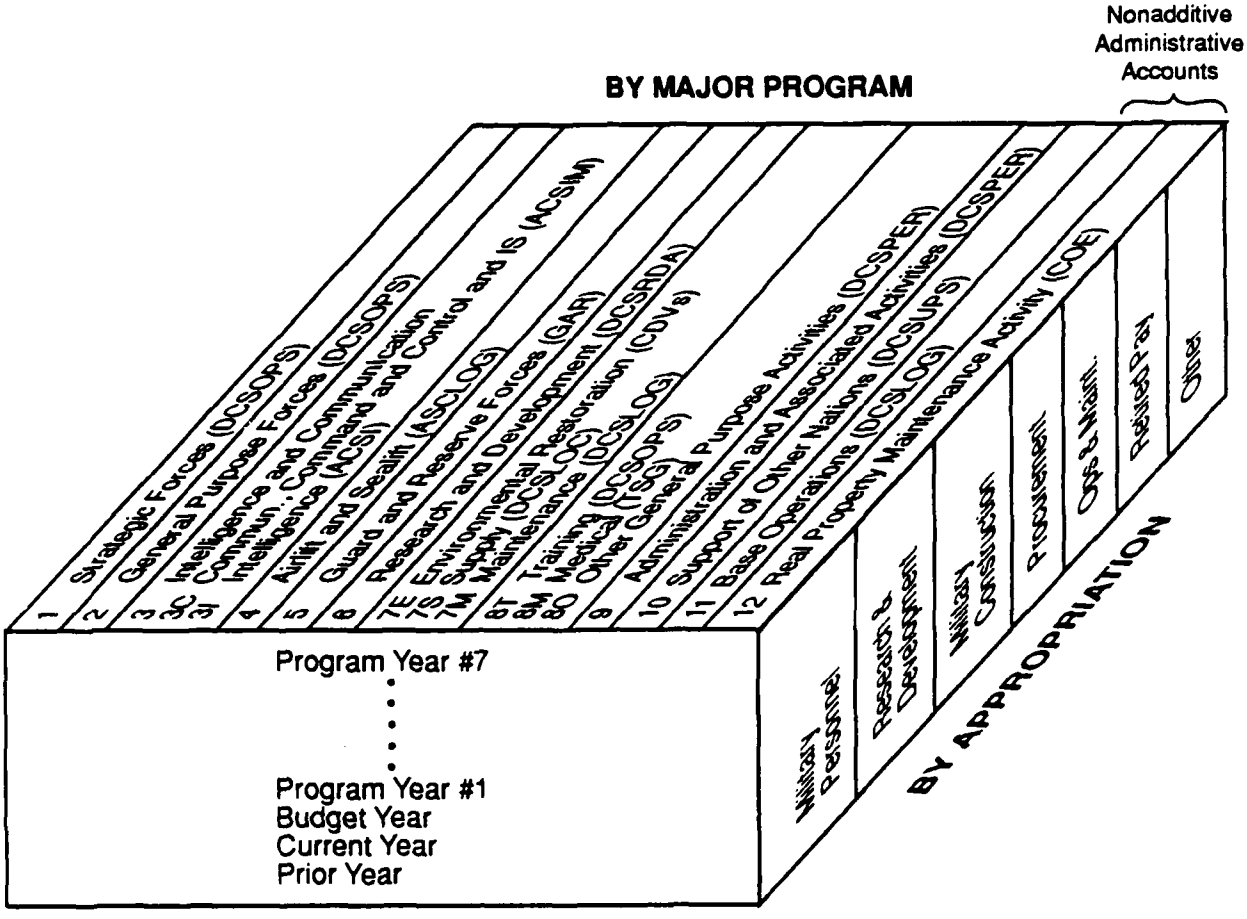

FIG. A-2. ARMY FIVE YEAR DEFENSE PROGRAM

administrative account consolidating all RPMA program elements from all programs. The U.S. Army Corps of Engineers is RPMA's program director; the Corps reports the Army RPMA resource data to OSD by program element within each major Defense program when DoD updates its FYDP.

The FYDP updates the current, programmed, and planned resource levels three times annually: after the program objective memorandum (POM) is submitted to OSD in April, when the Army's budget estimate is finalized in October, and when the President's Budget is approved in January. Each iteration of the FYDP is used to refine AMC's budget submission – generally downward. The FYDP shifts forward

1 year when the President submits his budget to Congress in January (i.e., the "prior year" is dropped, the "current year" becomes the "prior year," and so forth).

Management Decision Packages

Each high-level organization tends to review program and budget data in its own way. Programs staffs in OSD use the major Defense programs and program elements. Most comptrollers and budgeteers use appropriations data since Congress provides funds by this structure. Army programmers and budgeteers have developed MDEPs, which are autonomous funding summaries covering all Army programs and serve as the building blocks for POM development.

MDEPs were created in the early 1980s to establish, for the first time, a multi-year resource planning system linking the PPBES with a meaningful series of events. The goal of MDEPs is to improve programmers' and budgeteers' decisions by creating a tool that reflects the way the Army actually conducts business. They accomplish this task by providing a feedback loop for determining how well the programs have achieved stated objectives.

Figure A-3 represents graphically the breakdown of MDEPs by appropriation and their five "mission areas": Mission of Table of Organization and Equipment units; Acquisition, Fielding, and Sustainment of Systems; Activities of the Support and Mobilization Bases; Operations of Army Installations; and Special Functional Areas. MDEPs are simply another method for looking at the Army's total program; the total of all MDEPs by year reflects the Army's programmed TOA by year.

MDEPs comprise two distinct packages. The Program Development Increment Package (PDIP) documents planned and programmed resources over the 5-year program period. It serves as a flexible in-house tool for manipulating program data before the President's Budget is approved. The Army may freely move resources between appropriations at this time. The Budget Increment Package (BIP) records the budgeted and actually executed resources covering a 3-year period: prior year, current year, and budget year. The BIP is more rigid than the PDIP and responds to the restrictive congressional guidance imposed by approved appropriations.

Each MDEP pulls together three necessary management components: programmed resources, budgeted resources or appropriated funds, and quantified program performance measures. AMC HQ uses MDEPs to review and analyze

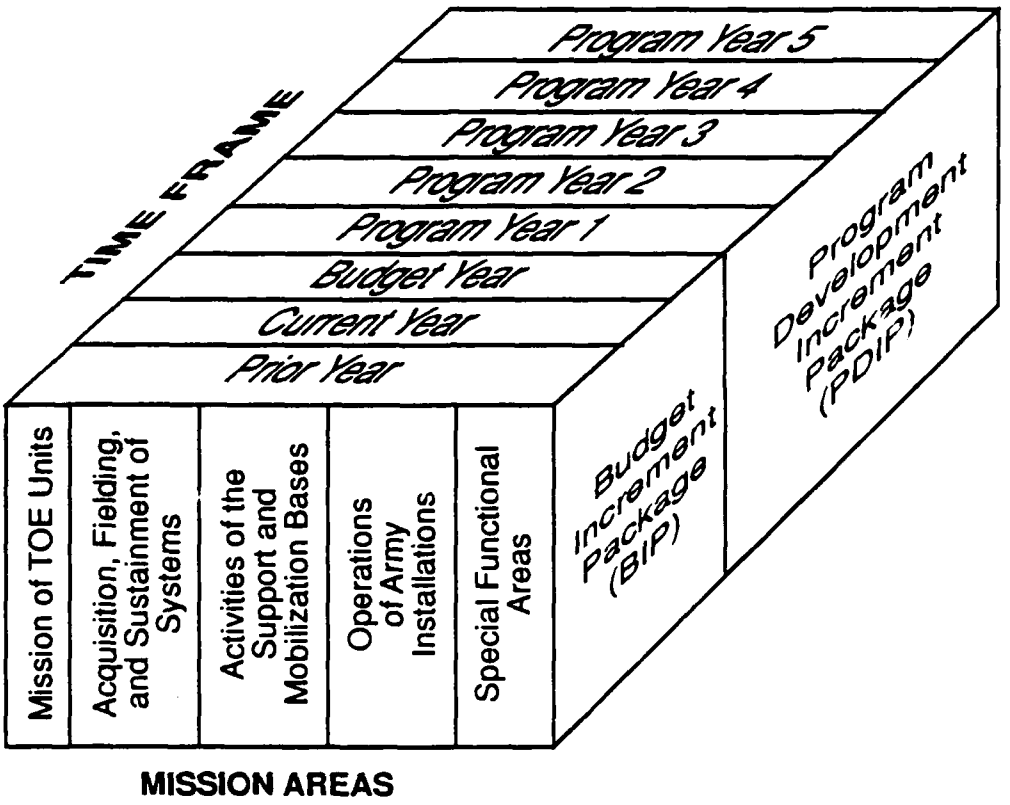

FIG. A-3. MANAGEMENT DECISION PACKAGES

program and budget performance through all phases of the PPBES. At HQDA, the PDIPs and BIPs shift forward 1 year in January, when the President's Budget is submitted, to begin the next programming and budgeting cycle.

PLANNING

"Planning" translates overall defense priorities into a desired Army force capability. The OSD issues the *Defense Guidance*, published in December, which sets the tone for Army planning objectives. The Army's final product is The Army Plan (TAP), also published in December. TAP is used by Army programmers to transition the Army's long-range force structure goals and objectives into program development. For the RPMA program, this means configuring the Army's installations to achieve the Army's mission objectives satisfactorily.

PROGRAMMING

Army "programming" allocates scarce resources to best meet goals and objectives, while remaining within the Army's TOA, passed down in the *Defense Guidance* and TAP. The final product of programming is the POM, submitted in April. The POM is a 5-year proposal for a balanced distribution of available resources. For RPMA, programming translates Army objectives into a viable program for operating and maintaining all the Army's real property facilities. The extended planning annex lengthens the outlook by 10 years but is far less detailed than the budget and POM documents.

The Army's portion of the POM is submitted to OSD by 1 April, biennially, where it is consolidated with POMs from the other Services. Potential POM issues are raised by the OSD staff, Commanders in Chief, and the Office of Management and Budget (OMB) before they are presented to the Program Review Committee for final selection. The final issue papers are prepared by the OSD staff with assistance from the Army, where appropriate. Although RPMA may in fact be broached as an issue at this time, it is difficult for the Services to change program levels and/or content at this point. All issues are then combined into one of eight issue books and sent to the Army and other Services for review before they are presented to the Defense Resources Board (DRB), where they undergo another 2-to- 3-week review. The issues are resolved during the DRB review, and, once they are settled, the program decision memorandum (PDM) is published (around July) providing the final program and fiscal guidance to the Services for developing their budget estimates. MACOM and installation budgets are then revised to meet new fiscal controls. Preliminary budget requests precede the PDM since field activities require additional lead time to prepare their estimates.

Developing the Army portion of the POM is a complicated task drawing on guidance from TAP, MDEPs, program and budget guidance (PBG), and acquisition reviews. However, the OMA portion of the POM (and some RDTE) is developed from information gathered in the Budget and Program Resources Review (BPRR), which supports new or existing programs including RPMA. Likewise, the Long Range Research, Development and Acquisition Plan (LRRDAP) provides detailed information concerning most RDTE and all PA funds. A detailed description of each of these important elements supporting POM development can be found in Army

Regulation 5-9, *Planning, Programming, Budgeting, and Execution System;* they are also discussed here and as applicable in Appendices B through D.

Budget and Program Resources Review

For all OMA appropriations (and some RDTE), the AMC HQ OMA Resources Management Division has expanded the programming process to parallel the budgeting process by implementing a data call to all field operations called the BPRR system. The BPRR was initiated to combine previously separate data calls for programming and budgeting to provide more continuity. RPMA data submitted to the BPRR through resource management channels must match data submitted through engineering channels. A round of negotiations between the AMC HQ Facilities Division and OMA Resources Management Division sets the RPMA program and budget levels. The BPRR presents a 9-year look at AMC programs but can also be arranged in other ways.

Long Range Research, Development and Acquisition Plan

The functional manager for the RDTE appropriation (major Defense Program 6) is the Assistant Secretary of the Army (Research, Development, and Acquisition) (ASARDA). At AMC HQ, the ASARDA coordinates its program and budget submissions for the RDTE and PA appropriations through the RDTE Appropriation Management Division at AMC HQ.

For most RDTE and all procurement appropriations, the programming process focuses on the LRRDAP. It is this mechanism, which closely resembles the BPRR, that is used for programming and budgeting RDTE and PA appropriations. The LRRDAP is composed of 12 warfighting mission areas and 6 infrastructure mission areas, of which "base support" is one. RPMA has been included as a separate line item only since 1987. Historically, base support has not fared well in getting a satisfactory share of the RDTE and PA appropriations. All mission areas are assigned weighting factors representing their impact on warfighting capability. Since the basic philosophy of the RDTE and PA funds focuses on the warfighting capability, overhead functions such as RPMA are typically given low priorities. While one can argue that this approach is short-sighted, arguments supporting RPMA have not prevailed.

BUDGETING

Budgeting at AMC and the Army involves three phases: formulating, justifying, and executing. During the "formulation" phase, AMC and other MACOMs begin developing command operating budgets (COBs). The May PBG, which is based on the approved POM program, is used as the basis for initial preparation of COBs. The January PBG, based on data from the President's Budget, is used by AMC to finalize its COB for the coming year, recognizing that actual funds appropriated by Congress will probably change AMC's COB again.

During the first budget iteration, the HQDA consolidates AMC's COB with COBs of other MACOMs into the Army budget estimate, which must not exceed TOA levels established by OSD budget guidance. The Army then "justifies" those estimates before Congress. When approved, the budgeted funds are allocated and controlled as AMC programs are "executed."

Formulation

The budget formulation phase uses the financial requirements presented in the current and budget years of the FYDP and MDEPs. The Comptroller takes the lead role during this important phase and examines the budget for pricing, producibility, feasibility, and consistency with Army objectives. The budget estimate (amended budget submission in the off-years) is due at OSD in September with the rest of DoD's budget estimates. This phase focuses on the program year of the budget, which supports finalization of the President's Budget. For the next 3 months, the budget estimate undergoes a series of OSD and OMB reviews.

Budget formulation is complete in December when the DoD budget becomes part of the President's Budget. At that time, the FYDP and MDEPs are updated to reflect the most current budget posture. The BIP and PDIP packages shift forward by 1 year in preparation for the next PPBES cycle (i.e., the "prior year" is dropped, the "current year" becomes the "prior year," a new year is added, and so forth).

Justification

The next step, budget justification, occurs through the rest of the fiscal year as Congress reviews the President's Budget; prepares its independent congressional budget; establishes authorization limits on appropriations (few limitations on OMA, but very specific for RDTE and PA appropriations); and sets final limits on available

fiscal year funding. The Army may be asked to defend its portion of the President's Budget during hearings convened by congressional authorization and appropriation committees.

BUDGET EXECUTION

Execution is the final step in the PPBES. It applies the funds appropriated by Congress and approved by the President. At that time, the appropriations are established on the Army's books. The Army then has the legal authority to execute (to obligate) and spend RPMA and other funds. If Congress fails to pass an appropriation by the end of September, emergency legislation is enacted – continuing resolution authority – that authorizes funding at the prior year's limits while prohibiting new programs.

After OMB approval, the funds are apportioned by appropriation, making specific amounts available for obligation. AMC receives its allocation of funds and in turn makes allotments to subordinate commands and installations. Allotments authorize the installations or major subordinate commands to place orders and award RPMA contracts for supplies or services.

APPENDIX B

PROCUREMENT, ARMY, RPMA FUNDING PROCESS

GENERAL DESCRIPTION

Procurement, Army (PA), funds are appropriated by Congress for major production, procurement, and overhaul of military hardware and munitions. The Army Materiel Command (AMC) and the Army's Program Executive Officers (PEOs) together will manage $14.2 billion in PA funds programmed for FY90. The funds go to Defense contractors and to 30 Government-owned, contractor-operated (GOCO) ammunition plants, industrial plants, depots, and similar facilities. Only six of AMC's ten major subordinate commands (MSCs) – U.S. Army Armament, Munitions and Chemical Command (AMCCOM); U.S. Army Aviation Systems Command (AVSCOM); U.S. Army Depot System Command (DESCOM); U.S. Army Missile Command (MICOM); U.S. Army Tank-Automotive Command (TACOM); and U.S. Army Test and Evaluation Command (TECOM) – receive PA funds. A comparatively small portion of the total PA budget is used for real property maintenance activity (RPMA). PA funding contributes about 14 percent or $136 million to AMC's total RPMA budget.

The RPMA funding process for PA-funded facilities is far removed from the way RPMA is normally funded in the Army. The AMC HQ RPMA staff has had less involvement with this type of funding than with any of the other three types. Facility needs at a PA-funded site are considered as integral to the production process. When RPMA problems arise at PA-funded facilities, the senior AMC management has gone to the Deputy Chiefs of Staff for Production (AMCPD) and Ammunition (AMCAM) at AMC HQ for answers, and not to the RPMA staff at their MSCs, the Installation and Services Activity (I&SA), or AMC HQ.

PA funds come from five appropriations: Weapons and Tracked Combat Vehicles; Procurement of Ammunition, Army; Aircraft Procurement, Army; Missile Procurement, Army; and Other Procurement, Army. Figure B-1 shows the generic PA funding process; although the details often vary among installations. The process is affected by the terms of the contracts that cover the facilities. Each PA

appropriation is split into two major categories: in the hardware lines that pay for the actual goods or services, and the production base support (PBS) program, which pays for the facilities and equipment needed to provide those goods and services. The PBS program can in turn be divided into five separate categories: depot maintenance plant equipment, industrial plant equipment, other plant equipment, test equipment and instrumentation, and RPMA which includes construction.

DETERMINING RPMA REQUIREMENTS

For GOCO facilities, the RPMA requirements are identified by Government representatives, contractor personnel, and the Corps of Engineers. The Corps usually has on-site personnel at the facilities. Minor maintenance and repairs, usually defined as costing less than $5,000, are charged to production overhead and are therefore funded from the hardware production portion of the PA appropriation. Larger maintenance and repair items and construction requirements are funded from the PBS portion of the PA appropriation. Minor construction projects costing less than $200,000 are handled by the GOCO contractor under a separate contract, or are contracted out to other companies. Construction projects over $200,000 are contracted out by the Corps of Engineers and need congressional notification.

RPMA requirements not funded from production overhead are submitted by the site to the project office at the MSC. There, they are prioritized, together with the other PBS requirements, in response to data calls from the AMCPD and AMCAM. RPMA requirements for all PA appropriations – except Procurement of Ammunition, Army – are verified by on-site visits made by a team from AMCPD, the Corps of Engineers, the MSC, and the I&SA. In addition, project managers may visit AMC HQ to justify their PBS requirements. From the verified PBS inputs, AMCPD and AMCAM build Mission Area Material Plans using the Army's Management Decision Package format.

The MAMPs are reviewed by Mission Area Managers (MAMs) and forwarded by the MAMs to the Army's Mission Area Integration Team (MAIT). There, they are briefed and defended by the MAMs with the assistance of AMCPD and AMCAM and integrated into the field Long Range Research, Development and Acquisition Plan (LRRDAP). The field LRRDAP is then forwarded to the Army's Program Evaluation Groups (PEGs) which use it in building the Army's Program Objective Memorandum

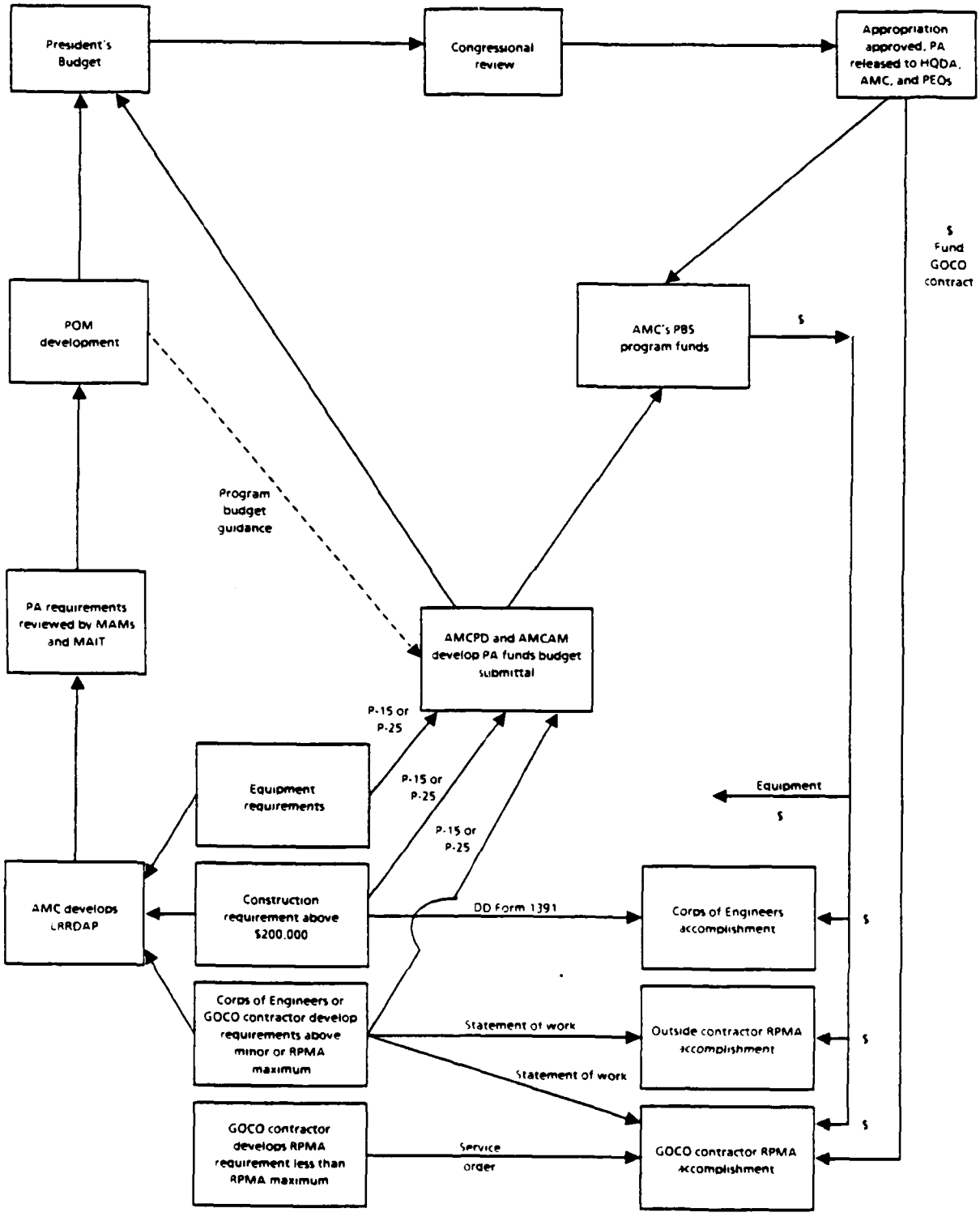

FIG. B-1. PROCUREMENT, ARMY, RPMA FUNDING

(POM). The POM is then submitted to the OSD and enters the DoD's Planning, Programming, and Budgeting System.

PROGRAMMING RPMA REQUIREMENTS

Usually, minor maintenance and repairs costing less than $5,000 are programmed by the GOCO contractor. At plants with firm-fixed-price GOCO contracts, these minor items are handled by the contractor as part of the GOCO contract. At plants with cost-plus GOCO contracts, the contractor presents an annual minor maintenance and repairs budget to the Government for approval before proceeding with the work.

Larger RPMA requirements are programmed by Government contracting personnel at the installations. Construction projects over $200,000 are programmed by contractor or Government contracting personnel on a DD Form 1391, *Military Construction Project Data,* but are funded from the PA appropriation. This is a source of complaint from the installations because the contracting personnel see the DD Form 1391 as an engineering requirement but have no engineering personnel assigned. Even if the PA-funded facility shares an installation, it has little contact with the installation's Directorate of Engineering and Housing.

By and large, RPMA programming for PA funds has been relatively successful. The perception of PA-funded facility occupants is that their facilities are maintained better than those funded by Operations and Maintenance, Army, funds. These personnel are generally satisfied with the levels of RPMA funding they receive.

Some sites keep track of and report backlog of maintenance and repair (BMAR) requirements. These are facility requirements that should be taken care of but have not been funded. Not all PA-funded sites report BMAR, however, because it is controversial. Some site personnel do not believe that showing a large BMAR increases RPMA funding, and they claim that the tracking effort is therefore a waste of time. Personnel at other installations do not believe that BMAR is authorized for PA-funded sites because all requirements are supposed to be funded from production overhead or PBS.

THE BUDGET PROCESS

For minor maintenance and repairs under $5,000, there is little interaction with the normal RPMA budgeting process. The cost of this work is estimated by the

GOCO contractor. For firm-fixed-price GOCO contracts, the estimated cost of these minor requirements is included in the contractor's offer on the GOCO contract. For cost-plus GOCO contracts, the contractor prepares an annual budget estimate and presents it to Government contracting personnel for approval.

Budget requests for facilities requirements beyond minor maintenance and repair are prepared and submitted by the PA-funded site in a system that parallels the identification and submission of requirements for the LRRDAP. For this parallel budgeting system, nonammunition sites prepare their RPMA requests on Exhibit P-15 of the Production Support and Facilities Project Report (RCS: DRC-834) while ammunition plants use the P-25 feeder report. The MSCs combine the requests into a funds "project" for each installation. The funds projects are then forwarded to AMCAM and AMCPD. For ammunition facility requirements, MSCs use Exhibit P-25 for this submission while others continue to use the P-15. AMCAM prioritizes the requests for ammunition facilities and AMCPD prioritizes the other requests in the funds projects using the criteria of savings, safety, production requirements, and the environment. (This is a different set of criteria than the one used by most of AMC.) The prioritized lists are then used to allocate the funds received in the various PA appropriations. Throughout this entire process, the RPMA requests are integrated with requests for equipment and other PBS items.

The connection between RPMA requirements and the budget is tenuous. In theory, the Army's PEGs should use the RPMA requirement information they receive to help formulate the POM, which eventually becomes part of the DoD's budget request. In practice, the PEGs do not formulate the POM based on the levels of RPMA needs; instead, the POM is based on the level of PA activity. Their rationale is that if PA activity falls – e.g., the Army contracts for fewer tanks and recycles less munitions – then the need for RPMA should fall proportionally. The PEGs argue that it would be hard to sell Congress on the need for continuing or increased PBS funds during a period of falling PA activity. AMCPD and AMCAM have been unable to convince the PEGs that RPMA requirements are not all proportional to a facility's level of activity and that a large portion of RPMA is a fixed cost.

Moreover, since RPMA and other PBS requirements are prioritized together, there is no separate advocate for RPMA. Equipment requirements may pre-empt

RPMA requirements without an engineer's input of the life-cycle consequences on the Government's facilities.

RPMA RESOURCE ALLOCATION

PA funds are appropriated annually by Congress but need not be obligated for 3 years. PBS funds are allocated by AMCPD and AMCAM to the MSCs, which, in turn, allocate them to the GOCO sites using various criteria. AMCCOM, for example, allocates funds to the ammunition plants based on their levels of production. The intent is that all sites spend their funds on the PBS requirements verified by AMCPD and AMCAM and are given the highest priorities. With its MSC's approval, a site can switch up to 10 percent of its funding between requirements. MSCs must get AMC approval to move funds between funds projects. However, no reporting system is in place to inform AMCPD and AMCAM on which requirements the funds are actually spent.

RPMA REPORTS

Very little PA information is reported through AMC HQ RPMA channels. GOCO sites do not prepare Unconstrained Requirements Reports, and the Backlog of Maintenance and Repair Report is not prepared by every PA-funded site.

RPMA and other PBS budget requests for ammunition facilities are submitted on Exhibit P-25 of the Production Support and Facilities Project Report (RCS: DRC-834). The other facility requirements are submitted on Exhibit P-15. AMC's Facilities Division does not receive these reports. The P-15 and P-25 address the current and 2 budget years. They are formatted in funds projects, which are the total PBS needs for each site. These projects are broken down into line-item listings of subprojects which are the individual RPMA and other PBS requirements (e.g., Subproject No. 3 – Ceiling and Walls, Building 7621, $60,000). More detailed descriptions of the requirements are kept at the MSC level. No report lists RPMA requirements separately from the other PBS.

GOCO contractors prepare the Technical Data Feeder Reports (commonly called the Tech Data Reports) and they submit them through Government channels. The reports are then handled as they are for non-PA-funded installations.

APPENDIX C

ARMY INDUSTRIAL FUND RPMA PROCESS

GENERAL DESCRIPTION

The Army Industrial Fund (AIF) is the Army Materiel Command's (AMC's) largest single source of real property maintenance activity (RPMA) funds, generating over $250 million annually in RPMA funding. Twenty-three installations from three different major subordinate commands (MSCs) receive AIF monies. The AIF is authorized under Section 2208 of Title 10, United States Code, to provide working capital for the operations and maintenance (O&M) of Army depots and arsenals. The fund is replenished through a schedule of fixed prices/rates charged to users of AIF facilities. Set at a level that recovers the cost of facility O&M, these rates are applied to parametric measures of consumption such as square footage of facility or labor shop hours utilized. Figure C-1 depicts the operation of AIF RPMA funding.

In general, installations funded through the AIF have been more successful in meeting RPMA requirements than installations funded through Operations and Maintenance, Army (OMA); Research, Development, Test, and Evaluation (RDTE); or Procurement, Army (PA), appropriations. Users of AIF-supported facilities are willing to pay for adequately maintained buildings through the established rate structure, in contrast to users of OMA facilities where RPMA requirements compete directly with other budget activities.

DETERMINING RPMA REQUIREMENTS

Most AIF-funded installations use their annual work plan or a similar document as the basis for determining funding requirements. Army Regulation (AR) 37-110 covers the operation of an industrial fund. Individual repair or alteration projects exceeding $100,000 must be funded with appropriated funds by the command responsible for the particular AIF-funded activity. All other RPMA costs are recovered through the established rates.

The Unconstrained Requirements Report (URR) is seldom used as the basis for establishing AIF rates. URRs are submitted to MSCs, but play only a small part in

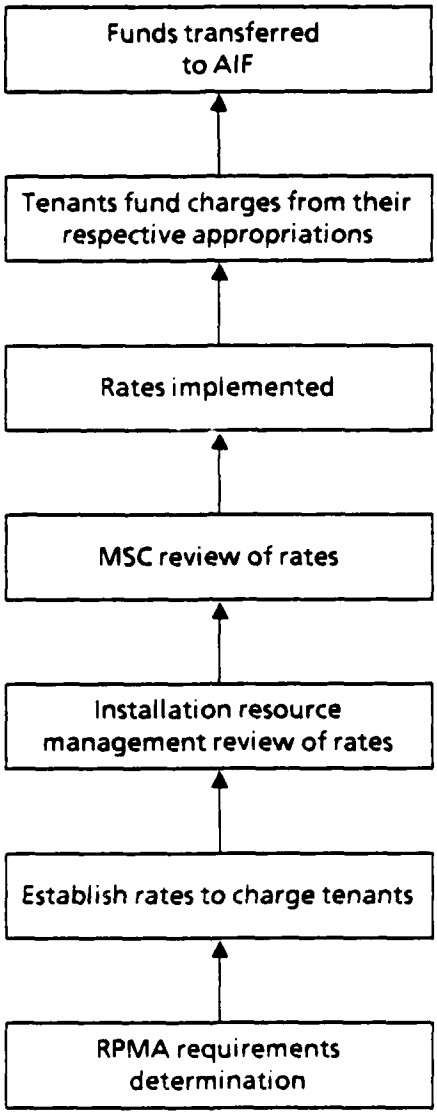

FIG. C-1. AIF RPMA FUNDING

RPMA management for AIF installations. Consequently, AIF installations question the necessity of submitting the URR.

PROGRAMMING, BUDGETING, AND ALLOCATING RPMA FUNDS

The programming, budgeting, and allocating functions for AIF installations are distinctly different from those of any of the other fund sources supporting AMC installations. Programming and budgeting do not occur in the same sense that they do for the OMA, PA, or RDTE appropriations. These two steps are combined in the

rate-setting process, whereby the installation establishes its requirements through an annual work plan or similar document and then develops rates that, when applied, will produce sufficient income to meet RPMA expenses.

A number of constraints are placed on AIF rates. Technical and accounting restrictions are described in AR 37-110, *Budgeting, Accounting, Reporting, and Responsibilities for Industrial Funded Installations and Activities.* Additionally, installation rates are frequently reviewed by MSCs and customers. The installation's Directorate of Engineering and Housing or facility manager is often required to defend the rate structure before the Directorate of Resources Management.

The allocation of AIF funds occurs in one of two ways. In an MSC that has given control of the generated funds to the installation, RPMA funds are generated and expended at the installation, with the installation's Director of Resource Management maintaining control of the accounts. It is a self-contained programming, budgeting, and execution system. When the MSC has retained control of AIF funds, the installation contributes to a funding base that is shared by other installations. The MSC then allocates funds from this base to installations, generally on a bulk-funding basis. In either case, the AIF must be solvent, and generated funds must be expended in the year in which they are generated. Interaction with the planning, programming, budgeting, and execution system occurs indirectly when AIF-supported activities include the cost of AIF rates in their budget submissions. There is no direct AIF interaction with the budgeting process.

RPMA REPORTS

Installations funded through the AIF are required to submit the same RPMA reports as other installations. The Technical Data Feeder Report (DA 2788-R) and the URR are the major reports that they submit. The Tech Data Report (TDR) is germane to AIF installations and provides a database for analyzing RPMA performance as well as basis for estimating future requirements. Although preparing the TDR is a significant effort, most RPMA managers concede that the report has value for both themselves and higher commands. The same belief does not exist for the URR. Most AIF installations believe the URR to be of little value since it plays no major role in rate setting and recommend that it be eliminated.

APPENDIX D

OPERATIONS AND MAINTENANCE RPMA PROCESS

GENERAL DESCRIPTION

Operations and Maintenance, Army (OMA), funds are appropriated by Congress to support Army units and their installations. In FY90, the total obligating authority for Army's OMA funds is budgeted at $27.8 billion, of which the Army Materiel Command (AMC) manages $5.2 billion. Forty-six of AMC's 63 installations are supported by OMA funds in some way. The appropriation is made up of a number of program elements which are listed in the Army Regulation 37-100 series. Program 7, Central Supply and Maintenance, contains most of the elements covering real property maintenance activity (RPMA). The major elements within Program 7 that have an impact on RPMA are: RPMA, AMC (722894); Industrial Preparedness Operations (728011); Depot Supply Operations (721111); Production Engineering for Stock Fund Items (728012.12); Army Standardization Program (728012.13); Production Engineering for Investment-Type End Items (728012.16); and selected Depot Materiel Maintenance and Support Activities (730000 series).

For most RPMA managers, the methodology for OMA funding is more familiar than the methodologies for the Army Industrial Fund (AIF) revolving fund or the Procurement, Army (PA), and Research, Development, Test, and Evaluation (RDTE) appropriations. This has often led to more attention being given to OMA RPMA funding than to the others.

DETERMINING RPMA REQUIREMENTS

Installation Directorates of Engineering and Housing (DEHs), Facility Engineering, or Directorates of Installation Services determine the installation's RPMA requirements and document them in the Unconstrained Requirements Report (URR). RPMA requirements for OMA-funded installations are classified into one of four RPMA accounts in the Army Management Structure Code. These are Operation of Utilities, Maintenance and Repair of Real Property, Minor Construction (construction under $200,000), and Other Engineering Support (.J, .K, .L, and .M accounts, respectively). In the URR, the RPMA requirements are reported by one of

three designations. Annual Recurring Requirements (ARR) are the minimum actions that must occur every year for the base to operate normally. One-Time Requirements (OTR), on the other hand, are nonrecurring RPMA needs, such as those resulting from environmental compliance, changes in mission, or extraordinary operational needs. Finally, the Backlog of Maintenance and Repair represents maintenance and repair work that has been deferred from previous fiscal years because of funding constraints. When the URR is staffed at Army level, however, there is a slight change in these definitions. An installation's OTR are combined with its ARR and the combined requirements are considered as ARR.

PROGRAMMING RPMA REQUIREMENTS

Those AMC OMA-funded installations with in-house work forces can program minor RPMA requirements using OMA funds for in-house accomplishment. The larger requirements, however, are programmed for contract accomplishment through one of two avenues. Construction requirements estimated at more than $200,000 go through the military construction (MILCON) review and appropriation process, while maintenance and repair and minor construction requirements are programmed in the OMA funding process. Figure D-1 outlines the programming and budgeting steps in the two appropriations.

MILCON projects are programmed on DD Forms 1391, *Military Construction Project Data.* The projects are reviewed by installation committees which forward the highest priorities to the major subordinate command (MSC). The MSC reviews the projects and forwards its recommendations to AMC HQ where the projects are reviewed again. Recommended projects are forwarded to the Office of the Assistant Chief of Engineers (ACE) who coordinates the DA review of all proposed Army MILCON projects and prepares the Army MILCON program submission to DoD. The DoD reviews the submission and adds it to the DoD MILCON submission to Congress. Finally, Congress selects the projects it wishes to fund and provides the funding for them through the MILCON appropriation.

Programming for all other OMA RPMA requirements is done via the planning, programming, budgeting, and execution system (PPBES). Once installations determine their requirements, the requirements enter two parallel programming systems that communicate them to higher command levels. One system is within engineer functional channels while the other is within resource management

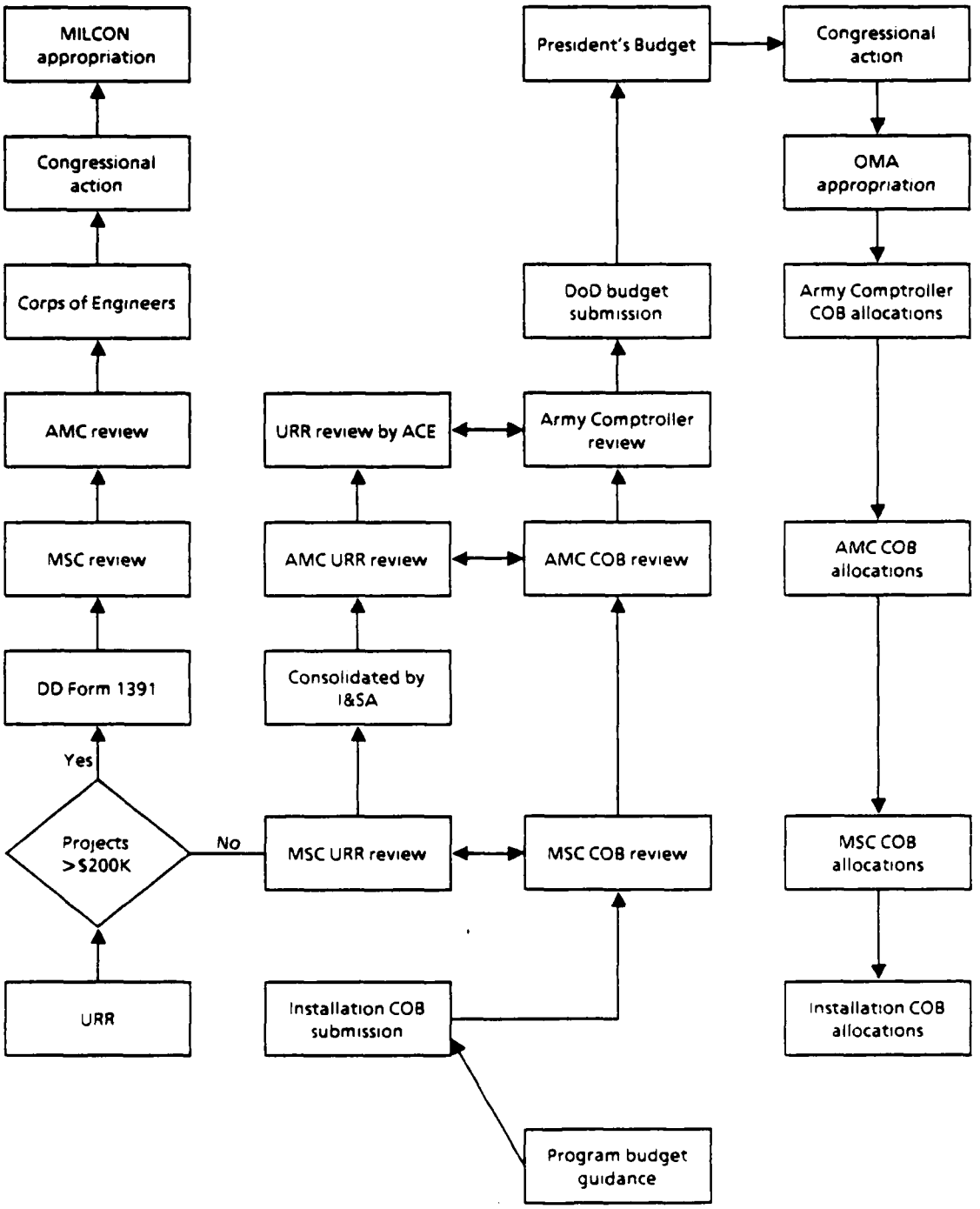

FIG. D-1. OMA RPMA FUNDING

functional channels. The engineer functional channel uses the URR as the consolidated statement of OMA requirements which are reviewed and acted upon. The resource management functional channel uses the Budget Program Resource Review (BPRR) to input installation OMA (and some RDTE) requirements to the PPBES. The BPRR replaces separate data calls for command operating budgets (COBs) and the program analysis and resources review. Both systems provide requirements information to higher levels of command; however, since the BPRR submission is a resource management tool, it has the greater impact on OMA resources actually allocated to AMC's major subordinate commands (MSCs) and installations.

THE BUDGET PROCESS

There are a number of formal and informal points of interaction between the resource manager's budget process and the engineer's RPMA management process. The first interaction takes place at the installation when the DEH communicates its requirements to the Directorates of Resource Management (DRM) for inclusion in the installation's BPRR submission. This interaction generally occurs directly between DEHs and DRMs but may be through an intermediary, depending upon the organization of the installation's staff. The next interaction occurs at the MSC, when the MSC staff engineer reconciles the URR against BPRR submissions. This coordination may or may not occur, depending upon the local MSC policies. We found that some MSCs perform a thorough reconciliation and are active participants in programming and budgeting meetings, while others are isolated from the BPRR submission process. A similar reconciliation occurs at the AMC HQ, where the Facilities Division compares engineer's URR data with the requirements stated in BPRR submissions during meetings with the OMA Resource Management Division. However, the BPRR submissions are not an unconstrained look at RPMA requirements, and therefore there is generally a significant difference in the engineer's stated RPMA requirements and those from the BPRR submission. The Facilities Division is also a member of AMC's Resource Allocation Committee and serves as the proponent for OMA RPMA. The final interaction with the BPRR submission occurs when representatives from the ACE's office reconcile URR data with the information contained in BPRR submissions with the Office of the Army Comptroller. The Comptroller then provides a budget submission to OSD, which then provides input to the President's Budget.

RPMA RESOURCE ALLOCATION

The allocation of OMA RPMA funds is accomplished in much the same manner as the allocation of other OMA monies. Once Congress acts on the President's Budget and an OMA appropriation is enacted, the allocation of RPMA funds begins. Two information sources have an impact on the allocation of OMA RPMA funds. The URR is used by engineering staffs, while the BPRR is used by resource managers and is the official allocation document.

Funds are allocated for RPMA to the Army, Army major command, MSC, and then installation levels. At each level, allocation committees determine how much of the total OMA resources should be allocated to RPMA. There is no guarantee that each level will be consistent with the level preceding it, and there is no reflection of the programmed amounts. Staff engineers are generally members of the allocation committees and have the opportunity to act as the advocate for RPMA. The quality of the back-up information determines how well they perform this function. The allocations made by each level serve as guidance for subsequent levels. However, there are few restrictions on OMA funds allocations within AMC. Thus, it is possible for money to be allocated for RPMA at one level of command and expended for other purposes at the subordinate level.

The installation's allocation of RPMA funds is based primarily on a combination of DEH judgments and installation commander prerogatives. There are, however, some policies governing the suballocation of RPMA funds. One such policy is contained in AMC's guidelines for the prioritization of real property maintenance and repair projects, which provide for the assignment of a numerical score to each project. This score can then be used to prioritize RPMA projects to maximize the benefit received from the RPMA dollar. But few MSCs and installations use this policy, and many are not even aware of it. Another is the longstanding congressional guideline that the maintenance of real property (.K) account must be greater than or equal to 90 percent of the sum of maintenance of real property and minor construction (.K + .L) accounts.

Finally, some MSCs have developed their own allocation algorithms reflecting RPMA priorities. One such algorithm is that operation of Utilities (.J) is fully funded, 85 percent of other Engineering Support (.M) is funded, 95 percent of

Maintenance and Repair of Real Property (.K) is funded and any remainder is applied to Minor Construction (.L).

RPMA REPORTS

The major reports used to manage RPMA OMA are the URR and the Technical Data Feeder Report (DA 2788-R), normally referred to as the Tech Data Report (TDR). The URR provides requirement information for all categories of RPMA. URRs are prepared for the execution year, the budget year, and for forecast years; they are the primary mechanism by which DEHs articulate their requirements. The TDR is an execution report requiring installations to identify where OMA RPMA funds were expended, by functional category. It is intended to provide an information base for examining RPMA execution and for analyzing future RPMA needs. The TDR is organized by Army Management Structure Codes and contains a great deal of detail on the execution of the RPMA program. Although special reports are required for certain RPMA actions, the URR and the TDR are the main sources of information on the RPMA program.

APPENDIX E

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION REAL PROPERTY MAINTENANCE ACTIVITY PROCESS

GENERAL DESCRIPTION

The Army's Research, Development, Test, and Evaluation (RDTE) funds (major Defense Program 6) are appropriated by Congress each year to fund scientific research, development, testing, and evaluation. Operation, maintenance, rehabilitation, minor construction, and lease expenses for all facilities and equipment supporting this mission are funded through the RDTE appropriation's real property maintenance activity (RPMA) accounts. Only those installations whose primary source of funding is the RDTE appropriation may fund their RPMA from these accounts. All Army tenants of RDTE-funded facilities receive RPMA services on a nonreimbursable basis from the installation's Directorate of Engineering and Housing (DEH), Directorate of Installation Services (DIS), facilities engineer, or commercial activity contractor.

Beginning in FY87, all RDTE RPMA costs were identified, programmed, and budgeted by separate line item, giving RPMA greater importance during the programming and budgeting process. RPMA's program element 65894A (AMSCO 665894) defines RPMA's funding level in the Army's Program Objective Memorandum (POM). As is the case with the Operations and Maintenance, Army (OMA), appropriation, all RPMA work supporting RDTE-funded facilities is categorized into one of four accounts: Operation of Utilities, Maintenance and Repair of Real Property, Minor Construction, and Other Engineering Support (.J, .K, .L, and .M accounts, respectively).

Among the Army Materiel Command's (AMC's) major subordinate commands (MSCs), the primary user of the RDTE RPMA appropriation is the U.S. Army Test and Evaluation Command, while the U.S. Army Armament, Munitions and Chemical Command; the U.S. Army Laboratory Command; and the U.S. Army Troop Support Command each fund only one installation. AMC's total FY90 RPMA

funding for the RDTE appropriation is $165 million which is slightly higher than FY89.

The way AMC HQ and Headquarters Department of the Army (HQDA) program and budget RDTE funds in their planning, programming, budgeting, and execution system (PPBES) is quite different from the process used for the OMA appropriation. The Assistant Secretary of the Army (Research, Development, and Acquisition) (ASARDA) is Army's appropriation manager for RDTE funds, establishes all policy and procedures, and is the RDTE proponent during the programming and budgeting process. The RDTE Appropriation Management Division supports AMC's role in the PPBES. This appendix discusses how AMC's RDTE-funded installations articulate their RPMA requirements, the key periods during which funds are programmed and budgeted, the organizations that manage and control the funds through the PPBES, and the key documents and reports. Army Regulation 70-6, *Management of the Research, Development, Test, and Evaluation, Army Appropriation*, contains a detailed discussion of the RDTE appropriation, and Figure E-1 shows the RDTE funding process.

DETERMINING RPMA REQUIREMENTS

Following a procedure similar to that used at OMA-funded installations, the DEH, facilities engineer, or DIS at RDTE-funded installations determines RPMA requirements and documents them in the Unconstrained Requirements Report (URR) before October. The URR provides an "unconstrained" look at the total RPMA requirements at RDTE-funded installations. The minimum level of funding necessary to maintain the installation's real property is captured in the URR's Annual Recurring Requirements (ARRs) and One-Time Requirements (OTRs). The report also includes the installation's deferred maintenance or backlog of maintenance and repair (BMAR) requirements. A number of installations and MSCs report that they do not spend much effort articulating BMAR since they feel it does not affect their eventual level of funding. The URR spans 4 years – 2 budget years plus 2 program years[1] – and is separated into funded and unfunded portions.

[1]Current Army guidance is revising the 4 year URR coverage to 5 years to include an additional program year.

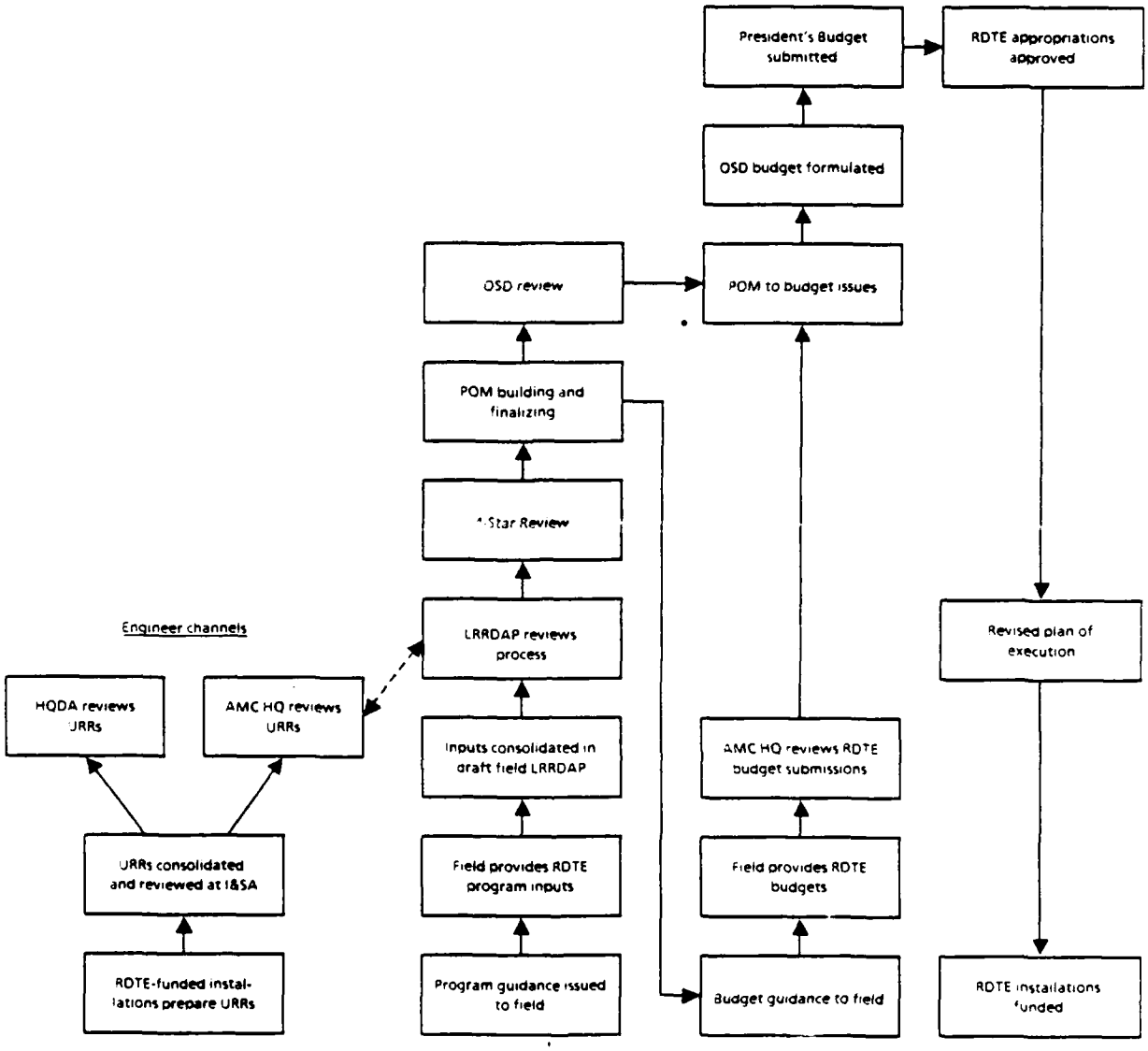

FIG. E-1. RDTE RPMA FUNDING PROCESS

PROGRAMMING RPMA REQUIREMENTS

Programming AMC's RDTE RPMA requirements is accomplished within the PPBES via two distinct parallel systems coordinated by AMC engineers and AMC RDTE functional appropriation managers. Currently, the two separate programming systems do not officially interact at AMC HQ, but the Facilities Division does provide input upon request. Nonetheless, the RDTE appropriation managers have final say over programming and budgeting. At the HQDA level, although the RPMA Programs Branch has the mission to defend RPMA funding for

all appropriations – including RDTE – throughout the PPBES cycle, it has not attempted to influence RDTE RPMA funding levels in recent years.

The programming process utilized by the RDTE functional appropriation managers focuses on their Long Range Research, Development and Acquisition Plan (LRRDAP). The LRRDAP closely resembles OMA's Budget and Program Resources Review process in function and form. The LRRDAP provides a 15-year look at RDTE programs and is used primarily to describe the Army's research, development, and acquisition (RDA) strategy to build the POM and its extended planning annex. The Army and AMC HQ use the LRRDAP to prioritize RDA programs; it is the starting point for the programming process. Recently (1987), it was consolidated into the same format as the program development increment packages in Army's management decision packages (MDEPs) to ease the transition into POM development. The LRRDAP is composed of 12 warfighting mission areas and 6 infrastructure mission areas, of which "base support" is one. RPMA has been included as a separate line item only since 1987.

After the draft LRRDAP guidance is distributed (July) to AMC, RDTE-funded installation's programming information is returned to AMC HQ. At AMC HQ, the RDTE program information is consolidated. The RDTE appropriation managers do not use actual RPMA requirements that are developed from RDTE-funded installations; rather, they straight-line (prior year + salary increases + inflation) from the previous year's funding levels. After the information is sufficiently consolidated, it undergoes a series of reviews by mission area managers, the mission area integration team, and ASARDA, followed by a "4-Star Review" during which the LRRDAP is finalized and approved. The reviews occur from September through November. The RDTE Appropriation Management Division provides AMC's inputs during the review process, but the RPMA portion is generally defended by the AMC HQ Facilities Division upon request.

AMC, the U.S. Army Training and Doctrine Command, and the Army staff conduct acquisition reviews before the LRRDAP is finalized ensuring that material development and acquisition programs are compatible, appropriately priced, and executable. The reviews consider pricing changes and spending experience from the past year for zero-sum program adjustments. Changes must be documented in the

MDEPs. Areas unresolved by the appropriation managers are elevated to the Army staff or even Secretary of the Army if necessary.

The final draft LRRDAP is forwarded to ASARDA, where final adjustments are made before it is submitted to OSD and then entered into the POM building process where all RDTE requirements are prioritized within the POM total obligation authority. This occurs between January and April.

The engineers' parallel programming system utilizes the installation's URR as the consolidated listing of its RPMA requirements and it is submitted through engineering channels only. Installation facility managers develop the URRs and submit them through the Installation and Services Activity (I&SA) and the AMC HQ Facilities Division to the U.S Army Corps of Engineers (USACE), RPMA Programs Branch. The information collected from the installations stops here and since the engineer community does not manage the RDTE appropriation, they can do little more than appeal the decisions made by functional appropriation managers during the LRRDAP and budget review processes. Beginning in FY90, USACE RPMA managers will begin to take a more active role supporting the RPMA portion of the RDTE appropriation at the HQDA level.

RPMA BUDGETING

Budgeting Army's RDTE funds officially begins after the POM is approved with the issuance of OSD's Program Decision Memorandum (PDM). The PDM serves as the basis for developing the RDTE portion of the Army's budget submission back to OSD in September. AMC HQ uses the LRRDAP and the President's Budget to begin developing the total RDTE requirements at the incremented level. At the OSD, the RDTE budget is reviewed and finalized and changes are issued back to the Army in the form of the Program and Budget Decisions (PBD).

Since DoD and Congress want to determine and maintain the total costs for developing weapon systems, the RDTE appropriation level is generally fixed by program from year to year. However, there is flexibility between the mission areas within each program. For instance, funds can be moved to RPMA accounts at the expense of funding for combat support mission areas, as long as the adjustments result in net-zero changes to the program. Depending on the size of these adjustments, they can be made at the MSC, AMC HQ, or ASARDA level.

Historically, RPMA and base support have not succeeded in getting a satisfactory share of the RDTE appropriation during the budget process because mission areas are weighted according to their impact on the Army's warfighting capability. Overhead functions such as RPMA are typically given low priorities and therefore lower funding levels. The weighting factors and funding levels are not based on RPMA's actual requirements as stated in the URR.

To link the programming and budgeting processes, the Army uses the Five Year Defense Program (FYDP). AMC's RDTE Appropriation Management Division receives the RDTE FYDP in May, September, and January to support the budgeting process. The May FYDP is based on the approved program levels from the POM. The September issuance is based on the latest Army budget submissions. The January FYDP is based on the budget levels established in the President's Budget submission to Congress. Each FYDP is used in turn to refine the RDTE budget (generally downward) at AMC HQ.

In April or May, AMC HQ issues program and budget guidance from the approved POM to the RDTE-funded MSCs and installations. At that time, MSCs have the opportunity to make upward or downward adjustment to the various mission areas (within limits), provided they result in net-zero adjustments to the total obligation authority for the RDTE program. The installation resource managers use this information to prepare initial budget submissions, which are submitted through MSCs to the AMC HQ RDTE Appropriation Management Division, where they are included in the AMC RDTE budget submissions. When the POM issues are resolved in August, the RDTE budget is submitted to OSD in September. There, it is reviewed for financial soundness through both formal and informal hearings. OSD's RDTE budget decisions are furnished back to the Army and major commands (MACOMs) through the PBD process from September through December. The President's Budget is finalized and submitted to Congress in January with detailed justification of the RDTE portion. After complete congressional reviews, the final appropriations are made in the following September or October.

During the budgeting process, funding is somewhat fluid among the various accounts. However, since the program levels are fixed, the major issue becomes how to apportion the available resources. During this period, RPMA proponents compete with those or other mission areas for the available RDTE resources.

RPMA RESOURCE ALLOCATION

RDTE funds are appropriated by Congress each year, but they remain available for obligation for 2 years. Essentially, money cannot be transferred out of the RDTE accounts once it is appropriated. The initial approved program, published near the end of September, is issued to all RDTE-funded Army MACOMs and operating agencies in program element detail so they can begin development of their final budgets. In the event Congress does not approve the appropriations by 1 October, operations normally proceed under a continuing resolution authority.

AMC's RDTE Appropriation Management Division uses the Revised Approval Program when the final appropriation is signed as guidance for line-item allocation of the RDTE funds to MSCs and installations. These funds are not fenced, but since they are line-item funded, reallocation requires AMC HQ approval. AMC HQ has a $1.5 million approval ceiling for moving funds between accounts. Anything higher requires approval from the Office of the Assistant Secretary of the Army (Financial Management). Since RPMA funding is severely limited from the onset, AMC HQ does not retain any funding for contingency purposes.

APPENDIX F

GLOSSARY

ACE	=	Assistant Chief of Engineers
ACOE	=	Army Communities of Excellence
AFH	=	Army Family Housing
AIF	=	Army Industrial Fund
AMC	=	Army Materiel Command
AMCAM	=	Deputy Chief of Staff for Ammunition
AMCCOM	=	U.S. Army Armament Munitions and Chemical Command
AMCPD	=	Deputy Chief of Staff for Production
AR	=	Army regulation
ARRs	=	Annual Recurring Requirements
ASARDA	=	Assistant Secretary of Defense (Research, Development, and Acquisition)
AVSCOM	=	U.S. Army Aviation Systems Command
BASOPS	=	base operations
BIP	=	Budget Increment Package
BMAR	=	backlog of maintenance and repair
BPRR	=	budget and program resource review
CA	=	commercial activities
CECOM	=	U.S. Army Communications-Electronics Command
CERL	=	Construction Engineering Research Laboratory
COB	=	command operating budgets
DCSEH&IL	=	Deputy Chief of Staff for Engineering, Housing, and Installation Logistics

DEH	=	Directorate of Engineering and Housing
DERA	=	Defense Environmental Restoration Account
DESCOM	=	U.S. Army Depot System Command
DIS	=	Directorate of Installation Services
DRB	=	Defense Resources Board
DRM	=	Directorate of Resource Management
FORSCOM	=	Forces Command
FYDP	=	Five Year Defense Program
GOCO	=	Government-owned, contractor-operated
HQDA	=	Headquarters Department of the Army
I&SA	=	Installation and Services Activity
IOB	=	installation operating budgets
IFS-M	=	Integrated Facility System Mini/Micro
ISC	=	Information Systems Command
LABCOM	=	U.S. Army Laboratory Command
LRRDAP	=	Long Range Research, Development and Acquisition Plan
MACOM	=	major command
MAIT	=	mission area integration team
MAM	=	mission area manager
MAR	=	Maintenance and Repair
MCA	=	Military Construction, Army
MDEP	=	management decision package
MICOM	=	U.S. Army Missile Command
MILCON	=	military construction
MIS	=	management information system
MSC	=	major subordinate command

O&M	=	operations and maintenance
OMA	=	Operations and Maintenance, Army
OMB	=	Office of Management and Budget
OTRs	=	One-Time Requirements
PA	=	Procurement, Army
PARR	=	program analysis and resource review
PBG	=	program and budget guidance
PBS	=	Production Base Support
PDIP	=	program development increments package
PDM	=	program decision memorandum
PEG	=	Program Evaluation Group
PEO	=	Program Executive Officers
POM	=	program objective memorandum
PPBES	=	planning, programming, budgeting, and execution system
PPBS	=	planning, programming, and budgeting system
RAC	=	Resource Allocation Committees
RDA	=	research, development, and acquisition
RDTE	=	Research, Development, Test, and Evaluation
RMU	=	resource management update
RPMA	=	real property maintenance activity
TACOM	=	U.S. Army Tank and Automotive Command
TAP	=	The Army Program
TDR	=	Tech Data Report
TECOM	=	U.S. Army Test and Evaluation Command
TOA	=	total obligational authority
TRADOC	=	U.S. Army Training and Doctrine Command
TROSCOM	=	U.S. Army Troop Support Command

URR	=	Unconstrained Requirements Report
USACE	=	U.S. Army Corps of Engineers