Army Regulation 70–6

Research, Development, and Acquisition

Management of the Research, Development, Test, and Evaluation, Army Appropriation

Headquarters
Department of the Army
Washington, DC
16 June 1986

Unclassified

SUMMARY of CHANGE

AR 70–6
Management of the Research, Development, Test, and Evaluation, Army Appropriation

This revision--

- Implements congressional and Office of the Secretary of Defense direction on standardization of RDTE base operations and real property maintenance activities (chap 3).

- Updates funding guidance for RDTE, A programs (chap 3).

- Gives guidance for allocating and resourcing RDTE, A manpower (Chap8)

- Incorporates guidance published in DA letter, DAMA-PPR-B, 29 Dec 83, subject: RDTE TRACE Guidelines.

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Effective 1 October 1986

Research, Development, and Acquisition

Management of the Research, Development, Test, and Evaluation, Army Appropriation

By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

Official:

R. L. DILWORTH
Brigadier General, United States Army
The Adjutant General

History. This UPDATE printing publishes a revision which is effective 1 October 1986. Because the structure of the entire revised text has been reorganized, no attempt has been made to highlight changes from the earlier regulation dated 12 November 1974. The cover date of this issue is later than the date of publication within because of the nonavailability of printing funds at the time of publication.

Summary. This revision prescribes policies and procedures for the programming, budgeting, and execution of the Research, Development, Test, and Evaluation, Army (RDTE,A) Appropriation. It implements the policies and uses of the RDTE,A appropriation as defined in DOD 7110–1–M chapter 251. It contains the policy and procedures for use in RDTE,A reprogramming and Total Risk Assessing Cost Estimates (TRACE) for RDTE,A programs.

Applicability. This regulation applies to all Active Army activities and installations that program, budget, and expend RDTE,A appropriations funds. It does not apply to the Army National Guard or the U.S. Army Reserve.

Proponent and exception authority. Not applicable

Army management control process. This regulation is subject to the requirements of AR 11–2. It contains internal control provisions and checklists for conducting internal control reviews.

Supplementation. Supplementation of this regulation and establishment of forms other than DA forms are prohibited without prior approval from HQDA (DAMA–PPR), WASH DC 20310–0666.

Interim changes. Interim changes to this regulation are not official unless they are authenticated by The Adjutant General. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

Suggested Improvements. The proponent agency of this regulation is the Office of the Deputy Chief of Staff for Research, Development and Acquisition. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to HQDA (DAMA–PPR), WASH DC 20310–0666.

Distribution. Distribution of this issue has been made in accordance with DA Form 12–9A–R requirements for 70-series publications. The number of copies distributed to a given subscriber is the number of copies requested in Blocks 112 of the subscriber's DA Form 12–9A–R. AR distribution is D for Active Army; for ARNG, and USAR; None.

Contents (Listed by paragraph and page number)

*This regulation supersedes AR 70–6, 12 November 1974.

Unclassified

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Chapter 1
Introduction

1–1. Purpose
This regulation prescribes policies and procedures for the financial management of the Research, Development, Test, and Evaluation, Army (RDTE,A) Appropriation. It applies to the full range of programming, budgeting, and execution of the appropriation.

1–2. References
Required and related publications and referenced forms are listed in appendix A.

1–3. Explanation of abbreviations and terms
Abbreviations and special terms used in this regulation are explained in the glossary.

1–4. Responsibilities
a. The Deputy Chief of Staff for Research, Development, and Acquisition (DCSRDA) will—

(1) Establish policies and procedures for the management of the RDTE,A appropriation.

(2) Review and approve all requests for the establishment of or change in scope or title of all RDTE,A program elements and projects.

(3) Request approval from the Office of the Assistant Secretary of Defense (Comptroller) (OASD(C)) for the establishment or change in scope or title of all RDTE,A program elements.

(4) Notify major Army commands (MACOMs)/operating agencies of approvals/disapproval's for the establishment of new program elements/projects or change in scope of program elements/projects from that reflected in the pertinent year Congressional Descriptive Summaries (CDS). (See para 4–1*d.*)

(5) Administer the conduct of the Army's participation in the Office of the Secretary of Defense (OSD) Federal Contract Research Center (FCRC) program. (See chap 6.)

(6) Program and budget RDTE,A funds using funding policies directed in this regulation.

(7) Provide instructions to and review, analyze, and/or consolidate information received from MACOMs/operating agencies for use as a source to prepare schedules for inclusion in the President's Budget, the RDTE,A CDSs, and other special reports requested by OSD, Office of Management and Budget (OMB), or Congress.

(8) Provide RDTE,A appropriation-unique instructions to MACOMs/operating agencies for preparation of the annual obligation plan and for actual performance reporting.

(9) Monitor the amount of contingent liabilities and special termination costs clauses included in RDTE,A contracts to preclude unnecessary nonproductive commitment of RDTE,A funds at the MACOM/operating agency level.

(10) Provide to the MACOMs/operating agencies within 30 calendar days of appropriation enactment a list of program elements and projects which were zeroed, or reduced with prejudice by Congress. No reprogrammings into these program elements/projects will be authorized.

(11) Provide a list of congressional, OSD, and Headquarters Department of the Army (HQDA) special interest items to the MACOMs/operating agencies in the Initial Approved Program (IAP) and the Revised Approved Program (RAP).

(12) Notify MACOMs/operating agencies of approval/disapproval of "above threshold" reprogramming requests.

(13) Notify MACOMs/operating agencies of any congressional restrictions placed on the use of funds offered as sources of funds on a disapproved "above threshold" reprogramming request.

(14) Provide in the IAP and RAP detailed "below threshold" reprogramming authority to the MACOMs/operating agencies for dual responsibility program elements.

(15) Review MACOM/operating agency "below threshold" reprogramming actions and disapprove any that circumvent Department of the Army (DA) priorities, directed funding increases or decreases, or other OSD/DA specified restrictions.

(16) Comply with responsibilities for conduct of the Total Risk Assessing Cost Estimate (TRACE) program defined in paragraph 7–8.

(17) Publish RDTE,A program and budget call letters as required in chapter 9.

(18) Publish the Changes To Research and Development Planned Program (RCS CSCRD–9 (R5)) report to MaACOMs/operating agencies on a monthly basis to show the status of the current approved RDTE,A program.

b. The Deputy Chief of Staff for Personnel will—

(1) Direct and monitor the conduct of personnel, training, and human factors research and development.

(2) Act as head of the Army's operating agency for the conduct of personnel, training, and human factors research and development. In this role, comply with the responsibilities directed in *g* below.

c. The Surgeon General will—

(1) Direct and monitor the conduct of all Army medical and dental research and development.

(2) Act as head of the Army's operating agency for the conduct of medical and dental research and development. In this role, comply with the responsibilities directed in *g* below.

d. The Ballistic Missile Defense program manager will act as head of the Army's operating agency for the OSD Strategic Defense Initiative Program (SDIP) to include administration of the FCRC ceiling and for management and operation of Kwajalein Missile Range (KMR). In this role, compliance with responsibilities directed in this regulation is limited to the RDTE,A appropriation and manpower.

e. The Chief of Engineers will—

(1) Direct and monitor the conduct of construction for Army research, development, and acquisition (RDA) facilities and environmental research and development.

(2) Act as head of the Army's operating agency for the conduct of RDA construction and environmental research and development. In this role, comply with the responsibilities directed in *g* below.

f. The Comptroller of the Army will assure compliance with the responsibilities defined in paragraph 7–8*b.*

g. The MACOMs and operating agencies identified in paragraph 9–2 will—

(1) Forward requests for new program elements and projects or changed scope or titles of program elements and projects to HQDA (DAMA–PPR–B), WASH DC 20310–0666 for approval.

(2) Implement incremental funding principles defined in this regulation when preparing program and budget submissions to HQDA.

(3) Ensure project and/or reimbursable purchase request order expiration dates are consistent with incremental funding policies outlined in chapter 2.

(4) Program and budget RDTE,A funds using funding procedures contained in this regulation.

(5) Establish and maintain adequate systems of RDTE,A accounting and fund control throughout the MACOM/operating agency.

(6) Remain within the approved program issued by HQDA except as authorized by specifically delegated reprogramming authority.

(7) Notify HQDA (DAMA–PPR–B) as early as practicable of potential cost increases which require "above threshold" reprogramming action.

(8) Monitor and control RDTE,A resources (both direct and reimbursable) available to RDTE,A installations and activities under their control.

(9) Provide information to HQDA (DAMA–PPR–B) on contingent liabilities and special termination costs clauses as required by paragraph 9–9.

(10) Forward requests for "above threshold" reprogrammings to HQDA (DAMA–PPR–B) for approval/submission to OSD and Congress.

(11) Ensure no obligation of funds is incurred in violation of congressional guidance/direction.

(12) Monitor and control "below threshold" reprogrammings within the authority delegated by HQDA.

(13) Comply with the responsibilities for the TRACE program contained in paragraph 7–8.

(14) Comply with the reporting requirements contained in chapter 9.

h. The Commanders of RDTE,A installations and activities will—

(1) Implement incremental funding principles contained in this regulation.

(2) Ensure project and/or reimbursable purchase request order expiration dates are consistent with incremental funding policies outlined in chapter 2.

(3) Program and budget RDTE,A funds using funding procedures contained in this regulation.

(4) In accordance with chapter 8, program, budget, and execute reimbursable orders in the program element/project to which performing personnel are authorized/assigned.

(5) Document and fund equipment purchases as directed in paragraph 3–10.

(6) Fund transportation costs as directed in paragraph 3–12.

(7) Establish and maintain adequate systems of accounting and fund control.

(8) Remain within their approved RDTE,A program and fund controls.

(9) Notify the appropriate MACOM/operating agency as early as practicable of potential cost increases which require reprogramming action.

(10) Report excess funding to the appropriate MACOM/operating agency for withdrawal as soon as excesses are determined.

(11) Provide information on contingent liabilities and special termination costs clauses through the appropriate MACOM/operating agency to HQDA as required in this regulation.

(12) Comply with the reporting requirements contained in chapter 9.

1–5. Research, Development, Test, and Evaluation, Army numbering systems

a. A description of the RDTE,A project numbering system is provided in AR 70–9 figure 4–2. This figure describes the use of each digit in the numbering system.

b. A description of the Army management structure (AMS) as it applies to the RDTE,A appropriation is provided in AR 37–100–XX, chapter 7. In addition, a comparison of terms and codes between the AMS/fiscal uses and program/Five Year Defense Program (FYDP) uses is provided in that regulation.

1–6. Procedures for program element/project initiation

a. The number of reportable program elements and projects within the RDTE,A appropriation will be minimized.

b. Assignment of program element numbers and titles is controlled by the OASD(C). Requests for establishment of a new program element will be forwarded through command channels to HQDA (DAMA–PPR–P), WASH DC 20310–0666, along with written justification of the new effort. This justification must explain why the new effort is different from ongoing efforts and should be established as a separate program element. A proposed title for the new effort must also be included in the requesting letter. The requesting activity will be notified through command channels by HQDA (DAMA–PPR–P) whether the change is approved by HQDA and OASD(C). If approved, a new program element number, approved title, and description will be furnished.

c. Assignment of project numbers and titles is controlled by HQDA (DAMA–PPR). Request for the establishment of a new project will be forwarded through command channels to HQDA (DAMA–PPR), WASH DC 20310–0666, for approval. Written justification for the new project must explain the need for the separate identification of the effort. A proposed title for the new effort must also be included in the requesting letter. The requesting activity will be notified through command channels by HQDA (DAMA–PPR–P) whether the change is approved by HQDA. If approved, a new project number, and approved title will be furnished.

d. Changes to program element/project scopes and program element/project titles will be requested using the same procedures as for new program elements and projects described in *b* and *c.* above.

1–7. Internal control

This regulation contains internal control reviewed checklists for management of RDTE,A appropriation. These checklists are located after the last chapter of this regulation.

Chapter 2
Appropriation Guidance

2–1. Use of the Research, Development, Test, and Evaluation, Army appropriation

The RDTE,A appropriation is provided on an annual basis by Congress for expenses necessary for basic and applied scientific research, development, test, and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment as authorized by law. Each RDTE,A annual appropriation remains available for obligation for 2 fiscal years (PL 92–156).

2–2. Incremental funding

a. General. Although each RDTE,A appropriation is legally available for obligation for 2 fiscal years, it is the policy of Congress, the Department of Defense (DOD), and DA that the annual funding program for any RDTE,A project will be developed on an incremental basis. Incremental programming will provide funding on a year-by-year basis as distinguished from fully funding the total costs at the time the project is initially authorized. Incremental funding principles pertain to all stages of planning, programming, budgeting, and executing the RDTE,A appropriation. Generally, the annual funding increment of any RDTE,A project will be limited to the obligation authority necessary to cover all costs expected to be incurred during the fiscal year.

b. Monitorship of the incremental funding policy. During the development of DOD's annual budget submission to Congress, prior years' obligation and disbursement rates for each project are closely scrutinized by analysts from OMB and OASD(C). The results of this review are utilized by OASD(C) to reduce funding for projects in the budget year based on low obligation and disbursement rates during the current and prior years. Particular attention is paid to disbursement rates during this review. RDTE,A projects with obligation rates less than 90–95 percent or with disbursement rates less than 50–55 percent at the end of the first year of availability are subject to review for possible "forward financing" of the program in violation of the incremental funding policy.

c. Incremental programming principles. The following policies will be implemented by all MACOMs/operating agencies, installations, and activities to preclude forward financing of RDTE,A project efforts:

(1) Funding for the operation and maintenance of Government-owned RDTE,A installations will be programmed on a fiscal year basis.

(2) Research, development, and test efforts to be accomplished in house will be programmed on a fiscal year basis.

(3) RDTE efforts requested from other in-house Government installations or activities (both DOD and non-DOD activities) on a reimbursable basis will be limited to a 12-month period which may extend not more than 3 months into the subsequent fiscal year. This includes project orders (as defined in AR 37–41) and other authorized government purchase requests or work orders. The required work or services requested by the reimbursable or project order are to be performed by the recipient of the order through use of in-house labor and facilities. Contracts in support of in-house effort will be treated the same as all out-of-house effort as discussed in (4) below.

(4) Funding for contractual efforts, including those involving

multi-year contracts, will be programmed on a fiscal year basis. This does not apply to contracts awarded in the last quarter of the fiscal year that may be funded to extend not more than 90 days into the succeeding fiscal year. As an exception, for contractual efforts on major weapons systems with total development costs in excess of $100 million that are being developed over several years utilizing a prime contractor, the funding requirements for first-tier subcontracts of $5 million or more annually will be limited to a 12-month period. The period does not have to coincide with the fiscal year in which funds are requested, but may not extend more than 12 months beyond the end of that fiscal year. Fixed-price subcontracts are not restricted to a 12-month period although the use of a 12-month increment for fixed-price subcontractors is encouraged where this arrangement is acceptable to contractors and is in the best interests of the Government.

(5) Congress has specifically denied authority to expend funds on new start programs prior to congressional approval. Since the DOD Appropriation Act historically has not been passed until 2 to 4 months after the beginning of the fiscal year, the initial increment for new starts will be programmed for a 9-month or lesser period. The second and succeeding increments will be programmed and financed for periods up to 12 months coincident with that respective fiscal year.

(6) The budget request may provide for financing of more than 12 months, but will not exceed 18 months, in cases of research and development projects to be performed by private concerns where the total efforts is expected to be completed within an 18-month period, and where one of the conditions below exists. In these cases the period to be financed must begin during the fiscal year for which funds are being requested.

(a) It is considered that there is no logical way to divide the work; therefore, it is in the best interests of the Government to finance the project in full.

(b) It is expected to be clearly infeasible to limit the contract to a shorter period.

(c) The planned technical effort is a one-time requirement with an identifiable end product.

(d) The planned technical effort makes it clearly evident that no responsible contractor can be found who will accept a contract for a less-than-completion increment.

(7) Funding for project effort in the basic research category (6.1, research) to be performed by educational institutions or activities affiliated with educational institutions may be programmed for periods up to 36 months for the initial increment if it is considered in the best interests of the Government and the institution to provide stability in order to attract and retain the required skilled personnel. Any renewal increments will be limited to 12-month periods. In all cases, the funding period must begin during the fiscal year for which funds are being requested.

(8) Although the above policies are designed to reduce the incidence of forward financing, it is recognized that these may be circumstances that could delay the start of an annual increment (such as legal, administrative, or technical problems). The 2-year availability of funds authorized for obligation in the RDTE,A appropriation provides the necessary flexibility for program execution in those circumstances. For example, in those instances where funds were incrementally programmed and subsequently appropriated for a specific period of time and contract award is delayed for unavoidable reasons (for example, technical problems or late receipt of funds), contractual efforts may be funded for the total period included in the appropriation provided subsequent year programs are adjusted to comply with incremental funding policies. In other instances (such as in-house efforts), program slippage's can be restructured to comply with the incremental principles through reprogramming authorities delegated to developing agencies in chapter 5 of this regulation. Program slippage's or changes that are not corrected through reprogramming or other means during the execution phase must be corrected during the next program formulation cycle. Failure to take corrective action to bring a program within incremental funding principles during the next program formulation cycle may result in forward financing reductions being imposed on the program by senior DOD or DA managers.

2–3. Use of RDTE,A project orders

Project orders will not be issued for the purpose of continuing the availability of RDTE,A appropriations. In accordance with incremental funding policies, the expiration date of all project orders citing RDTE,A funds (to include extensions provided in modifications and amendments) will extend no more than 3 months into the second year of availability. No new project orders will be initiated in the second year of availability. Requests for exceptions to this policy will be forwarded with written justification through command channels to HQDA (DAMA–PPR), WASH DC 20310–0666, for approval.

Chapter 3
Funding guidance

3–1. Indirect management and support costs

The RDTE,A program element and project structure will be utilized to identify those costs that can be directly identified with a specific research, development, or test effort. Those management and support costs of an indirect nature that pertain to two or more program elements and projects should be accumulated in program elements and projects where management and/or support costs of a like nature can be identified and separately managed based on the similarity of functions performed. For example, all RDTE,A base operations costs and related manpower spaces will be grouped together in a single program element for justification and fiscal management. In addition, mission workloads, both direct and reimbursable, should be programmed and accumulated against specifically identified program elements and projects. The use of a separate series of reimbursable accounts will no longer be authorized beginning with the execution of the fiscal year 1987 (FY87) budget.

3–2. Carrier accounts

Use of separate carrier account projects will no longer be authorized beginning with execution of the FY87 budget. Costs previously accumulated in carrier accounts for distribution to benefiting program elements and projects will now be directly charged either to the pertinent mission account (where directly identifiable to a specific RDTE,A project effort) or to a management and/or support account where like costs are accumulated and that will display both direct and reimbursable efforts as set forth in this regulation. These indirect management and/or support costs will be accumulated in RDTE,A program elements/projects as addressed in paragraphs 3–3 through 3–6.

3–3. Base operations (BASEOPS)/real property maintenance activities (RPMA)

The BASEOPS/RPMA accounts are those activities and functions necessary for operating and maintaining U.S. Army installations. RDTE,A will be utilized as the BASEOPS/RPMA carrier appropriation only at those installations where the primary (largest) appropriation funding the in-house mission effort of the installation is also RDTE,A. At such installations, all common service BASEOPS/RPMA costs will be budgeted and funded in Army management structure codes (AMSCO.) 665894 and 665896 as described below. Such common service support will be furnished all Army tenants on a non-reimbursable basis. Army tenants will reimburse only for services specifically identifiable for their support. Non-Army tenants will be supported in accordance with DOD 4000.19–R. In all other cases, one of the operation and maintenance appropriations will serve as the BASEOPS/RPMA carrier and will be responsible for funding all common service BASEOPS/RPMA costs; services specifically identifiable to the RDTE,A tenant will be reimbursed to the host.

a. RDTE BASEOPS. Beginning with the FY87 program, all

RDTE,A installation BASEOPS costs (to include host-tenant support costs) will be separately identified and programmed in program element 65896A (AMSCO 665896). The BASEOPS accounts designate functions of an installation support nature such as supply operations, maintenance of materiel, transportation, laundry and dry cleaning, food services, personnel support, bachelor housing operation, administration, and furnishings. This includes all costs in codes .B, .C, .D, .E, .F, .G, .H, .N, .P, .S, .T, .U, .V, .W, .X, .Y, and .Z as defined in AR 37–100–XX, chapter 5, section XII.

b. RDTE RPMA. Beginning with the FY87 program, all RDTE,A installation RPMA costs (to include host-tenant support costs) will be separately identified and programmed in program element 65894A (AMSCO 665894). The RPMA accounts designate functions of an installation support nature such as operation of utilities, maintenance and repair of real property, minor construction, fire prevention, refuse handling, pest control, and custodial services. This includes all costs in codes .J, .K, .L and .M as defined in AR 37–100–XX, chapter 5, section XII.

3–4. Host-tenant support costs

The following policies will be applied to the funding of host-tenant support costs at installations where RDTE,A activities are located. Additional guidance on which types of costs are reimbursable may be found in AR 37–49.

a. RDTE,A tenant or satellite on a RDTE,A installation. When a tenant or satellite activity whose predominant source of funding is RDTE,A is located on or supported by a host installation whose BASEOPS/RPMA is funded by RDTE,A in accordance with the criteria in paragraph 3–3, the following will apply:

(1) All BASEOPS/RPMA support costs for the RTDE, A tenant or satellite will be programmed, budgeted, and funded by the host installation in program elements 65894A (RPMA) and 65896A (BASEOPS) except as specifically exempted in AR 37–49.

(2) Mission-unique costs that are appropriately funded by the tenant in accordance with AR 37–49 will be programmed and budgeted in the benefiting program element/project if applicable to a single program. If applicable to multiple programs, these costs will be programmed and budgeted in the appropriate management/support program element in accordance with the description in AR 37–100–XX.

b. RDTE,A tenant or satellite on a non-RDTE,A installation.

(1) When a tenant or satellite activity whose predominant source of funding is RDTE,A is located on or supported by a host installation whose BASEOPS/RPMA is funded by one of the Army operation and maintenance appropriations in accordance with the criteria in paragraph 3–3, the following will apply:

(a) All common service BASEOPS/RPMA support costs for the RDTE,A tenant or satellite will be programmed, budgeted, and funded by the host installation in the appropriation supporting the host.

(b) Costs for support specifically identifiable to the RDTE,A tenant will be programmed, budgeted, and funded by the RDTE,A tenant using the RDTE,A BASEOPS/RPMA accounts.

(c) Mission-unique costs that are appropriately funded by the tenant in accordance with AR 37–49 will be programmed, budgeted, and funded by the benefiting program element/project if applicable to single programs. If applicable to multiple programs, these costs will be programmed, budgeted, and funded in the appropriate management/support program element/project in accordance with the description in AR 37–100–XX.

(2) When a tenant or satellite activity whose predominant source of funding is RDTE,A is located on or supported by a host installation whose predominant source of funding is from another Defense agency (for example, Navy or Air Force), the following will apply:

(a) BASEOPS/RPMA support will be documented and funded in accordance with DOD 4000.19–R.

(b) Costs that must be reimbursed by RDTE,A in accordance with DOD 4000.19–R will be programmed, budgeted, and funded by the benefiting tenant using the RDTE,A BASEOPS/RPMA accounts.

(c) Mission-unique costs that are appropriately funded by specific research and development project(s) will be programmed, budgeted, and funded by the benefiting program element/project if applicable to a single program. If applicable to multiple programs, these costs will be programmed, budgeted, and funded in the appropriate management/support program element/project in accordance with the descriptions in AR 37–100–XX.

c. Non-RDTE,A tenant or satellite on a RDTE,A installation. The following applies when a tenant or satellite activity whose predominant source of funding is other than RDTE,A funds is located on or supported by a host installation whose BASEOPS/RPMA is funded by RDTE,A:

(1) Host-tenant support costs will be documented through an interservice or intraservice support agreement prepared in accordance with DOD 4000.19–R (DRIS).

(2) If the tenant is funded by another Army Appropriation, common service BASEOPS and RPMA will be furnished on a nonreimbursable bases; the tenant will program, budget, and fund for support directly identifiable for its activities.

(3) For all other tenants, BASEOPS/RPMA costs will be programmed, budgeted, and funded for by the tenant or satellite based on a support agreement in accordance with DOD 4000.19–R and included in the host installation's automatic reimbursement program for program elements 65894A (RPMA) and 65896A (BASEOPS). The costs identified in these agreements will be reviewed and updated on an annual basis by both parties to the agreement.

3–5. Army Management Headquarters activities (AMHA) and other RDTE,A command management and administration costs

a. AMHA. AMHA are defined and identified in DODD 5100.73. Army reporting and management procedures pertaining to AMHA are in AR 570–8.

(1) All costs and manpower spaces related to the operation of RDTE,A AMHA that are not collocated with an Operation and Maintenance, Army (OMA) AMHA will be programmed and budgeted for in program element 65898A (AMSCO 665898). Only AMHA direct costs will be charged to this program element.

(2) Distribution of other direct or indirect overhead expenses to this program element by Army Industrial Fund (AIF) or other job order cost accounting systems is prohibited.

(3) For those RDTE,A activities collocated with an OMA headquarters, all AMHA spaces and directly related functions will be OMA-funded.

b. Other command headquarters and research and development centers. This category includes all other RDTE,A headquarters/command/center management and administrative functions not defined as AMHA. All RDTE,A costs and manpower spaces related to the operation of these activities will be programmed and budgeted for in program element 65801A (AMSCO 665801), program wide activities.

3–6. Laboratory management and administration

a. All RDTE,A laboratory manpower spaces will be programmed and budgeted for in a separate project established specifically for this purpose and will consider projected reimbursements/cost transfers as discussed in chapter 8. These separate projects will be established within an existing 6.2 (exploratory development) program element for each laboratory for assignment and pay of all laboratory personnel and related costs, to include laboratory management and administration. (See glossary for explanation of laboratory management and administration.) These costs will not be included in customer charges. Staff personnel directly supporting the scientists and engineers are considered to be directly related to the technical effort and will be included in customer charges. Details pertaining to reimbursement to and distribution from these project lines are in chapter 8.

b. Managerial and administrative costs not dependent on the existence of a laboratory and that would continue to be incurred even if the laboratory was abolished are not considered to be part of laboratory management and administration. Such costs would be evident at installations where laboratory support is incidental to

numerous other activities. Under these circumstances, managerial and administrative costs would be reported under the appropriate BASEOPS account.

3–7. Army Industrial Fund

Effective with FY87, the Army will not use AIF accounting procedures to account for the funding at RDTE,A installations and activities. This policy does not preclude an RDTE,A activity or installation from placing an individual reimbursable or project order with another activity that is industrially funded in order to obtain supply, maintenance, production, or transportation services. Where an RDTE,A activity is a tenant or satellite on a host installation that utilizes the industrial fund for financial management, a single project order (or reimbursable order) will be written to the industrial fund to cover the RDTE,A activity's share of BASEOPS/RPMA expenses based on the negotiated support agreement. These host-tenant support costs will be programmed and budgeted for in accordance with paragraph 3–4*b*. All other costs related to the operation of the RDTE,A activity will be managed through use of an appropriation accounting financial management system.

3–8. Developmental and operational testing-unique policy

a. The appropriate use of RDTE,A funds for the conduct and performance of developmental tests and operational tests is furnished in AR 70–10, chapter 4. Additional details are furnished below.

(1) Development preproduction prototypes (RDTE,A-financed) will be used for developmental test and evaluation (DT&E), including scientific, technical and weapons effects tests. Such preproduction prototypes (RDTE,A-financed) will also be used for initial operational test and evaluation (IOTE). When so used, they must be sufficiently representative of the expected production items to provide from the IOTE a valid estimate of the production items' operational effectiveness and suitability. If it should be necessary to acquire a limited number of special pilot items from a pilot line to provide the necessary representative's, costs for establishing the initial pilot line and for these IOTE items will be RDTE,A-funded. All subsequent costs for retaining initial pilot line capability, and for items for follow-on OT&E and inventory, however, will be funded from other appropriations as provided for in AR 37–100–XX, chapter 7. RDTE,A-financed prototype must be adequate in number to satisfy both the DT&E and IOTE requirements. Special support costs and command support costs for accomplishment of IOTE should be RDTE,A-funded.

(a) Special support costs are used in the context of test and evaluation (T&E) programs. They are those acquisition or hardware costs, other than those associated with the item(s) that is(are) the subject of the test, which are incurred in direct support of the T&E effort (for example, special range instrumentation costs).

(b) Command support costs are also used in the context of the T&E programs. These costs refer to people-related costs of the command and operational units providing collateral support to the T&E effort. These are additional costs incurred because of this test support. Examples are per diem pay, travel allowances, and overtime.

(2) The appropriate appropriation for items falling in some of the categories shown below, as well as what may constitute a realistic number of test articles for major developments, will depend on the actual program circumstances involved for each case for each annual program/budget cycle. Therefore, each program/budget proposal made in accordance with these instructions will be subject to review and determination.

(a) DT&E programs must provide complete and reliable data that can be used to estimate the military utility of new items as a basis for considering decisions to continue engineering development. To this end, it is essential to plan, program, budget, and fund for an adequate number of research and development (R&D) articles for development, test, and evaluation that will be fabricated, manufactured, or produced in a realistic preliminary production manner and thus provide such data. The RDTE,A appropriation is to be used for this purpose.

1. Technical feasibility testing and evaluation will be funded from the RDTE,A appropriation.

2. Operational feasibility testing (a subcategory of force development test and evaluation) and evaluation will be funded from the operation and maintenance appropriations.

3. Combined technical and operational feasibility testing costs will be shared by both appropriations, utilizing test objectives as a basis for share determination.

(b) Articles for test and evaluation financed by the RDTE,A appropriation and still available at the completion of the test program may be reassigned for operational use or inventory. The cost to reconfigure such articles for operational use would be financed by OMA or procurement appropriations (PA) as appropriate.

(3) Major end items (not included under stock funds) such as weapons, test vehicles, equipment, or major components thereof, required to support the approved development and test program for a different military end item, will be subject to the following:

(a) Items that can be made available from existing inventory on a priority basis will be reassigned for use in R&D test and evaluation programs without reimbursement for the procurement of the items.

(b) Items consumed in R&D test and evaluation will be financed by the RDTE,A appropriation.

(c) Consumable rounds of ammunition or rounds of similar tactical missiles otherwise procured in quantity for inventory under existing procedures, may be issued on a priority basis for use in R&D testing without reimbursement unless reimbursement for such items is required under other directives.

(d) Items that have otherwise been approved for procurement operational use and included in the forces, are in production or on buy for a requirement other than the RDTE,A program, can be assigned for use in R&D test and evaluation on a priority basis. If the items are not consumed in the R&D testing they will be financed by PA or OMA. RDTE,A will bear any costs necessary to return the item to serviceable condition.

b. Policies concerning the operation, management, and financing of the DA Major Range and Test Facility Base (MRTFB) are contained in AR 70–69.

c. BASEOPS/RPMA costs at MRTFB installations will be funded as directed in paragraph 3–3.

d. Host-tenant support costs for tenants and satellite activities will be funded in accordance with paragraph 3–4.

e. MRTFB indirect test support costs not identified and funded for in accordance with *b*, *c*, and *d* above will be funded in program element 65804A (AMSCO 665804) for the test and evaluation command ranges and 65301A (AMSCO 665301) for Kwajalein Missile Range.

3–9. Reimbursements

Beginning in FY87, reimbursable orders received by RDTE,A installations and activities will be treated as automatic reimbursements to the same RDTE,A AMSCO where personnel performing the service are assigned and/or where related management and administration or BASEOPS/RPMA costs are incurred to fill the reimbursable order. Execution reports must separately identify direct and reimbursable obligations, expenses, and disbursements. The use of the 69XXXX series of AMSCO accounts currently defined in AR 37–100–XX is rescinded effective with the completion of the FY86 program year execution.

3–10. Equipment authorization/documentation

a. Criteria for documentation of equipment at RDTE,A installations and activities is in AR 310–34, chapter 2.

b. Criteria for obtaining loaned equipment without reimbursement for use in the performance of RDTE,A missions is in AR 700–131.

c. Machinery or equipment authorized within a customer order to be acquired in fulfilling requirements thereof should be financed by direct cite of customer funds. Equipment acquired specifically for a customer order in this manner is the property of the customer, and will be disposed of in accordance with the customer's instructions.

d. All requirements pertaining to financial controls and reporting in AR 735–20 are applicable to R&D–owned equipment costing $1, 000 or over whether purchased with direct R&D funds or as a result of accomplishing a customer order.

3–11. Funding and issue of standard stock items of equipment

a. Standard items of investment equipment that are approved for production and operational use and are centrally procured by the Army will be funded by the appropriate PA. The RDTE,A appropriation will not be utilized to fund for the standard items of equipment utilized during the conduct of RDTE,A missions or for general administrative uses such as base operations, real property maintenance, or other management or administrative functions at RDTE,A activities and installations. (For additional details pertaining to conduct of development and operational testing, see paragraph 3–8*a* and AR 37–100–XX, chap 7.)

b. Army PA items loaned in support of RDTE,A programs and supplied without reimbursement in accordance with paragraph 3–10*b* will be returned to DA stock on the completion of the R&D use. To ensure availability of PA support items, requirements should be furnished to the National Inventory Control Point for submission through the appropriate commodity command to U.S. Army Materiel Command for inclusion in the Army Materiel Program. The cost of returning the items to "ready for issue" condition, including packing, crating, and shipping, will be borne by the RDTE,A appropriation. In the event the items cannot be economically reconditioned, the PA(s) will be reimbursed by the RDTE,A appropriation for the cost of the items.

3–12. Special purpose equipment and automatic data processing equipment

a. Special purpose equipment (SPE). SPE is equipment that is peculiar to and required for the execution of the RDTE,A projects and missions.

(1) When SPE is required for a specific RDTE,A project, it will be financed under the AMSCO that funds the effort supported.

(2) SPE required for two or more RDTE,A projects will be financed as follows beginning in FY87:

(a) Laboratories will utilize the laboratory management and administration project defined in paragraph 3–6.

(b) All other RDTE,A activities will use the appropriate 6.5 (management and support) program element/project that funds the activity, center, and/or command for which items are being purchased.

b. Automatic data processing equipment (ADPE).

(1) Criteria for determination of the correct appropriation to fund for ADPE hardware and software costs are as follows:

(a) RDTE,A–funded facilities. Funds required for the operation of automatic data processing (ADP) units at RDTE,A–funded facilities and for the acquisition of ADP resources, including development, modification, lease, or purchase of ADPE by such ADP units should be financed by RDTE,A.

(b) Other facilities/activities. For all other facilities/activities, the following rules apply:

1. Development of ADPE. ADPE is categorized as either general purpose or special purpose. Normally, general purpose ADPE is commercially available off-the-shelf, and is easily adaptable to a variety of applications by configuring existing executive software and programming languages. Embedded computers in maintenance, supply handling, and logistics equipment are considered "general purpose". Unless such equipment requires RDTE,A engineering, design, integration, test, or evaluation efforts prior to use, acquisitions of this type of ADPE are not considered developmental and normally will be financed (to include the initial set of executive software which meets system operational specifications) by PA. Subsequent modifications to executive software and development of applications programs should be financed by OMA except as indicated in (a) above. Development test and evaluation of special purpose ADPE (that equipment specially designed to meet a specific military operational requirement or to perform a predetermined set or series of computational functions only, and which may be required to meet specific physical or environmental conditions, and which are physically or functionally integral to a higher order system) will be financed by RDTE,A. Purchase for operational use should be funded by PAs.

2. Acquisition of executive software. Where there is a standard, existing executive software package available with the purchase of general purpose ADPE, and this package will be used without modification in the intended application, its acquisition with Procurement funds is appropriate. If modifications to the executive software are required, the modification effort should be OMA financed except as indicated in *(a)* above. (The foregoing assumes that the general purpose ADPE hardware is properly procurement funded. If the hardware should be RDTE,A funded because of reasons set forth in above paragraphs, the acquisition of the executive software package and/or any modification of it should also be RDTE,A funded.) The preparation or modification of executive software for special purpose ADPE should be RDTE,A funded.

3. Acquisition of applications software. Preparation of applications software for general purpose ADPE will normally be financed by OMA except where general purpose ADPE is financed by RDTE,A appropriations. Such applications software development will be RDTE,A financed. Preparation of applications software for special purpose ADPE will be financed by RDTE,A.

(2) For developmental ADPE, costs of hardware and software acquisition will be funded from the program element and project utilized for development of the weapon system or SPE item (for example, instrumentation) of which the ADPE is a component. For the operation, maintenance, and acquisition of general purpose ADPE at RDTE,A-funded installations and activities, funds will be programmed in the same projects specified for SPE in *a* above.

(3) Justification for all general purpose ADPE equipment at RDTE,A installations and activities must be accomplished using the procedures in the 25-series Army regulations. (Developmental ADPE and scientific/engineering instrumentation in support RDTE, A missions are exempt from this requirement.)

c. SPE and ADPE funded under this regulation may cite this regulation as authority to procure the item. SPE and ADPE property book accountability (to include RDTE,A activities on non-RDTE,A installations) will be in accordance with AR 710–2.

3–13. Base-level commercial equipment

For purposes of applying the Army base-level commercial equipment program, the RDTE,A appropriation is considered both an investment and an operating appropriation. The program does not preclude the use of RDTE,A funds to buy items of equipment otherwise qualified for purchase through the RDTE,A appropriation.

3–14. Productivity Capital Investment Programs

a. The Productivity Capital Investment Programs are currently comprised of the following individual programs involving the use of RDTE,A funds:

(1) Quick Return on Investment Program (QRIP).

(2) Productivity Enhancing Capital Investment Program (PECIP).

(3) Office of Secretary of Defense Productivity Investment Funding (OSD PIF).

b. The criteria for qualification of an equipment purchase requirement for a productivity capital investment program and the guidelines for determining which appropriation is applicable to use are contained in AR 5–4, chapter 4.

3–15. Transportation costs

a. The costs of transporting items being tested and the supplies and equipment required to support the test from an RDTE,A activity/installation to and from a test site or test board are properly chargeable to the RDTE,A appropriation.

b. Transportation costs of items shipped from a depot or Army

supply point to an RDTE,A activity/installation or test site should be charged in accordance with guidance in AR 37–7.

Chapter 4
Budget Formulation and Execution

4–1. General

a. Within DA, development of the RDTE,A budget begins with the building of the annual Program Objective Memorandum (POM). The Long Range Research, Development and Acquisition Plan (LRRDAP), in consonance with the prior year President's budget, is the basis used for development of total requirements at incremented levels. These requirements are reviewed and prioritized within POM total obligational authority (TOA) guidance by DA functional panels in accordance with Deputy Chief of Staff for Operations and Plans prioritization guidelines. Panel recommendations are subsequently revised or approved by the senior leadership of the Army prior to submission to OSD in May of each year.

b. The budgeting phase of the Planning, Programming, Budgeting, and Execution system (PPBES) officially begins with receipt of the OSD Program Decision Memorandum (PDM) which becomes the basis for development and submission of the budget request to OSD in September of each year (1 year prior to actual execution).

c. Following submission to OSD in September, the RDTE,A budget request is reviewed in detail for financial soundness by both OSD and OMB analysts. This review is accomplished both informally and through formal hearings as desired by the responsible OSD analyst(s). Their decisions and changes to the RDTE,A budget are furnished to the Army through the program budget decision (PBD) process.

d. Detailed justification of the RDTE,A budget request is submitted to Congress in the CDSs. CDSs are prepared for each budget year program element based on final PBD action. Detailed justification is also included on each project of $10 million or more. These CDSs are prepared by the responsible DA program manager and are coordinated with the Office of the Deputy Chief of Staff for Personnel (ODCSPER), Assistant Chief of Staff for Intelligence (ACSI), Comptroller of the Army (COA), Assistant Secretary of the Army, Under Secretary of Defense for Research and Engineering (USDRE), and OASD(C) prior to finalization and submission to Congress (approximately 30 days after the President's budget is submitted to Congress).

e. HQDA guidance for submission of support material for RDTE, A budget estimates is published in the following:

(1) Program Budget Guidance (PBG), published in January, May, and September of each year.

(2) Command Operating Budget (COB) (RCS CSCAB–205) (normally submitted by MACOMs in July). Instructions for submission are published in January or February of each year.

(3) Letter requesting submission of Support Material for RDTE,A Annual Budget Estimates (RCS CSCRD–136), published in May of each year.

4–2. MACOM/operating agency budget submissions

a. MACOM/operating agency budget submissions are required for Army staff development of the Army's RDTE,A budget as follows:

(1) COB reports are required for preparation of multiappropriation schedules in the President's budget and for adjustment of the HQDA manpower data base.

(2) Support material for RDTE,A annual budget estimates submissions are required for preparation of the RDTE,A program and financing schedule, object class schedule, RDTE,A-unique schedules required in the President's budget, and other submissions requested by OSD, OMB, and Congress in defense of the Army's budget during OSD/OMB budget hearings and the Congressional budget review cycle.

b. Details on RDTE,A budget reporting requirements are contained in chapter 9.

4–3. OSD/DA withholds

a. The initial program/fund authorization received from OASD(C) reflects specific amounts being withheld from obligation availability based on USDRE Format I's. Each of the supporting Format I's includes the reason for withhold and/or action necessary to obtain release of the withheld funds. These Format I withholds are usually based on programmatic reasons. In addition, if an appropriation is not enacted by 1 October and operations are continued under continuing resolution authority (CRA), OASD(C) will also withhold amounts for program element level "new starts" and those amounts which have been recommended for reduction by one or more of the congressional committees (the larger amount will be withheld if recommended reductions differ).

b. DA withholds include contingency amounts programmed under TRACE procedures, amounts withheld for planned reprogrammings, amounts withheld for specific programmatic reasons, and amounts for "new start" projects (pending compliance with congressional language or pending program approval).

c. Amounts withheld by OSD/DA and reasons for withhold will be reflected in the IAP and updated, as appropriate, in the RAP and Changes To Research and Development Planned Program report.

d. Requests for release of funds withheld for Total Risk Assessing Cost Estimate (TRACE) will be submitted in accordance with instructions in paragraph 7–11*c*. Requests for release of funds withheld for programmatic reasons will be forwarded to HQDA (DAMA–PPR–B) with appropriate justification. Amounts withheld due to pending congressional action during operation under CRA will be released automatically based on amounts reflected in the final Appropriations Act.

4–4. Initial Approved Program/Revised Approved Program

a. The RDTE,A IAP is published on/about 20 September. This document furnishes program element/project level program guidance for budget execution beginning 1 October of each fiscal year. This document will reflect the President's budget request adjusted for known congressional actions and OSD/DA withholds/adjustments. It will also include data on known USDRE special interest items (Format I's) and those reprogramming actions directed/approved by OSD or DA. The program reflected in this document will be updated on a monthly basis by the Changes To Research and Development Planned Program.

b. In the event the DOD Appropriation Act is not enacted by 1 October and operation must be continued under CRA, a RAP will be published within 30 days after appropriation enactment. This document will basically reflect an update of program element/project level guidance and supporting documentation contained in the IAP (as adjusted by the Changes To Research and Development Planned Program report). It will also reflect detailed data on +/− deltas required to each program element/project as a result of final Congressional action supporting the appropriation.

4–5. Continuing resolution authority

In the event the DOD Appropriation Act is not enacted by 1 October, continued operation of ongoing activities under CRA can be expected. If such action is anticipated, RDTE,A MACOM/operating agencies will be requested to furnish projected monthly obligation authority requirements for operation during this period. Request for this data (to include assumptions and restrictions on which to base estimates) will be issued on/about 1 August. Data requested will be used to request/justify obligation authority and to establish an interim obligation plan pending enactment of the appropriation.

4–6. Obligation plan

Guidance on the DA obligation plan is published in November of each year by the Comptroller of the Army for the current fiscal years being executed. For the RDTE,A appropriation, supplementary instructions are published by the Office of the Deputy Chief of Staff

for Research, Development, and Acquisition (ODCSRDA). The obligation plan for RDTE,A is prepared for both direct and reimbursable funds for the 2 fiscal years currently available for obligation. For control purposes, in reporting to the OASD(C), the dollar totals for the total Army RDTE,A plan at the end of the fiscal year must agree with obligation projections contained in the program and financing schedule in the President's budget. Details on reporting requirements are provided in paragraph 9–7.

4–7. Administrative control of the RDTE,A appropriation

Each RDTE,A MACOM, operating agency, installation, and activity will establish and maintain adequate systems of accounting for and positive control of appropriations and other funds made available. These accounting and fund control systems shall provide the capability for an official to be assured of the availability of funds before incurring either a commitment or an obligation in accordance with AR 37–21, chapter 1, section 1. These systems shall be on an accrual basis and shall have capability to provide information on financial transactions and on the use of funds as needed for management purposes.

a. MACOMs/operating agencies must remain within their approved program. Approved RDTE,A programs will be maintained on a schedule that is consistent with authorized funding levels. Funding for a program will not be increased beyond delegated reprogramming authority in an attempt to keep the program on schedule until the source and availability of additional funds are established and approval is provided by HQDA in accordance with the reprogramming procedures contained in chapter 5.

b. Except in the technology base budget activity (program categories 6.1 and 6.2), MACOMs/operating agencies will not undertake new efforts, extend efforts to areas previously not funded, or otherwise incur increased annual costs without prior written approval of ODCSRDA. Similarly, contractors will not be permitted to include additional costs in a contract that will require funds from other sources until the funding sources have been authorized by the activity monitoring and executing the contract.

c. ODCSRDA will be notified as early as practicable of potential cost increases that will exceed the MACOM/operating agency's reprogramming authority. Notification will include recommended adjustments within the program elements or projects concerned (or within the overall MACOM/operating agency program ceiling) to accommodate the increases. Further action will be delayed until these recommendations have been reviewed and approved by ODCSRDA.

d. MACOMs/operating agencies will monitor and control the total RDTE,A resources (direct and reimbursable programs) available to installations/activities under their control. MACOMs/operating agencies must ensure that the installations/activities are preparing internal operating budgets and that such budgets allow a comparison between planned and actual performance for both direct and reimbursable programs.

e. Standard Army appropriated accounting systems approved by the COA will be used for management accounting of the RDTE,A appropriation at the installation level. All such accounting systems shall be approved by the Comptroller General of the United States. Use of industrial fund accounting systems by RDTE,A installations and activities is prohibited after the end of FY86.

f. Specific authority for obligation of available funds is administratively controlled at the allocation, sub-allocation, and allotment levels. The minimum subdivision of funds practicable for efficient management of the appropriation is encouraged. Each RDTE,A MACOM, operating agency, installation, and activity should be provided only one allocation, sub-allocation, or allotment, as appropriate, by its next senior fund control activity. Administrative controls subject to the provisions of subsections 1341(a) and 1517(a), Title 31, United States Code (formerly RS 3679) will be included in the fund authorization document (FAD). Unless specifically included as a ceiling or floor in the FAD, legal administrative limitations on obligations are not provided at the budget subactivity (program element) level. However, it should be recognized that obligations for any budget subactivity (program element) that exceed the amount authorized and appropriated by Congress for that program element plus delegated reprogramming authority would be in violation of subsection 1301, Title 31, United States Code (formerly RS 3678).

g. Further guidance on administrative control of funds is contained in AR 37–20.

4–8. Contingent liabilities

a. Consistent with AR 37–21, paragraphs 1–7*b*(1)*(b)* and 2–6*f*, control of contingent liabilities will be maintained at the MACOM/operating agency level for the RDTE,A appropriation. This may preclude the unnecessary loss of available RDTE,A funds due to decommitment of contingent liabilities upon expiration of the funds for obligation. If a contingent liability is realized requiring an increase in obligations, funds contained in the initial allotment provided to obtain the goods or services will be used, subject to availability and below threshold reprogramming authority set forth in chapter 5. If the amount required exceeds the funds available to the allottee, requests for additional funding should be forwarded to successively higher levels of command for satisfaction within the sub-allocation or allocation of funds available to that level of command. Contingent liabilities that cannot be satisfied at the MACOM/operating agency level will be forwarded to HQDA (DAMA–PPR–B), WASH DC 20310–0666 for resolution and funding.

b. A report on all new contingent liabilities in excess of $500,000 each will be forwarded through command channels to HQDA (DAMA–PPR–B), WASH DC 20310–0666, for receipt within 30 workdays of award of the contract creating the contingent liability. The report will be in the format shown in figure 9–3.

c. An annual report on outstanding contingent liabilities in excess of $500,000 each will be submitted by each MACOM/operating agency in the format shown in figure 9–4. Outstanding contingent liabilities should be thoroughly analyzed for validity at least 90 days prior to expiration of funds and, to the extent possible, decommitments processed accordingly. However, the provisions of Section 1341 of Title 31 USC (formerly RS 3679) must be considered to preclude the possibility of a subsequent Antideficiency Act violation.

4–9. Special termination costs

a. Special termination costs clauses will be added to incrementally funded and cost reimbursable RDTE,A contracts in accordance with Federal Acquisition Regulation (FAR) supplements 49.7003 and 52.249–7000.

b. Such termination costs will not be recorded as an outstanding commitment consistent with AR 37–21, paragraph 1–7*b*(2). The termination costs will be recorded as obligations only when it becomes necessary to cancel the contract and notify the contractor. Such costs will be charged to the RDTE,A appropriation available for obligation at the time the notification is provided the contractor.

c. As required, annual reports of special termination costs clauses in excess of $500,000 each will be furnished HQDA (DAMA–PPR) in accordance with the instructions in paragraph 9–9*b*(2)).

Chapter 5
Reprogramming

5–1. General

a. The congressional committees concerned with the DOD Authorization and Appropriation Acts and DOD and DA have generally accepted the view that rigid adherence to the amounts justified for budget activities or for subsidiary items or programs may unduly jeopardize the effective accomplishment of planned programs in the most businesslike and economical manner. They also realize that unforeseen requirements, changes in operating conditions, revisions in price estimates, wage rate adjustments, and so forth, require some

diversion of funds from the specified purposes for which they were justified.

b. Reprogramming measures, developed in consultation with the committees, provide a firm basis for retention of congressional control over the utilization of Army appropriations by assuring that the congressional intent is carried out, while at the same time providing a timely device for achieving flexibility in the execution of Army programs. To allow the flexibility essential for the most effective and productive use of funds, the greatest degree of authority commensurate with sound management practice should be delegated to subordinate agencies responsible for program execution.

c. Although sound effective management may occasionally require shifting of funds from specific uses originally planned, funds should normally be used substantially for the purposes for which justified. While reprogramming flexibility is both desirable and necessary, as outlined above, it should not be used as a solution for poor budgeting."Above threshold" reprogrammings do not provide a timely solution to program execution problems and are discouraged unless no other solution can be found or the program is of such high priority that submission through the normal budgeting process could impact future defense requirements.

d. No reprogramming action will be approved unless it is for higher priority items, based on unforeseen military requirements, than those for which the funds were originally appropriated. For purposes of reprogramming, unforeseen cost overruns are considered to be "higher priority items" as addressed in the previous sentence. Reprogrammings to initiate new efforts are not permitted during the second year of fund availability.

5–2. Reprogramming policies

a. DA is authorized to reprogram RDTE,A funds between RDTE, A program elements so long as the increase does not exceed $3.999 million to an existing program element or $1.999 million to a new program, subject to the following restrictions:

(1) A reprogramming action, single or cumulative, involving an increase of $4 million or more in any existing RDTE,A program element requires prior OSD approval and prior approval of or notification to the House and Senate Armed Services Committees and House and Senate Appropriations Committees. Implementation of the reprogramming action is prohibited if rejected by OSD or any one of the four congressional committees.

(2) Reprogramming of funds, regardless of amount, to a new effort (for example, new proposal, project or program element) that was not included in the program previously justified to the Congress requires prior approval of HQDA. Those new starts involving $2 million or more in the first year and/or that are projected to require $10 million or more within a 3-year period require prior approval by OSD and prior approval of or notification to the appropriate congressional committees. Those new starts under the above dollar thresholds require prior letter notification by HQDA to the appropriate congressional committees.

(3) Reprogramming of funds (regardless of amount) to or from an item that has been designated as a matter of special interest by one of the House and Senate committees on armed services or House and Senate committees on appropriations requires prior approval by OSD and all four congressional committees.

(4) Any reprogramming to or from a program element designated as a Tactical Intelligence and Related Activities (TIARA) program requires prior approval by OSD and/or Congress (as determined by OSD).

(5) Reprogramming of funds (regardless of amount) from an item that has been designated as an OSD special interest item requires prior approval by OSD.

(6) Reprogramming of funds (regardless of amount) from an item that has been designated as an HQDA special interest item requires prior approval by HQDA.

(7) Reprogramming of funds (regardless of amount) to a program element for which funds are being withheld by OSD requires prior approval of HQDA.

(8) Reprogramming that results in an increase to a program element or project that was deleted or reduced with prejudice by Congress is prohibited. Specific identification of these program elements and projects is included in DD Form 1414 (Base for Reprogramming Actions) and will be provided to MACOMs/operating agencies by HQDA (DAMA–PPR–B) within 30 calendar days of passage of the Defense Appropriations Act.

(9) Reprogramming of funds between appropriations requires prior approval by OSD, OMB, and all four congressional committees.

(10) Reprogramming of funds between fiscal years is normally prohibited by the annual Appropriation Act except to meet RDTE,A civilian pay increases authorized by Congress.

b. Identification of congressional, OSD, and HQDA special interest items will be provided to MACOMs/operating agencies by HQDA (DAMA–PPR–B), WASH DC 20310–0666 in the IAP and RAP.

5–3. "Above threshold" reprogramming actions

a. Reprogramming that exceeds the criteria in paragraph 5–2*a* are termed "above threshold" reprogramming actions. They will be submitted with complete justification through command channels to HQDA (DAMA–PPR–B), WASH DC 20310–0666 for prior approval. No action will be taken to implement the reprogramming action prior to official approval notification being provided by HQDA to the affected MACOM/operating agency.

b. As a minimum, the justification attached to the reprogramming request will include the following information:

(1) The recommended source of funds for the reprogramming (from resources currently available to the MACOM/operating agency) and the expected impact on the program elements/projects losing funds. Funds that can be made available from program slippage's, contract savings, cost reductions due to management efficiencies, and savings due to program restructuring should be the first source of funds identified as reprogramming sources.

(2) Any previous "below threshold" actions increasing or decreasing the affected programs/projects.

(3) The priority of the reprogramming in relationship to other unfinanced requirements previously forwarded for reprogramming consideration.

(4) A concise explanatory statement that clearly substantiates the necessity for the reprogramming. The statement will contain all relevant information in sufficient detail so that the reprogramming may be readily understood by all reviewing organizations and the congressional committees without additional supporting data. All program increases should, to the maximum extent possible, be described in such a way as to distinguish between price changes and program scope changes.

c. All reprogramming candidates ("bills" and "bill payers") are subject to approval of responsible HQDA elements; ODCSOPS has responsibility for prioritization necessary to determine which programs are to be supported.

d. In certain instances, the Congress prohibits or denies the use of funds identified as sources of reprogramming. When Congress specifies such a restriction, HQDA (DAMA–PPR–B) will so inform the developing agency concerned and furnish guidance for utilization/disposition of such funds.

5–4. "Below threshold" reprogramming actions

Reprogramming that does not exceed any of the criteria in paragraph 5–2*a*(1) through (10) are termed "below threshold" reprogramming actions.

a. Delegation of reprogramming authority. Subject to the policy restrictions in paragraph 5–2*a* and the reporting requirements in paragraph 9–6, MACOMs/operating agencies are delegated authority to reprogram RDTE funds below threshold without prior approval of HQDA, in accordance with the dollar limitations as indicated below. MACOMs may further delegate this reprogramming authority to subordinate commanders in accordance with following criteria:

(1) In those program elements for which one developing agency has sole responsibility, the responsible MACOM/operating agency

may request reprogramming increases of less than $4 million to the base program amount of a program element. Requested reprogrammings are to be reported in the monthly Changes To Research and Development Planned Program report submitted in accordance with paragraph 9–5. Approval of requested reprogramming may be assumed unless the developing agency is notified otherwise within 15 days after receipt of the report. The reprogramming base for each program element is provided in the IAP and amended as necessary in the RAP.

(2) In those program elements for which two or more MACOMs/operating agencies share responsibility, MACOM/operating agencies' cumulative reprogramming authority will be specified by individual program elements in the IAP and amended as necessary in the RAP. The reporting and approval process is the same as specified in (1) above.

(3) Cumulative reductions in excess of $4 million may be requested in a program element when funds are required to finance increased costs for a higher priority program within the same program year. The reporting and approval process is the same as specified in (1) above.

(4) The MACOM/operating agency requesting reprogramming is responsible for—

(a) Confirming that execution of the below threshold reprogramming affects only the current year and will not result in unfounded requirements in the subsequent year.

(b) Ensuring that the requested reprogramming includes only those funds that are required and can be obligated for current year missions.

b. HQDA (DAMA–PPR–B) specifically reserves the right to disapprove any MACOM/operating agency reprogramming action that circumvents guidance on work priorities, program/funding restrictions/limitations, or directed fund increases/decreases.

Chapter 6
Federal Contract Research Centers (FCRCs)

6–1. General

Federal Contract Research Centers are independent not-for-profit corporations created to perform scientific, engineering, advanced systems planning and engineering, and technical review in specific fields to enhance the capabilities of DOD and other government agencies.

6–2. Policies

a. In response to congressional concerns that the preferential position of FCRC contractors could lead to their unwarranted overutilization by the DOD at the expense of other contractors, the DOD established a policy that imposes an annual limit on the resources that DOD elements may spend for FCRC support. This annual limitation (ceiling) is established by the OUSDRE and allocated to the military services and other DOD agencies. An annual ceiling is established for each FCRC. Once the ceiling has been allocated, increased support to any one program or project can only be supported at the expense of another program or project (tradeoff). The current year ceiling must be supported with current year funds. Any increased costs for any prior year effort must be accommodated within that prior year ceiling. The annual FCRC ceiling which is provided to the Army is not sufficient to support all of the Army requests for support. Therefore, prior to submitting a request for FCRC support, each requirement must be critically reviewed to ensure that—

(1) No in-house government capability exists to satisfy the requirement.

(2) No university or educational institution can perform the required effort.

(3) No private industry or profit-making contractor can do the work effectively and without conflict of interest.

b. To assist the OUSDRE in ensuring a balance as to mission, priority, and urgency during the allocation process, and to assist the Department of the Air Force in its role as contract monitor, each agency will have a single designated focal point. This single focal point is responsible for apportioning the annual ceiling allocated to that agency by OUSDRE. The Assistant Deputy Chief of Staff for Research, Development, and Acquisition (ADCSRDA) is the designated focal point for DA. The ADCSRDA has designated the RDTE Programs and Budget Division as the office of primary responsibility to assist him in execution of the FCRC program. Together they serve as the only official channel of communication with OUSDRE and the contract monitor.

c. At the present time, DA is authorized to utilize the services of the following FCRCs:

(1) Lincoln Laboratories.

(2) Aerospace Corporation.

(3) MITRE Corporation (C3 Division).

d. The Air Force Systems Command (AFSC) is designated as the responsible agency for the FCRC contracts. The specific contracts are monitored and controlled by the following:

(1) Headquarters Space Division, AFSC—Aerospace Corporation

(2) Headquarters Electronic Systems Division, AFSC—Lincoln Laboratories and MITRE Corporation

e. Only the AFSC, as the sponsoring contracting office, can authorize the FCRC to perform work. It is inappropriate for Army activities or personnel to directly solicit support from FCRCs and for FCRC personnel to solicit work from Army activities and personnel. Such solicitation efforts on the part of either party could jeopardize the Army's ability to utilize the FCRCs.

6–3. Criteria

The following criteria have been established as factors in determining when the circumstances are appropriate for assigning an effort to an FCRC. Justifications will describe how these criteria are applicable to the specific program seeking support. Some of the criteria may overlap, but for clarity the following separations have been made:

a. Need for a fast response. Some tasks require a fast response to preclude detrimental delays that would result from the normal competitive decision making process, the need to use two or more industry sources to achieve complete task coverage, or the lack of background experience in a particular field. The introduction of new organizations may involve unacceptable delays in commencement or stretch out the completion of a high priority program when immediate performance is mandatory. An FCRC may be sufficiently familiar with operational activities, and so forth, to preclude delay. The contribution of this criterion to a decision for assigning the task to an FCRC or to industry is strongly dependent on the circumstances surrounding a particular task. This criterion should not be applied as a means to circumvent normal advance planning and will not be used when timely performance by industry is possible.

b. Need for diversified skills. The task requirement may require extensive diversified special skills not readily available to any one contractor. It may not be feasible to permit such a contractor to subcontract for these missing skills or it may be necessary to maintain inordinate control over the contractor through the associate contractor mechanism. When management problems for the associate contractors are minimal, industry could be qualified to meet this criterion.

c. Need for outstanding specialists in specific fields. For certain efforts, one or more state-of-the-art considerations are of overriding importance, and the whole project may hinge on the availability of technical competence in a specified field. Such competence may exist uniquely at an FCRC by virtue of its primary program mission and the crossfeed of information, experience, and knowledge among similar programs. However, industry may also have such outstanding specialists and when this situation exists, appropriate tasks will be assigned to industry, not to an FCRC simply because they are convenient.

d. Freedom from bias due to predilection for design, hardware, or approach. It is important to DOD agencies that objectivity be retained in design, selection of off-the-shelf hardware, choice of

hardware from competing contractors, selection of hardware as influenced by possible subsequent production opportunities, preparation of specifications, and so forth. A hardware producing company is likely to have a predilection for a particular design or product, or particular manufacturing or management approach. When such a company has to make a choice between competing contractors, bias is difficult to eliminate.

e. Continuity of effort. Continuity of effort on a single system, from conceptual and advanced planning through initial system engineering and specification, provides a degree of design coherency and consistency that cannot be obtained as effectively in any other way. Some systems are of an evolutionary nature that dictates retention of control throughout the entire design cycle. It may not be desirable to involve industrial contractors under these conditions because of the difficulty in maintaining continuity without giving unfair competitive advantages, or unwarranted access to intelligence data.

f. Need for large special facilities. Some tasks require specialized facilities. Obviously, such facilities cannot be provided to all contractors interested in bidding on a program, and making such a facility available to any one contractor would give unfair competitive advantage. Duplication would not be in the Government's best interest.

g. Need for extensive background information. Some tasks require drawing heavily on previous experience or background that any one industrial concern could not normally have, unless it participated in a number of programs to the exclusion of other contractors. This could not be done without criticism and charges of unfair competitive advantages.

h. Need for state-of-the-art information from government laboratories and universities. A task may require extensive knowledge of the state-of-the-art as developed in universities, Government laboratories, and so forth. Such knowledge is available to industry but is not necessarily used, since industry tends to specialize in particular fields of interest consistent with its best competitive position. Assignment of the task to industry or to an FCRC could be governed by the extent to which applicable knowledge of the state-of-the-art is to be found in these sources.

i. Performance of technology base functions. The objective of some tasks is to establish, maintain, and update a technology base. Establishing, maintaining, augmenting, and updating a technology base requires analysis of problems, access to DOD programs, development of solutions, and promulgation of data to engineers and planning groups. It is not likely that industry could be used for this activity without conflict of interest or proprietary problems. Portions of the research and experimentation in critical areas can and should be assigned to industry when a special competence exists.

j. Extension of access to DOD planning information. Some tasks require extensive access to planning information. Extensive and complex integration of requirements and close liaison with system users is necessary during early conceptual studies, initial analyses, and design stages leading to program definition or the acquisition contract stage. Bringing individual contractors for the different projects into conceptual planning and extending general access to DOD program planning information would give industrial contractors an unfair advantage over competitors. On the other hand, too broad a restriction on contract eligibility will make the contractor reluctant to perform in the planning role. However, if the task is not unduly complex and can be well defined to reduce access to such planning information, and if contract restrictions are acceptable, the task can be given to industry.

k. Extent of access to intelligence. Multiple projects, involving many individual contractors would require wide dissemination of sensitive information. To avoid charges of favoritism, access would have to be granted to all industries having the capability to bid. Providing this intelligence to the FCRC, however, limits its distribution within reasonable bounds.

l. Need for industry proprietary information. Proprietary data concerning designs, manufacture, and processes are very important to industry. Contractors are reluctant to part with proprietary data necessary for interface management to a contractor who is studying or advising on a system for an acquiring agency. When such needs for proprietary data are minimal or problems concerning access to such data are not significant, this criterion could be of minor importance. Where the problems are serious and the interface complex, the FCRC can lessen proprietary problems materially.

m. Access to industry proposals. Some tasks require review of industry proposals, reduction of data contained in a common base and selection of the best approaches. It is generally inappropriate to give planning or program definition studies, or contractor proposals, either unsolicited or in response to invitations, to industry for technical evaluation. Industry should not have access to this information or be involved in establishing technical criteria involved in decision making.

6–4. Precautions

While the above criteria provide a basis for judgment in assigning work to an FCRC or to industry, it is necessary to be continuously aware of these criteria to ensure their application and to limit the use of not-for-profit corporations. Therefore, the following precautionary criteria are established:

a. The use of FCRCs will be restricted to selected important projects and programs which are consistent with the FCRC's assigned mission and require their particular capabilities.

b. FCRCs will assume responsibilities for specific work that they have contractually accepted and, in accordance with Public Law 412 (5 USC 3109), will not simply provide manpower for assignment and direction by the user.

c. The FCRC role, responsibilities, and products on each program or project will be clearly defined and documented in the approved contractual statement of work and supporting documents.

d. An FCRC is contractually prohibited from the manufacture or production of hardware and from supplying systems or components of systems.

e. An FCRC will not perform studies or analyses.

f. FCRCs will not enter into formal competition with profitmaking industrial contractors or with universities who could perform the required effort.

g. FCRC tasks must have a defined milestone for project completion.

h. The proximity of an FCRC should not promote the use of its capabilities as a convenient "catch-all" for routine technical, administrative, or management tasks. Such use diverts skills which should be devoted to meaningful and appropriate technical tasks. Limitations on funds for FCRC tasks make it essential to avoid their dissipation on less important support services.

i. Augmentation of the Government technical staff through the use of FCRC manpower must be strictly avoided. Such augmentation would have the effect of circumventing manpower ceilings and evading the intent of Civil Service regulations. Contracts are for performance of specific technical tasks in support of designated programs, and not for personal services. Personal service contracts can be awarded only with special authority.

j. Work placed with an FCRC should meet the sole source criteria of the agency proposing the work. Additionally, careful scrutiny of the work to assure that it meets the criteria spelled out in this document is essential before it is referred to the Air Force. The Air Force should not be expected to place work sole source with an FCRC which that agency would not itself place with an agency contractor sole source.

k. FCRC efforts assigned to MITRE Corporation must be C ^{3}I-related.

l. The principal DOD mission of Aerospace Corporation is to provide support for the planning and acquisition of military space and space related systems.

m. If the requested effort is a new start, the requestor must be able to show who else was considered and was ruled out, and why they were ruled out.

n. The requestor must be able to defend why the projected effort cannot be performed in-house.

o. The requestor must have funds programmed and specifically earmarked to cover the requested effort.

p. The basic roles assigned to FCRCs in providing technical and scientific support to DOD programs should encompass the following major areas:

(1) Systems acquisition (including systems and subsystems engineering).

(2) Systems research and planning.

(3) Research and experimentation.

(4) Technical support (including technology and selected studies).

6–5. Procedures

a. Annually, the ODCSRDA, RDTE Program and Budget Division will issue instructions (call letter) for submission of FCRC requirements for the coming budget year and budget year +1.

b. On receipt, the requirements are reviewed by the Army staff for compliance with instructions and criteria. All acceptable requirements are then prioritized within assigned ceilings to provide a balance with respect to mission, priority, and urgency.

c. Prior to the beginning of each FY (execution year), MACOMs and separate activities are notified by letter of the approved FCRC requirements and the amount of ceiling authorized for each. This letter of notification is an authorization for FCRC support for specific requirements. It does not provide funding but is a specific funding ceiling. Changes/deviations from the ceiling will not be made without specific approval from HQDA (DAMA–PPR–B).

d. Activities that have received an authorized ceiling for FCRC support will immediately forward a Military Interdepartmental Purchase Request (MIPR) to the appropriate Air Force contract monitor. The letter of notification of an approved FCRC program will specify the date and percentage of amount due for each contract monitor. The monitor will not authorize work to start on any FCRC contract unless the required MIPR is on hand by the due date. Also, a work stoppage order will be issued if a partially funded MIPR expires during the year and additional funds are not provided. Activities are encouraged to fully fund each project at the beginning of each fiscal year.

e. In addition, each activity that receives an FCRC authorized ceiling must prepare and forward to the contract monitor a Technical Objectives and Plans (TO&P) document that describes and defines the specific objectives of the program or project.

f. Since unlimited FCRC support is not available, all requests for FCRC support cannot be satisfied. Those requests which cannot be supported (over ceiling requirements) are retained at HQDA and considered for authorization if the ceiling becomes available during the fiscal year.

g. Agencies and activities having FCRC requirements should address all questions through the appropriate Army chain of command. Direct contact with the Air Force contract monitor and the supporting FCRC is not authorized except on technical matters addressed in the TO&Ps for approved projects. Because of the preferential noncompetitive position enjoyed by the FCRCs, future plans and requirements, funding status, projects, and so forth, should not be discussed with or revealed to individuals connected or associated with the FCRC.

Chapter 7
Total Risk Assessing Cost Estimate—RDTE,A

7–1. General

TRACE is used in programming for research and development of weapons and materiel systems financed by the RDTE,A appropriation. Policies, procedures, and responsibilities governing the consideration, application, and assessment of technical risk associated with weapon and materiel development systems and the cost estimating of the impact of technical risk are set forth in the following publications:

a. AR 11–18.

b. DA Pam 11–2.

c. DA Pam 11–5.

7–2. Scope

This chapter cites DA policies, procedures, and responsibilities for the management of TRACE funds during the RDTE,A program, budget, and execution processes. The procedures apply to DA commands and installations/activities which develop weapons and materiel systems financed by the RDTE,A appropriation.

7–3. Objectives of TRACE

The objectives of TRACE are as follows:

a. Provide for the management of TRACE funds identified for weapons and materiel development systems in RDTE,A programs and budgets.

b. Provide for the management, release, or disposition of TRACE risk funds identified for weapons and materiel development systems and withheld at HQDA.

7–4. Evolution of TRACE

Experience in the acquisition of major weapon and materiel systems indicates that actual development costs have often exceeded estimated costs. The results have been inadequate funding and consequent disruption for many systems; the necessity of repeatedly requesting additional funds from OSD and Congress; and additional efforts on the part of program/project managers (PM), budget planners, contract negotiators, and other program and budget execution agencies. Accordingly, TRACE has evolved as a budgetary/management tool to obtain the incremental funds that may be necessary to compensate for the reasonable expectancy of occurrence of those uncertainties associated with system development made visible through a technical risk assessment.

7–5. Concept

TRACE is a management system based on scientific methods, set procedures, and effective controls. It is used in the development of RDTE,A program and budget requirements to arrive at cost estimates that closely approach the eventual actual systems costs by way of a realistic assessment of technical development risk and by allowing for the probability of having to compensate for a less than optimal program.

a. TRACE recognizes that all funding demands arising during a development effort cannot be explicitly identified in advance. However, TRACE is based on the premise that an aggregate of those funding demands can be predicted and that a portion of this aggregate demand should be included in program and budget requests. (TRACE is controlled at the project level and is not aggregated to a separately identifiable line item in the RDTE,A appropriation.) Specific emphasis is placed on the allocation of funds to offset increased system cost needs resulting from the occurrence of probabilistic events which lead to cost growth.

b. TRACE is designed to—

(1) Deal openly with the impact of technical and schedule risk and uncertainty during system development.

(2) Produce cost estimates which reflect a probabilistic assessment of the technical and schedule risk uncertainties associated with systems development. This more realistic cost estimating procedure helps to ensure that a commensurate level of funding is available to adequately deal with RDTE fund requirement increases caused by the realization of system development risks.

(3) Provide a means for justifying and obtaining funds identified to meet probabilistic, unpredictable technical events.

c. Development cost estimates are best expressed in terms of ranges of potential costs; however, program and budget request documents require specific amounts. The TRACE system requires that the materiel developer/PM address technical and schedule uncertainty in the cost estimate, and then select the dollar amount that represents, within the bounds of acceptable risk, the RDTE,A funds needed to cover the base costs of the system for the period and to cover a probabilistic portion of unspecified costs that were predicted in aggregate with TRACE funds.

d. The TRACE requirement represents a compromise between funding for all possible risks and uncertainties, and funding for only those activities that can be identified, costed, and scheduled with certainty. The actual cost will be somewhere between these two extremes. The developer/PM must establish the estimate so that the probability of the potential actual cost being greater than the base cost estimate is approximately equal to the potential actual cost being less than the estimate.

7–6. TRACE components

TRACE is the sum of the following:

a. The cost of specifically planned activities. The cost of specifically planned activities is based on a "success oriented" yet reasonably realistic system—referred to as the base cost.

b. The estimated risk cost. This is a portion (the acceptable level) of estimated aggregate risk funding for the additional activities that may require funding but that are not included in the base cost because of their uncertain occurrence as addressed in the technical risk assessment. These costs cover probabilistic events which are possible but not 100 percent certain to occur.

(1) The unplanned and uncertain technical and schedule risk conditions inherent in the materiel development system covered by risk cost include—

(a) Rescheduling of work due to technical problems.

(b) Design changes to correct deficiencies and to accommodate revisions in component performance.

(c) Additional testing to verify design corrections.

(d) Additional hardware required to support design modifications, schedule slippage's, and so forth.

(e) Project actions to reduce future costs (capitalize on opportunities).

(f) Schedule uncertainties.

(2) Risk cost is not intended to include all uncertainties inherent in the passage of time. Specifically, it does not encompass new requirements or system modifications due to changes in perceived threat; increases in system scope or requirements beyond that approved during the program and budget formulation processes; cost increases from inflation and civilian pay adjustments; nontechnical uncertainties; and congressional budget reductions.

7–7. Policies

a. The TRACE concept and procedures will be used in the development and justification of the weapons and materiel systems (new as well as those underway) financed by the RDTE,A appropriation which meet the criteria indicated below. HQDA (DAMA) may also direct the application of TRACE procedures to systems which do not meet these criteria. (See AR 70–1 for criteria to identify major systems.)

(1) DOD major and designated acquisition systems.

(2) In-process review (IPR) systems designated by the materiel developer as appropriate for the application of TRACE.

b. TRACE will be used to achieve more realistic cost and budgetary requirement estimates which allow for funding of an acceptable level of risk for a system being developed.

c. Risk cost estimates must be developed in a judicious manner since the up front funding of risk cost associated with TRACE funds means that fewer systems can be accommodated within the total RDTE obligation authority.

d. Compilation and/or development of risk cost will be based on approved cost estimating techniques that recognize the appropriateness of risk cost quantification. The risk cost portion of TRACE will be an integral part of the program and budget requirement.

e. The TRACE system should produce realistic cost estimates of what probably will be required to fund a development program. It is to be emphasized that the purpose of TRACE is not to create unjustified contingency reserves. TRACE is intended to delineate probable cost increases associated with real life programs in order to accomplish a specific objective.

f. The TRACE system will be disciplined at all levels of the Army so that budgeted risk costs will not become arbitrary targets in budget cutting and redistribution efforts.

7–8. Responsibilities

a. The DCSRDA will—

(1) Receive, review, and process requests for release of the risk cost portion of TRACE funding. In coordination with the ASA(-RDA) act as the approval authority for the release of TRACE risk cost funding.

(2) Determine disposition of TRACE risk cost funds held at HQDA not required during the first year of fund availability for the purpose for which these funds were appropriated by Congress.

b. The COA will—

(1) Ensure that cost estimating/cost analysis procedures address technical risks so as to isolate TRACE risk costs.

(2) Issue fund allocation documents to RDTE,A MACOM/operating agencies on request of the DCSRDA and within appropriated RDTE funding.

c. Heads of MACOMs/operating agencies identified in paragraph 9–2 will—

(1) Incorporate TRACE requirements established for material acquisition systems (and adjustments thereto) into RDTE,A programs and budgets submitted to HQDA.

(2) Notify HQDA (DAMA–PPR–B) of those portions of funded programs which are TRACE risk funds.

(3) Account for and manage TRACE funds programmed and allocated by HQDA.

(4) Submit recommendations to HQDA (DAMA–PRR–B) for release of withheld TRACE funds.

(5) Advise HQDA (DAMA–PPR–B) promptly when TRACE funds held at HQDA are no longer needed.

7–9. TRACE estimating procedures

a. To recognize the impact on programs of unplanned and unpredicted events, the TRACE derived via the procedures contained herein (or other generally accepted methodologies) will be the materiel development program cost estimate used for program planning and justification as follows:

(1) For new potentially major development programs, the baseline cost estimate (BCE) and cost estimates prepared for the decision coordinating paper, the Defense Program Memorandum, Selected Acquisition Reports, the Army Program Memorandum, the Outline Development Plan, and the development plan will be compiled using the TRACE methodology. Application of the TRACE procedures to other programs will be at the option of the DCSRDA.

(2) Existing estimates for currently ongoing programs will be recompiled using the TRACE methodology on a case-by-case basis when it is determined that funds as currently budgeted or programmed for a program will be insufficient, and as authorized by the DCSRDA.

(3) Independent parametric cost estimates will continue to be used as the test of reasonableness for all cost estimates.

b. The following procedures are intended to point the way toward the solution of a serious problem, not to constrain the precise nature of the solution. Complexity factor analysis or other subsystem level analogy techniques may be more appropriate in particular cases. Risk analysis, a relatively new technique, shows considerable promise and its use, as explained in (1) and (2) below, is encouraged.

(1) Risk analysis.

(a) It is the nature of the engineering cost estimating technique, which has been the basis of most program estimates during the past decade, that it represents the cost of executing pre-identifiable tasks. Engineering cost estimates make no allowance for tasks that are not specifically identified when the cost estimate is made. Therefore, engineering cost estimates, although commonly employed for estimating development costs, will result in a low estimate until all tasks have been completely identified. In reality, this complete identification invariably occurs late in the development cycle of materiel systems. Risk analysis, when applied in combination with engineering cost estimates, shows promise of providing cost estimates that are considerably more accurate than engineering cost estimates

when used separately. It is to be emphasized that the purpose of the TRACE is not to create unjustified reserves. Rather, the TRACE is to produce realistic cost estimates of what probably will be required on a development program.

(b) In the conduct of risk analysis, each work breakdown structure (WBS) element identified in a materiel development program will be analyzed to determine the specific subelements that will contribute to uncertainty in the establishment of the cost of execution of that element. A risk factor will then be constructed for each identified WBS element representing an accumulation of estimated proportional increases in the cost of that element as a result of probable changes to it during its development. Paragraph B–4 further explains risk factors. These increases will be adjusted by a judgmental determination of just how likely it is that each will occur.

(c) If the specific program work has not yet been identified in sufficient detail, risk factors will be assigned on the basis of larger aggregates of work, system components, or system types, depending on the detail available. In such cases, risk factors will be constructed judgmentally in full consideration of the engineering, producibility, and budgetary aspects of the program. Specific considerations to be included in this judgment are—

1. Whether the program requires the development of an item not directly supported as feasible by existing technology.

2. Whether the program requires the development of an item substantially different from those previously developed.

3. Whether a major integration effort will be necessary even though individual components may in themselves be considered to involve low risk.

(2) TRACE computation. The risk factors will be multiplied by the engineering cost estimate at the appropriate level of the WBS. The appropriate level will depend not only on the level of design detail available, but also on the degree of component and subsystem interaction. When a design change of a given component or subsystem appears likely to propagate and cause a design change of a related component or subsystem, a higher level of aggregation will also be required to maintain statistical validity of the overall estimate by including these interdependent effects. The risk factors, when applied at the appropriate level of the WBS as explained above, can be statistically combined to produce the TRACE.

(3) By way of further explanation, a descriptive example (hypothetical) is included as appendix B.

7–10. Program and budget management procedures

a. TRACE funding requirements developed and approved during the system cost estimating process will be reported in total and separately identified by base cost and risk in programs and budgets submitted to HQDA.

(1) Guidelines prescribing TRACE reporting and data identification requirements will be set forth in the Support Material for RDTE,A Annual Budget Estimates call letter (RCS CSCRD–136).

(2) Since probabilistic and base costs comprise the total request for specific R&D activities, program and budget requests submitted to OSD and Congress will address total RDTE,A funding only.

b. Reported TRACE requirements are subject to the following adjustments given that all changes have been accepted by the authorities which approved the original TRACE program:

(1) Amount identified for a program year. TRACE requirements will be adjusted on approval of a technical assessment recosting; funding changes will be reported to ODCSRDA in program and budget updates.

(2) Amount identified for the budget year. TRACE requirements are not subject to change except by congressional action or with DCSRDA approval.

7–11. Appropriation execution management procedures

TRACE funds included in appropriations enacted by Congress will be administered in the following manner:

a. Fund control.

(1) The base cost portion will be released to the MACOM/operating agency in accordance with standard program and fund distribution procedures (unless other considerations dictate withholding of the funds; for example, by congressional or OSD direction). The development system will be managed within this amount by funding only the activities expressly identified in the technical assessment or as identified in the document approving release of the risk funds.

(2) The risk cost portion of appropriated funds will be withheld from the program and fund release processed by HQDA (DAMA–PPR–B). These funds are referred to as the TRACE withhold. Amounts withheld will be reflected as DA withhold in the monthly report of Changes to Research and Development Planned Program. The retention of this amount will allow for the possibility of savings and more precise management control of funds appropriated for system execution.

b. Appropriated TRACE funds are subject to the following adjustments given that all changes have been agreed to by the authorities who approved the original TRACE program.

(1) Reduction of the risk cost portion of TRACE. The total funds for the system must be reduced by an amount equal to the reduction in the risk cost portion of TRACE. HQDA (DAMA–PPR–B) will be advised through command channels that the funds are excess to needs and will be provided with appropriate reprograming recommendations. Approved reductions will be applied against the DA withhold account.

(2) Increase of the risk cost portion of TRACE. Increases in risk cost portions of TRACE are authorized only to the extent that tradeoffs within the system or available funds result in a net change of zero. HQDA (DAMA–PPR–B), WASH DC 20310–0666, will be advised through command channels of reprogramming recommendations and, when approved, will take action necessary to increase the funds in the DA withhold account of the development system for which reprogramming is requested.

(3) Increases for the base cost or risk cost which cannot be satisfied by tradeoff within available funds. Requirements will be handled in the manner prescribed for unfounded program and budget needs.

(4) Reduction of the base cost portion of TRACE not required for risk cost funding. Excess funds will be reprogrammed within the delegated reprogramming authority or reported through command channels to HQDA (DAMA–PPR–B) for reprogramming.

(5) Requests for exception to the above guidelines will be fully justified and submitted through command channels to HQDA (DAMA–PPR–B) for consideration.

c. Managers requiring all or a portion of the TRACE withhold funds to satisfy risks set forth in paragraph 7–6*b* during the year of appropriation execution will submit a request for the release of same through command channels (for approval) to HQDA (DAMA–PPR–B).

(1) Requests will include—

(a) A description of the events that dictate the requirement for additional funds.

(b) A description of the manner in which the additional fund will be applied (for example, supplemental contract and additional testing.)

(c) A description of feasible alternatives to the release of TRACE at risk funds to satisfy the cost growth and the reasons these alternatives were not selected.

(d) The quantity or portion of the withhold requested (must not exceed the remaining balance on withhold).

(e) The date(s) a decision and/or funds are required.

(f) A statement as to whether funds in addition to the withhold are being requested (reprogramming request), including document references if applicable.

(g) A statement as to whether additional RDTE,A appropriated resources will be required in subsequent years as a result of these events and an estimate of the amounts by year.

(h) The actual cost and schedule impact if the requested TRACE withhold funds are not released.

(2) TRACE withhold funds will not normally be released if it is determined that the intended use is to offset a funding decrement

imposed by higher authority or to offset costs not caused by technical risks and/or uncertainty.

(3) Authority for approval of the TRACE withhold release rests with the DCSRDA in coordination with the ASA(RDA). After approval, the TRACE "risk cost" funds will be released through the RDTE,A program and fund allocation process.

d. Based on incremental funding policies, TRACE risk cost funding remaining in a DA withhold status at the end of the first year of fund availability will be reprogrammed by DA during the fifth quarter to other high priority requirements. Exceptions to this policy may be requested by responsible Army command/operating agencies if circumstances warrant; for example, when the initial contract award was delayed due to late release of funds.

Chapter 8
RDTE Manpower

8–1. General

In accordance with AR 570–4, paragraph 3–1, manpower requirements are generated by assigned missions, workloads, operating procedures, and policies. These assigned missions, such as basic RDTE capabilities, are identified in the various data accounting systems of the RDTE,A community through the use of the AMSCOs listed in AR 37–100–XX, chapter 7, for execution years and through the use of program elements/projects shown in the RDTE,A project list for the program years. Accordingly, all spaces should be allocated to and documented with a valid AMSCO (or corresponding program element for program years) on the basis of the primary mission to be performed.

8–2. Allocating and resourcing

Categories for allocating and budgeting for manpower and methods of recording/distributing manpower costs are as follows:

a. Laboratories. All RDTE laboratory/center manpower (including that required for management and administration) will be assigned to, initially programmed/budgeted for, and costed to an existing 6.2 (exploratory development) program element. This is intended to include all laboratory/center manpower whose major efforts may be devoted to other than 6.1/6.2 efforts. (See para 8–5 for listing of approved program elements and projects for each laboratory.) Distribution of costs for work performed for a specific RDTE,A project within the same budget allotment will be accomplished using object class 2700 as described in paragraph 8–3. All other customer work will be reimbursed in accordance with standard procedures set forth in AR 37–108. Object class 2700 transfers and reimbursements for customer work should be accomplished immediately following or simultaneously with each pay period and will be reflected in the monthly Status of Approved Operation Budget (RCS CSCFA 218) report to the U.S. Army Finance and Accounting Center. Likewise, laboratory management and administrative manpower costs will not be distributed to RDTE,A projects or other customers, either by use of object class 2700 or reimbursement.

b. R&D centers. All manpower spaces authorized for and allocated to a specific R&D center will be programmed/budgeted for and costed in an AMSCO established specifically for such center. Any customer work will be reimbursed in accordance with standard procedures set forth in AR 37–108. Efforts directly supporting RDTE,A work within the same budget allotment, will be accomplished using object class 2700 as described in paragraph 8–3. Management/administrative manpower and other administrative and support costs for operating the center will not be distributed to RDTE,A projects or other customers.

c. Charter program managers. All RDTE,A manpower spaces authorized for and allocated to charter PM offices will be programmed/budgeted for and costed in the AMSCO established for the major system for which the PM has responsibility. If a PM is assigned responsibility for multiple systems, all manpower should be allocated to the "largest dollar" system for which the PM has responsibility. The appropriate amount of costs may be transferred to other systems for which the PM has responsibility using object class 2700 as described in paragraph 8–3. PM offices should be allocated only minimum manpower required to manage and support the system(s) for which the PM has responsibility. Accordingly, manpower costs will not be transferred to other RDTE,A program elements/projects. Reimbursable work should normally occur only in Joint Service PM offices where Army has lead responsibility but where funds are appropriated to more than one DOD agency. Such reimbursements should be handled in accordance with standard procedures set forth in AR 37–108.

d. BASEOPS and RPMA. Beginning with the FY87 program, all RDTE,A BAESOPS and RPMA manpower will be allocated to and initially programmed, budgeted, and costed for in program elements 65894A (AMSCO 665894) for RPMA, and 65896A (AMSCO 665896) for BASEOPS. See AR 37–100–XX, chap 5, sec XII, for detailed breakout of these AMSCOs. BASEOPS/RPMA support to other DOD agencies will be reimbursed in accordance with DOD 4000.19–R except at MRTFBs which will be in accordance with DODD 3200.11. Such reimbursements will be recorded in accordance with standard procedures set forth in AR 37–108. Except for mission-unique requirements, BASEOPS/RPMA support to other Army tenants on RDTE,A installations will be furnished on a nonreimbursable basis.

e. Army Management Headquarters activities. Manpower spaces authorized for RDTE,A AMHA will be allocated to, programmed/budgeted for and costed in program element 65898A (AMSCO 665898). Costs for AMHA manpower will not be transferred to or reimbursed from other activities or agencies. Army reporting and management procedures pertaining to AMHA are contained in AR 570–8.

f. MRTFBs, U.S. Army Training and Doctrine Command (TRADOC) test boards, other test facilities, Army Materiel Systems Analysis Agency (AMSAA), research and development centers/commands, Aviation Engineer Flight Activity (AEFA) and other activities/offices authorized/established for a specific RDTE,A mission effort. All manpower authorized for these activities, excluding BASEOPS and RPMA personnel, will be allocated to, initially programmed/budgeted for and costed to the program element/project (and corresponding AMSCO) established for the specific activity. Transfer of or reimbursement for manpower costs shall be as follows:

(1) MRTFBs will be reimbursed in accordance with policies set forth in AR 70–69. Such reimbursements will be recorded in accordance with standard procedures set forth in AR 37–108.

(2) All other RDTE,A activities listed above may have costs distributed to other RDTE,A activities through use of EOE 2700 (as described in para 8–3) or be reimbursed by other customers in accordance with standard procedures set forth in AR 37–108. Such cost distribution/reimbursement is limited to identifiable, quantifiable costs for specific efforts and should not include distribution of management and administrative costs.

g. Manpower allocated for specific type efforts to be performed for and reimbursed by numerous customers/activities (such as production engineers, safety engineers, and systems analysis). At an RDTE,A operated installation/activity manpower allocated for specific type effort/expertise that are to be fully reimbursed from numerous customers (both RDTE,A programs and other appropriations) will be assigned to, initially programmed/budgeted for, and costed in a specific reimbursable project established for this purpose in the appropriate RDTE,A program element.

(1) Requirements for projects for this purpose will be forwarded to HQDA (DAMA–PPR–B) with full justification and explanation.

(2) Cost distribution from and reimbursement to this project will be accomplished using EOE 2700 within a specific allotment or standard reimbursement procedures for all other customers (as set forth in this para).

(3) The program element in which such a reimbursable project is established becomes a carrier for such costs. Therefore, all costs accumulated in such a project must be distributed prior to the end of

each month in accordance with cost distribution procedures in AR 37–108.

8–3. Element of expense 2700 cost transfer procedure

The cost transfer between AMSCOs in the same allotment will be accomplished utilizing EOE 2700. (See AR 37–100, chap 4.) This accounting transfer procedure allows the identification, accumulation, and reporting of manpower data under the AMSCO to which manpower is allocated (to include authorization, man-years, months of effort, utilization, and the actual EOE 1100 and 1200 costs). This facilitates preparation and subsequent review of Manpower Utilization and Requirements Reports (CSFOR–78(R2)). After transfer of costs using EOE 2700 is accomplished, affected AMSCOs will reflect the following:

a. AMSCO to which manpower is allocated.

(1) Allocated—25. (Assumes 25 spaces are allocated to this AMSCO.)

(2) Man-years (equivalent)—20. (Assumes the equivalent of 20 man-years of effort has been accumulated in this AMSCO. For purposes of this example, assume an average annual salary of $35, 000 plus 10 percent related benefits.)

(3) EOE 1100—$700,000. (Based on assumption in (2) above, the total accumulated civilian pay (EOE 1100) cost of the 20 man-years is $700,000.)

(4) EOE 1200—$70,000. (Based on assumption in (2) above, the accumulated (EOE 1200) cost is $70,000.)

(5) EOE 2724—$-38,500 (Assumes 1 man-year of effort was provided to the benefiting AMSCO at a cost of $38,500. The AMSCO where the manpower is allocated is reduced by $38,500 under EOE 2724. The benefiting AMSCO is increased by $38,500 under EOE 2724.

b. AMSCO to which manpower costs are to be transferred: EOE 2724—$38,500.

Note. Assumes 1 man-year of effort was provided to the benefiting AMSCO at a cost of $38,500. The AMSCO where the manpower is allocated is reduced by $38,500 under EOE 2724. The benefiting AMSCO is increased by $38,500 under EOE 2724.

8–4. Reimbursement procedure

Reimbursement for services performed where the benefiting mission AMSCO is in another Army allotment or appropriation, or service is for a non-Army customer, will be accomplished/recorded in the AMSCO to which performing manpower is allocated. This accounting procedure allows identification, accumulation, and reporting of manpower data under the AMSCO to which manpower is allocated (to include authorization, utilization, and EOE 1100 and 1200 costs). This facilitates subsequent review of Manpower Utilization and Requirements Reports (CSFOR–78(R2)). Using this procedure, an AMSCO account will reflect the following:

a. AMSCO to which manpower is allocated.

(1) Allocated—25. (Assumes 25 spaces are allocated to this AMSCO.)

(2) Man-years (equivalent)—20. (Assumes the equivalent of 20 man-years of effort has been accumulated in this AMSCO. For purposes of this example, assume an average annual salary of $35, 000 plus 10 percent related benefits.) (See table 8–1.)

Table 8–1
Reimbursement for 20 man-years

EOE: 1100
Direct funds: $350,000
Reimbursement funds: $350,000
Total funds: $700,000

EOE: 1200
Direct funds: 35,000
Reimbursement funds: 35,000

Table 8–1
Reimbursement for 20 man-years—Continued

Total funds: 70,000

Notes:
* Based on assumption in (2) above, the accumulated total civilian pay (EOE 1100) cost of the 20 man-years is $700,000. The accumulated total related benefits (EOE 1200) cost is $70,000. Of the 20 man-years worked, example assumes 10 man-years ($385,000) are paid with direct funds authorized in this AMSCO and remaining 10 man-years ($385,000) are paid by reimbursements received as follows: From other Army allotments—6 man-years ($231,000); from non-Army agencies—4 man-years ($154,000). The 6 man-years reimbursed from other Army allotments/appropriations will be reflected in Army's financial records as a direct cost to the appropriate AMSCO as indicated by *b* below. The 4 man-years reimbursed from non-Army sources will be reflected only as reimbursable costs in the Army financial records. Both types of reimbursement must be supported by a valid support agreement and/or order received as appropriate.

b. AMSCO (another Army allotment/appropriation) which is reimbursing for 6 man-years. (See table 8–2.)

Table 8–2
Reimbursement for 6 man-years

EOE: 2585/2586
Direct funds: $231,000
Reimbursement funds: N/A
Total funds: $231,000

Notes:
When the customer is funded by another Army allotment or appropriation, the amount paid for the 6 man-years of effort will reflect as a direct cost in EOE 2585 (for orders issued to another Army RDTE,A activity) or EOE 2586 (for orders issued to another Army activity funded by an appropriation other than RDTE,A) as appropriate.

8–5. AMSCOs to be used for allocation of laboratory and R&D center spaces

The following AMSCOs will be used for allocation of laboratory and R&D center spaces as shown in tables 8–3, 8–4, 8–5, and 8 –6.

Table 8–3
AMC Lab

AMSCO: 612105.A1AL
AMC laboratories/centers: Army Materiel and Mechanics Research Center (AMMRC)

AMSCO: 612623.A1BL
AMC laboratories/centers: Armament R&D Ctr (ARDC)—includes Large Caliber Weapons Laboratory and Fire Control and Small Weapons Laboratory

AMSCO: 612111.A1CL
AMC laboratories/centers: Atmospheric Sciences Laboratory (ASL)

AMSCO: 612202.A1DL
AMC laboratories/centers: Avionics R&D Activity

AMSCO: 612209.A1EL
AMC laboratories/centers: Aviation Research and Technology Laboratories (AR&TL)—includes Aeromechanics Laboratory, Applied Technology Laboratory, Propulsion Laboratory, and Structure Laboratory

AMSCO: 612618.A1FL
AMC laboratories/centers: Ballistic Research Laboratory (BRL)

AMSCO: 612733.A1GL
AMC laboratories/centers: Belvoir R&D Center (BRDC)

AMSCO: 612701.A1HL
AMC laboratories/centers: Center for Communications Systems (CENCOMS) Center for Systems Engineering and Integration (CENSEI)

AMSCO: 612622.A1JL
AMC laboratories/centers: Chemical R&D Center (CRDC)

AMSCO: 612746.A1KL

Table 8–3
AMC Lab—Continued

AMC laboratories/centers: Center for Tactical Communications Systems (CENTACS)

AMSCO: 612703.A1LL
AMC laboratories/centers: Combat Surveillance and Target Acquisition Laboratory (CSTAL)

AMSCO: 612715.A1ML
AMC laboratories/centers: Electronic Warfare Laboratory (EWL)

AMSCO: 612705.A1NL
AMC laboratories/centers: Electronic Technology & Device Laboratory (ETDL)

AMSCO: 612120.A1PL
AMC laboratories/centers: Harry Diamond Laboratory (HDL)

AMSCO: 612716.A1QL
AMC laboratories/centers: Human Engineering Laboratory (HEL)

AMSCO: 612303.A1RL
AMC laboratories/centers: Missile Laboratories

AMSCO: 612723.A1SL
AMC laboratories/centers: Natick R&D Center (NRDC)

AMSCO: 612709.D1TL
AMC laboratories/centers: Night Vision and Electro-Optics Laboratory (NVEOL)

AMSCO: 612120.A1UL
AMC laboratories/centers: Office for Missile Electronic Warfare (OMEW)

AMSCO: 612715.A1VL
AMC laboratories/centers: Signal Warfare Laboratory (SWL)

AMSCO: 612601.A1WL
AMC laboratories/centers: Tank-Automotive Command (TACOM) laboratories

Table 8–4
Army Research Institute (ARI)

AMSCO: 612717.A2AL
AMC laboratories/centers: ARI

Table 8–5
AMSCO: Laboratories/centers, Corps of Engineers (COE) Laboratories

AMSCO: 612730.A4AL
COE laboratories/centers: Cold Regions Research and Engineering Laboratory (CRREL)

AMSCO: 612731.A4BL
COE laboratories/centers: Construction Engineering Research Laboratory (CERL)

AMSCO: 612707.A4CL
COE laboratories/centers: Engineer Topographic Laboratory (ETL)

AMSCO: 612719.A4DL
COE laboratories/centers: Waterways Experiment Station (WES)

Table 8–6
AMSCO: US Army Medical Research and Development Command (USAMRDC) laboratories

AMSCO: 612734.A3AL
USAMRDC laboratories/centers: Institute of Chemical Defense (ICD)

AMSCO: 612770.A3BL

Table 8–6
AMSCO: US Army Medical Research and Development Command (USAMRDC) laboratories—Continued

USAMRDC laboratories/centers: U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID)

AMSCO: 612770.A3CL
USAMRDC laboratories/centers: Walter Reed Army Institute of Research (WRAIR)

AMSCO: 612772.A3DL
USAMRDC laboratories/centers: Institute of Surgical Research (ISR)

AMSCO: 612772.A3EL
USAMRDC laboratories/centers: Letterman Army Institute of Research (LAIR)

AMSCO: 612775.A3FL
USAMRDC laboratories/centers: Institute of Dental Research (IDR)

AMSCO: 612777.A3GL
USAMRDC laboratories/centers: Army Research Institute of Environmental Medicine (ARIEM)

AMSCO: 612777.A3HL
USAMRDC laboratories/centers: Army Aeromedical Research Laboratory (AARL)

AMSCO: 612777.A3JL
USAMRDC laboratories/centers: Bio-Engineer Research and Development Laboratory (BRDL)

Chapter 9
Reporting

9–1. General

This chapter—

a. Lists those MACOMs/operating agencies engaged in research, development, test, and evaluation, that report directly to HQDA for RDTE,A appropriation management purposes.

b. Documents all HQDA financial reporting requirements unique to the RDTE,A appropriation in the PPBES. The RDTE,A appropriation uses standard, non-unique accounting reports documented in the 37-series of Army regulations.

c. Provides added guidance or specific instructions for the preparation of the following RDTE,A-unique reporting requirements:

(1) MACOM/Operating Agency Budget Issues Report.

(2) Changes to Research and Development Planned Program (RCS CSCRD–9(R–5)).

(3) National Science Foundation Report.

(4) Department of the Army Obligation Plan (RCS DD COMP(M) 1442).

(5) RDTE Contingent Liabilities and Special Termination Costs Clauses reports.

9–2. MACOMs/operating agencies

The MACOMs/operating agencies listed below, with their identifying one-character codes, are engaged in research and development and are responsible for submitting reports in accordance with this chapter.

Table 9–1
MACOMs/operating agencies

Reporting agencies: U.S. Army Materiel Command
Code: 1

Reporting agencies: U.S. Army Research Institute
Code: 2

Reporting agencies: U.S. Army Medical Research and Development Command

Table 9–1
MACOMs/operating agencies—Continued

Code: 3
Reporting agencies: Office of the Chief of Engineers **Code:** 4
Reporting agencies: U.S. Army Training and Doctrine Command **Code:** 6
Reporting agencies: U.S. Army Strategic Defense Command **Code:** 8
Reporting agencies: U.S. Army Information Systems Command **Code:** S
Reporting agencies: U.S. Army Operational Test and Evaluation Agency **Code:** T

9–3. MACOM/operating agency POM to budget issue report

A special letter of instructions with appropriate formats and instructions for submission of budget year POM to budget issues will be issued in June of each year. Program year and out-year budget changes required as a result of these issues will be included.

9–4. Budget formulation reports

a. Command Operating Budget (RCS CSCAB–205). Guidance for the COB is published in January or February of each year in a budget call letter from the Office of the Comptroller of the Army (OCA). Reports submitted to HQDA are normally required in June or July. Certain multiple appropriation schedules included in the COB must be submitted by RDTE,A MACOMs/operating agencies. These schedules, identified annually in the Support Material for RDTE,A Annual Budget Estimates call letter, are utilized by HQDA in meeting OSD, OMB, and congressional budget reporting requirements.

b. Support Material for RDTE,A Annual Budget Estimates (RCS CSCRD–136). Guidance for the support material for the RDTE,A annual budget estimates is published over a year in a May budget call letter. The MACOM/operating agency's report submissions to HQDA (DAMA–PPR–B) are required during the August to November timeframe. This report serves as the principle source of RDTE,A unique information used to meet OSD, OMB, and congressional budget reporting requirements and for HQDA management of the RDTE,A appropriation by ODCSRDA, the appropriation director. Schedules contained in the annual report vary from year to year.

9–5. Changes to Research and Development Planned Program (RCS CSCRD–9(R5))

a. This report provides the mechanism for developing agencies to report proposed below threshold reprogramming adjustments to HQDA. This information is input to an HQDA automated financial management system. Information on the congressionally approved program obtained from the IAP and/or RAP, OSD and HQDA withholds, OSD special interest items, and HQDA-approved reprogramming actions are also input to the data base by HQDA. A monthly report is then prepared for distribution within HQDA and to the MACOMs/operating agencies to show the current status of the approved RDTE,A program in both fiscal years available for obligation, at the program element and project level.

b. MACOM/operating agency reports of proposed below threshold reprogramming actions will be submitted monthly to HQDA (DAMA–PPR–B), WASH DC 20310–0666. Reports are due into HQDA on the 10th working day following the monthly reporting period.

c. The data will be reported in standard 80-column punched card format. MACOMs/operating agencies have the option of submitting input data in card format or by magnetic tape. The option selected will be coordinated with HQDA (DAMA–PPR–B).

(1) All data transmitted will be unclassified and sent by first class mail.

(2) Care must be taken to securely wrap punch cards and magnetic tapes to preclude damage during shipment and handling.

(3) Shipments will be forwarded with a completed DA Form 200 (Transmittal Record). Prepare DA Form 200 in accordance with instructions in AR 18–7.

d. Reports will include reprogramming actions for the current fiscal year and the current fiscal year minus one.

e. Instructions for preparation of the cards are provided in appendix B.

9–6. Continuing resolution authority requests

The necessity to operate under provisions of the CRA is dependent on the status of congressional action on the President's Budget. If Congress has failed to enact the Defense Appropriations Act by the beginning of the fiscal year, Congress must provide authority to continue operations. This public law is the CRA. Provisions of the CRA vary for each fiscal year. Each August, if operations under the CRA are anticipated, HQDA will issue a letter to all MACOMs/operating agencies, which provides guidance and requests estimated requirements to be submitted.

9–7. Department of the Army Obligation Plan (RCS DD COMP(M)1442)

a. The OCA publishes guidance for preparation of the Army's obligation plan for all appropriations in the first quarter of each fiscal year. For the RDTE,A appropriation, supplemental instructions are separately provided to MACOMs/operating agencies.

b. Separate obligation plans are required for both direct and reimbursable funds in both years currently available for obligation.

c. Incremental funding principles will be used in preparing each MACOM/operating agency's plan.

d. Fiscal year-end obligation targets will be furnished in the guidance. These targets ensure compatibility of the obligation plan with information contained in the program and funding schedule submitted in the President's budget. Month-by-month obligation amounts are not constrained as long as they are within annual guidance. Amounts are to be estimated by the MACOMs/operating agencies.

e. A suggested format for the obligation plan is provided at figure 9–1.

f. MACOMs/operating agencies will comply with flash obligation reporting requirements of the OCA for all appropriations.

g. MACOMs/operating agencies will provide specific explanations in writing for variances in excess of 5 percent between the cumulative obligation plan and cumulative flash obligations.

(1) This report will be submitted to HQDA (DAMA–PPR–B), WASH DC 20310–0666, by the 9th working day following the monthly reporting period.

(2) The report will separately address both direct and reimbursable plans in each fiscal year.

(3) The report will be submitted by message using the suggested format in figure 9–2. Dollars should be expressed in thousands and the narrative should be as concise as possible.

9–8. National Science Foundation (NSF) report

a. The NSF conducts an annual survey to measure Federal support of and participation in national scientific activities. Reports from Federal agencies should originate from all organizational subdivisions supporting R&D activities.

b. The U.S. Army Research Office (USARO), Research Triangle Park, NC, is responsible for gathering and compiling the statistical information for the NSF report from all Army R&D activities. USARO publishes a call letter in the second quarter of each fiscal year for this information.

c. A major use of the report is to determine the amount of Federal financial resources used for contractual R&D effort (called extramural R&D by the NSF) and that performed by in-house Government activities (called intramural R&D by the NSF). To aid in identifying contractual versus in-house costs on the NSF report, the EOE structure in AR 37–100, chap 4, has been aligned for the

RDTE,A appropriation to coincide with the NSF definitions of contractual and in-house efforts. Contractual (extramural) expenses include only those expenses charged to EOEs 2581, 2582, 2583, and 2584. All other EOEs are considered in-house (intramural). For a definition of costs to be charged to EOEs 2581 through 2584, see AR 37–100.

9–9. RDTE,A contingent liability and special termination clause report

a. To avoid unnecessarily tying up large sums of RDTE,A funds at the RDTE,A MACOM/operating agency, installation, or activity level, HQDA will be responsible for monitoring RDTE,A contingent liabilities and special termination clause costs.

b. Two reports on contingent liabilities and special termination clause costs are required as follows:

(1) An "as required" report in letter form will be prepared by each RDTE,A installation or activity that awards a contract involving an RDTE,A contingent liability or special termination clause greater than $500,000. The report, prepared in the suggested format shown in figure 9–3, will be forwarded through command channels to HQDA (DAMA–PPR–B), WASH DC 20310–0666. Reports are due in HQDA within 30 calendar days of the contract award.

(2) An annual report showing outstanding contingent liabilities and special termination clauses greater than $500,000 will be submitted in the suggested format shown in figure 9–4 by 31 October each year. The report will show all valid contingent liabilities and special termination clauses (in excess of $500,000) still in effect as of 30 September that year.

MONTHLY PHASING OF PLANNED RDTE OBLIGATIONS

(Thousands of Dollars)

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY

Developing Agency_____ Date

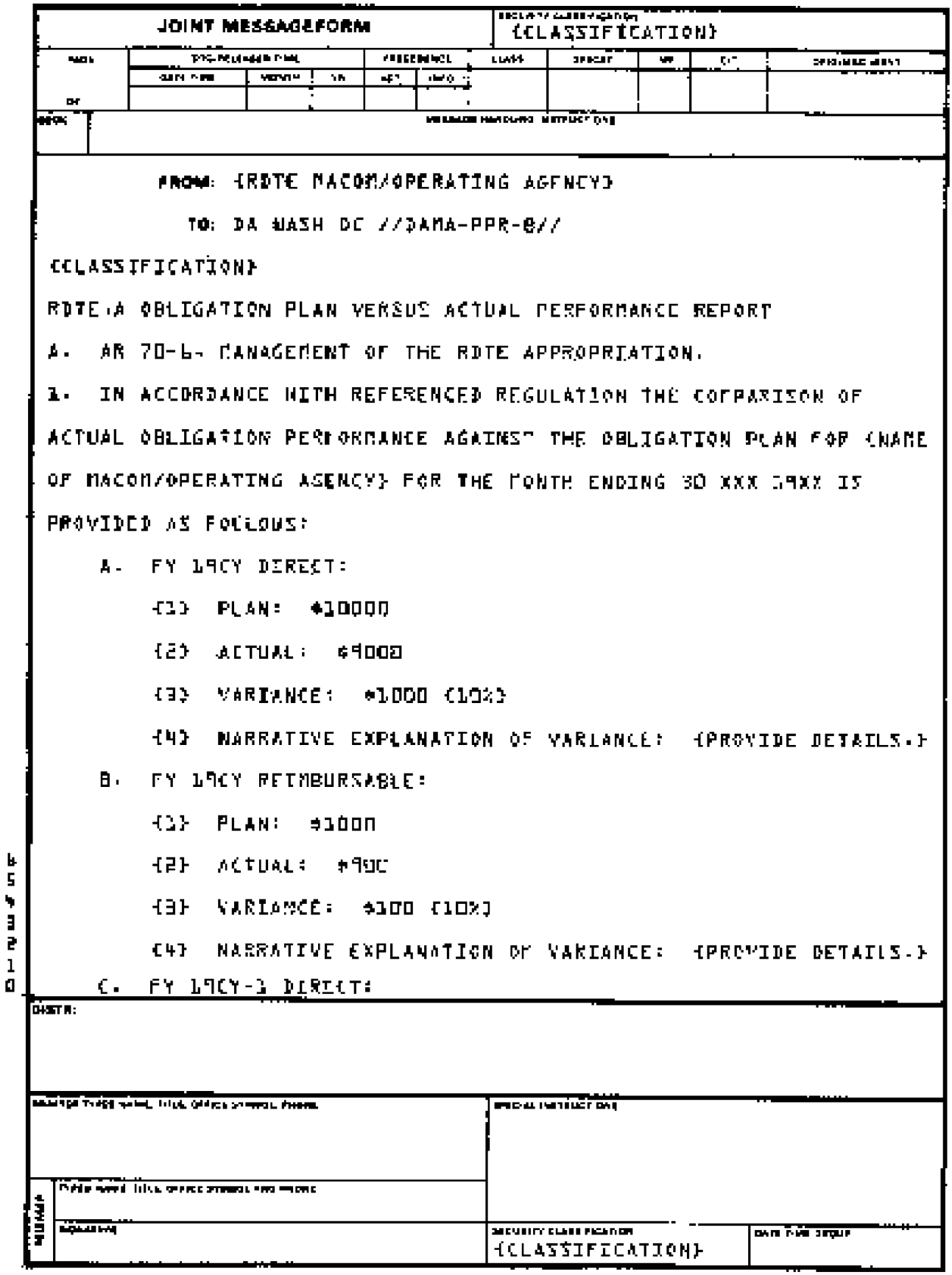
FY____ Funds To Be Obligated During FY____

	Direct obligations		Reimbursable obligations		Total obligations	
Month	Monthly	Cumulative	Monthly	Cumulative	Monthly	Cumulative
October	1000	1000	100	100	1100	1100
November	2000	3000	300	400	2300	3400
December						
January						
February						
March						
April						
May						
June						
July						
August						
September						
Total	3000	4000	400	500	3400	4500

First year obligation goal is %
Second year obligation goal is 100%.

POC:
PHONE NUMBER:

Figure 9-1. Sample format for monthly phasing of planned RDTE obligations



JOINT MESSAGEFORM

(CLASSIFICATION)

FROM: (RDTE MACOM/OPERATING AGENCY)

TO: DA WASH DC //DAMA-PPR-B//

(CLASSIFICATION)

RDTE,A OBLIGATION PLAN VERSUS ACTUAL PERFORMANCE REPORT

A. AR 70-6, MANAGEMENT OF THE RDTE APPROPRIATION.

B. IN ACCORDANCE WITH REFERENCED REGULATION THE COMPARISON OF ACTUAL OBLIGATION PERFORMANCE AGAINST THE OBLIGATION PLAN FOR (NAME OF MACOM/OPERATING AGENCY) FOR THE MONTH ENDING 30 XXX 19XX IS PROVIDED AS FOLLOWS:

A. FY 19CY DIRECT:

(1) PLAN: $10000

(2) ACTUAL: $9000

(3) VARIANCE: $1000 (10%)

(4) NARRATIVE EXPLANATION OF VARIANCE: (PROVIDE DETAILS.)

B. FY 19CY REIMBURSABLE:

(1) PLAN: $100

(2) ACTUAL: $90

(3) VARIANCE: $100 (10%)

(4) NARRATIVE EXPLANATION OF VARIANCE: (PROVIDE DETAILS.)

C. FY 19CY-1 DIRECT:

DD FORM 1056

(CLASSIFICATION)

Figure 9-2. Sample format for RDTE,A Obligation Plan Versus Actual Performance Report

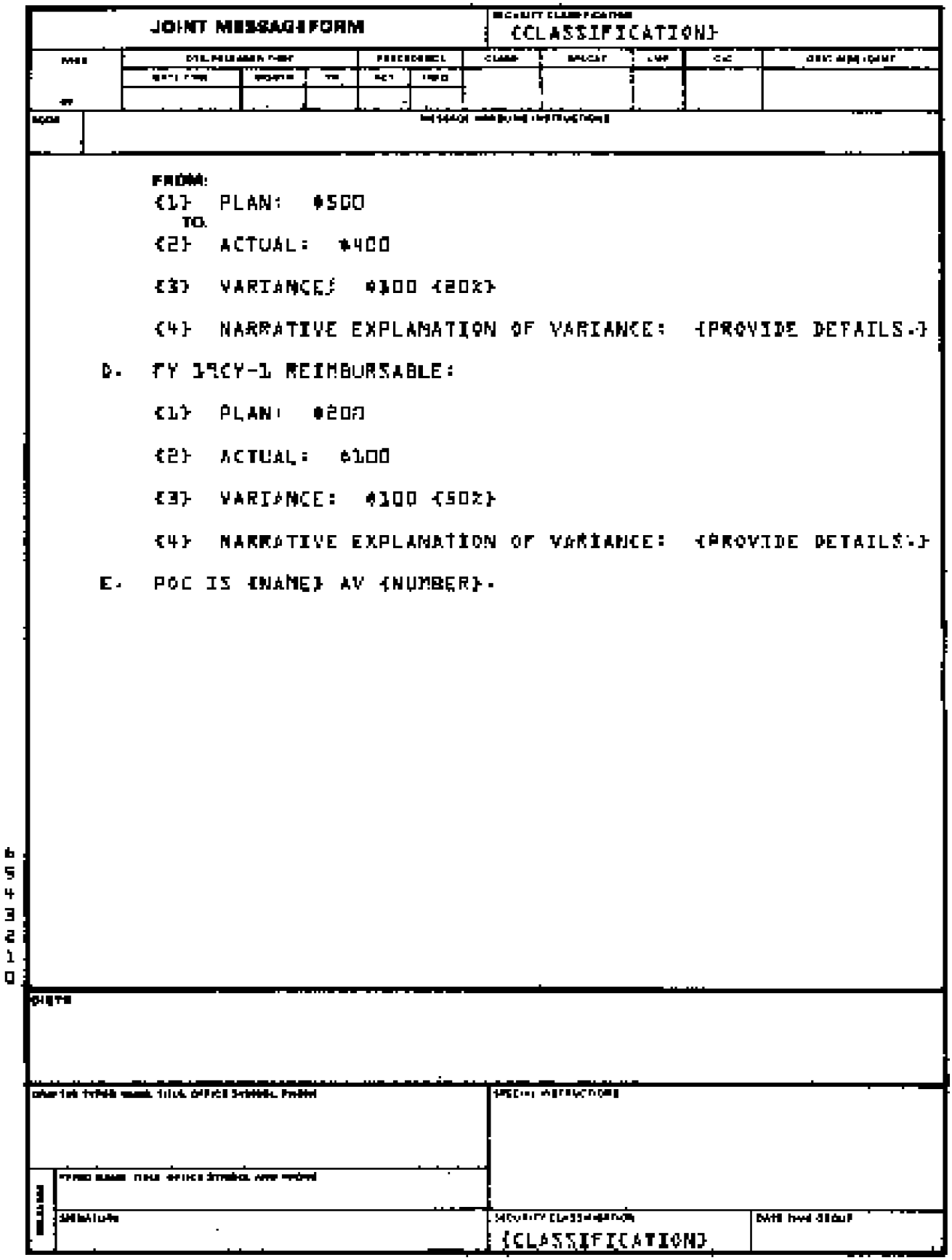


Figure 9-2. Sample format for RDTE,A Obligation Plan Versus Actual Performance Report—Continued

(Appropriate letterhead)

SUBJECT: Report of RDTE Contingent Liability (or Special Termination Clause) in Excess of $500,000

THRU: (MACOM/Operating Agency)

TO: HQDA (DAMA-PPR-B)
Washington, DC 20310-0666

1. Reference AR 70-6, Management of the RDTE Appropriation.

2. In accordance with chapter 9, paragraph 9-10b(1) of referenced regulation, the following report on a contingent liability (or special termination clause) in excess of $500,000 is submitted:

a. Fiscal year funds: FY 19XX
b. Program element and project: 645678/D765.
c. Contract number: 2789.
d. Contractor: XYZ
e. Expected duration of contingent liability: 3 months
f. Amount: $550,000.

3. POC is (Name), AV (Number).

(Signature Block)

Figure 9-3. Sample format for contingent liability and special termination clause report

ANNUAL REPORT ON CONTINGENT LIABILITIES
AND SPECIAL TERMINATION CLAUSES

MACOM/OPERATING AGENCY:
AS OF DATE:
DATE:
POC:
TELEPHONE:

A. List of outstanding contingent liabilities in excess of $500,000:

PE/PROJECT	CONTRACT NUMBER	CONTRACTOR	($ IN THOUSANDS) AMOUNT
FY 19XX			
612345/D123	789	XYZ	$999

B. List of special termination clauses in excess of $500,000:

PE/PROJECT	CONTRACT NUMBER	CONTRACTOR	($ IN THOUSANDS) AMOUNT
FY 19XX	987	ZYX	$888

Figure 9-4. Sample format for annual report on contingent liabilities and special termination clauses

INTERNAL CONTROL REVIEW CHECKLIST
(AR 70-6)

TASK: Acquisition ManagementORGANIZATION:

SUBTASK: Research and TechnologyACTION OFFICER:

THIS CHECKLIST: Management of RDTE, A AppropriationREVIEWER:

DATE COMPLETED:

IMPLEMENTATION: This checklist must be used within 120 days of initial publication and every 2 years thereafter. See AR 11-2 for specific requirements of the internal control program.

ASSESSABLE UNIT: The assessable unit is any RDTE developing agency (headquarters and installation level) and any non-RDTE funded installation providing budgetary and/or accounting support to any RDTE-funded installation.

EVENT CYCLE 1: Incremental Funding

STEP 1: Program in-house research, development, and test effort.

RISK: In-house research, development, and test effort not programmed on an annual basis.

CONTROL OBJECTIVE: Program in-house research, development, and test effort on an incremental basis.

CONTROL TECHNIQUE: Program and budget in-house research, development, and test efforts on an annual basis coincident with the fiscal year concerned.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
Are in-house research, development, and test efforts programmed and budgeted on an annual basis coincident with the fiscal year concerned?				

STEP 2: Fund other in-house Government installations or activities requesting RDTE effort on a reimbursable basis.

RISK: Project effort may extend more than 3 months into the subsequent fiscal year.

CONTROL OBJECTIVE: Ensure all reimbursable orders are limited to a 12-month period not to extend more than 3 months into the subsequent fiscal year.

CONTROL TECHNIQUE:

1. Limited reimbursable orders issued to other in-house government installations or activities to a 12-month period.

2. Extend reimbursable orders no more than 3 months into the subsequent fiscal year.

3. Review reimbursable orders to ensure compliance.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Are reimbursable orders issued to other in-house Government installations or activities limited to a 12-month period?				
2. Are the reimbursable orders extended no more than 3 months into the subsequent fiscal year?				

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

3. Are reimbursable orders reviewed to ensure compliance?

STEP 3: Fund for contractual effort including multi-year contracts.

RISK: Contracts not programmed on a annual basis.

CONTROL OBJECTIVE: Contracts programmed on an annual basis coincident with the fiscal year.

CONTROL TECHNIQUE:

1. Program all contractual efforts to include multi-year on an annual basis.

2. Review contracts to ensure compliance.

3. Make adjustments to the subsequent year program for unforeseen slippages that occur in the execution year.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Are all contractual efforts to include multi-year programmed on an annual basis?				
2. Are contracts reviewed to ensure compliance?				
3. Are adjustments made to the subsequent year program for unforeseen slippages that occur in the execution year?				

STEP 4: Fund contractual efforts on major weapons systems with total development costs in excess of $100 million.

RISK: Funding requirements may exceed 12-month period.

CONTROL OBJECTIVE: Ensure regulatory funding requirements are met.

CONTROL TECHNIQUE: Limit funding requirements for first tier subcontracts of $5 million or more annually to a 12-moth period.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
Are funding requirements for first tier subcontracts of $5 million or more annually limited to 12-month period?				

STEP 5: Expend funds on new start program.

RISK: Initial increment for new starts may exceed a 9-month period. the second and succeeding increment may exceed 12 months.

CONTROL OBJECTIVE: Ensure new starts are programmed and financed under published incremental funding policies.

CONTROL TECHNIQUE:

1. Program initial increments for new starts for a 9-month or lesser period.

2. Program and finance second and succeeding increments for periods up to 12 months coincident with that respective fiscal year.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Are initial increments for new starts programmed for a 9-month or lesser period?				
2. Are second and succeeding increments programmed and financed for periods up to 12-months coincident with that respective fiscal year?				

STEP 6: Fund research and development projects to be performed by private concerns where the total effort is expected to be completed within an 18-month period.

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

RISK: Research and development of this type financed in incorrect fiscal year.

CONTROL OBJECTIVE: Ensure research and development projects of this type are financed in the correct fiscal year.

CONTROL TECHNIQUE:

1. Begin the period to be financed during the fiscal year for which funds are being requested.

2. Meet the required criteria for an 18-month contract.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Does the period to be financed begin during the fiscal year for which funds are being requested?				
2. Are the following criteria met for the 18-month contract?				
a. Is there no logical way to divide the work and is it in the best interest of the Government to finance the project in full?				
b. Is it clearly unfeasible to limit the contract to a shorter period?				
c. Is the planned technical effort a one-time requirement with an identifiable end product?				
d. Does the planned technical effort make it clearly evident that no responsible contractor can be found who will accept a contract for a less-than-completion increment?				

STEP 7: Funds for project effort in the basic research category (6.1) performed by educational institutions.

RISK:

1. Funding period starting subsequent to fiscal year for which funds requested.

2. Renewal contracts exceeding 12-month period.

CONTROL OBJECTIVE: Ensure funds are programmed to provide stability in order to attract and retain skilled personnel.

CONTROL TECHNIQUE:

1. Fund programs funded for periods up to 36 months for initial increments, if it is considered in the best interest of the Government and the installation to provide stability in order to attract and retain technical required skilled personnel.

2. Limit renewal contracts to a 12-month period.

3. Begin the funding period during the fiscal year for which funds are being requested.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Are programs funded for periods up to 36 months for initial increment, if it is considered in the best interest of the Government and the institution to provide stability in order to attract and retain the required skilled personnel?				
2. Are renewal contracts limited to a 12-month period?				
3. Does the funding period begin during the fiscal year for which funds are being requested?				

STEP 8: Adjust for program slippages or changes.

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

RISK: Forward financing reductions may result if corrective action is not taken to bring a program within incremental funding principles during the next program formulation cycle.

CONTROL OBJECTIVE:. Ensure subsequent year programs are adjusted when program slippages or changes occur.

CONTROL TECHNIQUE: Reprogram funds during execution phase or during the next program formulation cycle.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Are funds reprogrammed during the execution phase as necessary?

2. Is corrective action being taken to bring a program within incremental funding principles during the next program formulation cycle.

STEP 9: Issue RDTE, A project orders.

RISK: Project orders could be issued for the purpose of continuing the availability of RDTE, A appropriations.

CONTROL OBJECTIVE: Project orders are issued in accordance with incremental funding policies.

CONTROL TECHNIQUE:

1. Extend the expiration dates of all project orders citing RDTE, A funds (to include extensions provided in modifications and amendments) no more than 3 months into the second year of availability.

2. Initiate new project orders only in the first year of availability.

3. Forward exceptions to this policy with written justification through command channels for approval.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Are the expiration dates of all project orders citing RDTE, A funds (to include extensions provided in modifications and amendments) extended no more than 3 months into the second year of availability?

2. Are new project orders initiated only in the first year of availability?

3. Are requests for exceptions to this policy forwarded with written justification through command channels to HQDA (DAMA-PPR), WASH DC 20310-0666, for approval?

EVENT CYCLE 2: Funding Guidance

STEP 1: Cost indirect management and support costs.

RISK: Indirect management and support costs could be incorrectly charged to direct mission projects because of lack of funds or excess project funds.

CONTROL OBJECTIVE: RDTE program element and project structure will be utilized to identify those costs that can be directly identified to a specific research, development, or test effort.

1. Group together into specified program elements all RDTE, A indirect management and support costs and related manpower spaces.

2. Program and accumulate mission workloads, both direct and reimbursable orders, against specifically identified program elements and projects.

3. Establish procedures to preclude general management and support funding from being charged to mission projects.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. All are RDTE, A indirect management and support costs and related manpower spaces grouped together into specified program elements?

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

2. Are mission workloads, both direct and reimbursable orders, programmed and accumulated against specifically identified program elements and projects?

3. Are procedures in effect that preclude general management and support funding from being charged to mission projects?

STEP 2: Program and fund RDTE Base Operations (BASEOPS) (Beginning with FY 87 program).

RISK: RDTE inspections BASEOPS (to include host tenant support costs) costs will not be appropriately budgeted and funded.

CONTROL OBJECTIVE: Functions (costs) of an installation support nature will be separately programmed and funded.

CONTROL TECHNIQUE: Separately program and fund all RDTE installation BASEOPS costs into program element (PE) 65896A (AMSCO 665896).

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
Are all RDTE installation BASEOPS costs separately programmed and funded in PE 65896A (AMSCO 665896)?				

STEP 3: Program and fund RDTE Real Property Maintenance Activities (RPMA) (beginning with FY 87 program).

RISK: RDTE installation RPMA costs (to include host tenant support costs) will not be appropriately budgeted and funded.

CONTROL OBJECTIVE: Separately program and fund RPMA costs.

CONTROL TECHNIQUE: Separately identified and program all RPMA costs in PE 65894 (AMSCO 665894).

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
Are all RPMA costs separately identified and programmed in PE 65894A (AMSCO 665894)?				

STEP 4: Program and budget for Army Management Headquarters Activities (AMHA).

RISK: AMHA direct costs not properly charged.

CONTROL OBJECTIVE: All costs and manpower spaces (as defined in DODD 5100.73) related to the operation of RDTE, A AMHA, which is not collocated with an OMA AMHA, will be programmed and budgeted for in a designated PE.

CONTROL TECHNIQUE: Program and budget all AMHA direct costs in PE 65898A (AMSCO 665898).

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
Are all AMHA direct costs programmed and budgeted for in PE 65898A (AMSCO 665898)?				

STEP 5: Program, budget, and fund host-tenant support costs.

RISK: BASEOPS/RPMA host-tenant support costs could be incorrectly programmed, budgeted, and funded.

CONTROL OBJECTIVE: BASEOPS/RPMA host-tenant support costs are programmed, budgeted, and funded in accordance with regulatory guidance.

CONTROL TECHNIQUE:

1. Program, budget, and fund host-tenant support costs for a RDTE, A tenant or satellite on a RDTE, A installation (when a tenant or satellite activity whose predominant source of funding is RDTE, A) in accordance with regulatory guidance.

2. Program, budget, and fund host-tenant support costs for a RDTE, A tenant or satellite on a non-RDTE, A installation (when a tenant or satellite activity's predominant source of funding is RDTE, A) in accordance with regulatory guidance

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

3. Program, budget, and fund host-tenant support costs for a RDTE, A tenant or satellite located on or supported by a host installation whose predominant source of funding is from another defense agency in accordance with regulatory guidance.

4. Program, budget, and fund host-tenant support costs for a non-RDTE, A tenant or satellite located on a RDTE, A installation (host installation's BASEOPS/RPMA is funded by RDTE, A) in accordance with regulatory guidance.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1.a. Are all BASEOPS/RPMA support costs for the RDTE, A tenant or satellite programmed, budgeted, and funded by the host installation in PEs 65894A (RPMA) and 65896A (BASEOPS) except as specifically exempted in AR 37-49?

b. Are mission-unique costs applicable to a single program programmed and budgeted in the benefiting PE project?

c. Are mission-unique costs applicable to multiple programs programmed and budgeted in the appropriate overhead PE in accordance with description in AR 37-100-XX?

2.a. Are all common service BASEOPS/RPMA support costs for the RDTE, A tenant or satellite programmed, budgeted, and funded by the host installation in the appropriation supporting the host?

b. Are all costs for support specifically identificable to the RDTE, A tenant programmed, budgeted, and funded by the RDTE, A tenant using the RDTE, A BASEOPS/RPMA accounts?

c. Are mission-unique costs applicable to multiple programs programmed, budgeted, and funded in an appropriate overhead PE/project in accordance with description in AR 37-100-XX?

3.a. Are BASEOPS/RPMA support documented and funded in accordance with DoD 4000.19-R?

b. Are costs that must be reimbursable by RDTE, A in accordance with DoD 4000.19-R programmed, budgeted, and funded by the benefiting tenant using the RDTE, A BASEOPS/RPMA accounts?

c. Are mission unique costs applicable to a single program that are appropriately funded by specific R&D project(s) programmed, budgeted, and funded by the benefiting PE/project?

d. Are mission-unique costs applicable to multiple programs programmed, budgeted, and funded in appropriate overhead program element/ project in accordance with description in AR 37-100-XX?

4.a. Are host-tenant support costs documented through an interservice or intraservice support agreement prepared in accordance with DoD 4000.19-R (DRIS)?

b. If the tenant is funded by another Army Appropriation, are common service BASEOPS and RPMA furnished on a non-reimbursable basis?

c. For all other tenants, are BASEOPS/RPMS costs programmed, budgeted, and funded for by the tenant or satellite in accordance with the support agreement and included in the host installation's automatic reimbursable program for PEs 65894A (RPMA) and 65896A (BASEOPS)?

STEP 6: Budget and fund other command headquarters and research and development.

RISK: Other headquarters and command management and administrative functions for RDTE, A missions not defined as AMHA not properly budgeted and funded.

CONTROL OBJECTIVE: All costs and manpower spaces related to the operations of these activities appropriately budgeted and funded.

CONTROL TECHNIQUE: Program, budget, and fund other headquarters and command management and administrative functions for RDTE, A missions not defined as AMHA in the appropriate PE/projects.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

Are all costs and manpower spaces of these activities programmed, budgeted, and funded for in appropriate PE/project?

STEP 7: Program and budget laboratory management.

RISK: Laboratory management manpower spaces not properly programmed and budgeted.

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

CONTROL OBJECTIVE: All RDTE, A laboratory management manpower spaces programmed and budgeted in a designated PE/project.

CONTROL TECHNIQUE: Establish separate projects for a 6.2 (exploratory development) PE for assignment and pay of laboratory management personnel and related costs.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

Are separate projects established within an existing 6.2 (exploratory development) for PE assignment and pay of laboratory management personnel and related costs?

STEP 8: Eliminate Army Industrial Fund (AIF) accounting procedures (beginning in FY87).

RISK: AIF accounting procedures will be used to account for the funding at RDTE, A installations and activities.

CONTROL OBJECTIVE: AIF accounting procedures will not be used for the RDTE, A appropriation.

CONTROL TECHNIQUE: Manage all costs related to the operation of the RDTE, A activity through an appropriate accounting financial management system.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

Are all costs related to the operations of the RDTE, A activity managed through an appropriate accounting financial management system?

STEP 9: Fund the conduct and performance of developmental and operational testing.

RISK: Improper use of RDTE, A funds for the conduct and performance of developmental and operational tests.

CONTROL OBJECTIVE: RDTE, A funds are used for the conduct and performance of developmental and operational tests as specified in AR 70-10, Chapter 4.

CONTROL TECHNIQUE: Fund the conduct and performance of developmental and operational tests as specified in AR 70-10, Chapter 4.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Are RDTE, A-financed development pre-production prototypes (RDTE, A-financed) used for developmental test and evaluation (DT&E) including scientific, technical, and weapons effects tests?

a. Are the prototypes also used for initial operation test and evaluation (IOTE)?

b. Are RDTE, A funds used to acquire special pilot items from a pilot line so as to provide the necessary representativeness?

2. Is the RDTE, A appropriation used to fund for an adequate number of R&D articles for DT&E which will be fabricated, manufactured, or produced in a realistic preliminary production manner to provide reliable data that can be used to estimate the military utility of new items?

3. Are technical feasibility testing (TFT) and evaluation funded from the RDTE, A appropriation?

4. Are combined technical and operational feasibility testing costs shared by the RDTE, A and OMA appropriations, utilizing test objectives as a basis for share determination?

5. Major end items.

a. Are items which can be made available on a priority basis from existing inventory reassigned for use in R&D test and evaluation programs without reimbursable for the procurement of the items?

b. Are items consumed in R&D test and evaluation financed by the RDTE, A appropriation?

STEP 10: Accept, record, and execute reimbursements (beginning in FY87).

RISK: Reimbursable orders not properly accepted and executed in the appropriate PE.

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

CONTROL OBJECTIVE: Have reimbursable orders been accepted, recorded, and executed in the proper PE to which performing manpower is assigned.

CONTROL TECHNIQUE:

1. Fund reimbursable orders received by RDTE, A installations and activities as automatic reimbursements to the same PE and project where personnel performing the service are assigned and/or where related direct funded mission, overhead, or BASEOPS/RPMA costs are programmed and budgeted.

2. Separately identify direct and reimbursable obligations, expenses and disbursements on executive reports.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Are reimbursable orders received by RDTE, A installations and activities treated as automatic reimbursements to the same PE and project where personnel performing the service are assigned and/or where related direct funded mission, overhead, or BASEOPS/RPMA costs are programmed and budgeted?

2. Do execution reports separately identify direct and reimbursable obligations, expenses, and disbursements?

STEP 11: Funds and issue standards stock items of equipment.

RISK: Standard stock items of equipment for RDTE, A mission could be charged to the wrong appropriation.

CONTROL OBJECTIVE: Standard items of investment equipment that are approved for production and operational use are centrally procured will be funded by the appropriate procurement appropriation.

CONTROL TECHNIQUE: Use the RDTE, A appropriation to fund standard stock items of equipment for RDTE, A missions.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

Is the RDTE, A appropriation utilized to fund standard stock items of equipment for RDTE, A missions?

STEP 12: Program, budget, and fund special purpose equipment (SPE) (beginning in FY87).

RISK: SPE could be improperly programmed, budgeted, and funded.

CONTROL OBJECTIVE: SPE will be programmed, budgeted, and funded in the PE and project to which it relates if specifically identifiable to a single project.

CONTROL TECHNIQUE:

1. Finance equipment required for specific RDTE, A project under the PE and project (AMSCO) that funds the effort supported.

2. Utilize the laboratory overhead project within an existing 6.2 (exploratory development) PE if the item supports more than one project.

3. For all other RDTE, A activities utilize the appropriate 6.5 (management and support) PE/project that funds the activity/center/command for which items are being purchased.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Is equipment required for a specific RDTE, A project financed under the PE and project (AMSCO) that funds the effort supported?

2. Do laboratories utilize the laboratory overhead project within an existing 6.2 (exploratory development) PE if item supports more than one project?

3. For all other RDTE, A activities utilize the appropriate 6.5 (management and support) PE/project that funds the activity/center/command for which items are being purchased?

STEP 13: Fund automatic data processing equipment (ADPE).

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

RISK: The incorrect appropriation may be used to fund for ADPE hardware and software.

CONTROL OBJECTIVE: The proper appropriation will be charged.

CONTROL TECHNIQUE: Charge the proper appropriation based on the purchased criteria.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Are requirements for the operation of ADP units at RDTE, A-funded facilities and for the acquisition of ADP resources for such units (including development, modifications, lease or purchase of ADPE) financed by the RDTE, A appropriation?				
2. For other facilities/activities, is developmental test and evaluation of special purpose ADPE financed by RDTE, A?				
3. For acquisition of executive software, is the reparation or modification of executive software for special purpose ADPE funded by RDTE, A?				
4. For acquisition of applications software:				
a. When the general purpose ADPE is financed by RDTE, A is the applications software development also financed by RDTE, A?				
b. Is the preparation of applications software for special purpose ADPE financed by RDTE, A?				
5. For developmental AFPE, are the costs of hardware and software acquisition funded from the PE and project utilized for development of the weapon system or special purpose equipment item of which the ADPE is a component?				

EVENT CYCLE 3: Budget Formulation and Execution

STEP 1. Establish and maintain administrative control of the RDTE, A appropriation.

RISK: Breakdown of administrative controls could result in an overobligation of funds.

CONTROL OBJECTIVE:

1. Establish and maintain adequate systems of accounting for and positive control of appropriations and other funds made available.

2. Accounting and funding control systems shall provide the capability for an official to be assured of the availability of funds before incurring either a commitment or obligation.

CONTROL TECHNIQUE: Ensure adequate administrative controls are in place to preclude an overobligation of funds.

	RESPONSE			
TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Is the MACOM/operating agency within their approved program?				
2. Except for program categories 6.1 and 6.2, does the MACOM/operating agency undertake new efforts, extended efforts to areas previously not funded, or otherwise increased costs without prior written approval from ODCSRDA?				
3. Are contractors kept from including efforts in a contract that will require funds from other sources until the funding sources have been authorized by the activity monitoring and executing the contract?				
4. Is ODCSRDA notified as early as practicable of potential cost increase that will exceed the MACOM/operating agency's reprogramming authority?				
5. Does the notification include recommended adjustments within the PEs or projects concerned (or within the overall MACOM/operating agency program ceiling) to accommodate the increase?				
6. Is the MACOM/operating agency monitoring and controlling the total RDTE, A resources (direct and reimbursable) available to installations/activities under their control and ensuring they are preparing internal operating budgets and that such budgets allow a comparison between planned and actual performance for both direct and reimbursable for both direct and reimbursable programs?				
7. Is each RDTE, A MACOM/operating agency, installation, and activity provided only one allocation, suballocation, or allotment, as appropriate, by its next senior fund control activity?				

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

8. Are administrative controls subject to the provisions of subsection 1341 (a) and 1517 (a) of Title 31, United States Code (formerly REQUIRES 3679) included in the fund authorization document (FAD)?

STEP 2: control contingent liabilities.

RISK: A loss of available RDTE, A funds due to decommitment of contingent liabilities upon expiration of the funds for obligation could occur.

CONTROL OBJECTIVE: Preclude unnecessary loss of funds.

CONTROL TECHNIQUE: Ensure proper procedures are in effect to preclude loss of available RDTE, A funds.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Is the control of contingent liabilities maintained at the MACOM/operating agency level for the RDTE, A appropriation?

2. If a contingent liability requiring an increase in obligations is realized, are funds contained in the initial allotment provided to obtain the goods or services utilized, subject to availability and below threshold reprogramming authority?

3. Are contingent liabilities that cannot be satisfied at the MACOM/operating agency level immediately forwarded to HQDA (DAMA-PPR-B) for resolution of funding?

4. Is the report on all new contingent liabilities in excess of $500,000 each forwarded through command channels to HQDA (DAMA-PPR-B) for receipt within 30 work days of award of the contract creating the contingent liability?

5. Is the annual report on outstanding contingent liabilities in excess of $500,000 each submitted by each MACOM/operating agency by 31 October?

EVENT CYCLE 4: Reprogramming Policies.

STEP: Comply with reprogramming policies.

RISK: Funds could be reprogrammed in violation of statutory limitations or contrary to sound management practices.

CONTROL OBJECTIVE: Funds should normally be used substantially for the purpose for which justified.

CONTROL TECHNIQUE: Adhere to statutory and administrative procedure when reprogramming funds.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Are reprogramming actions, single or cumulative, involving an increase of $4M or more in any existing RDTE, A PE forwarded to OSD for prior approval of or notification to the House and Senate armed services committees and House and Senate appropriations committees?

2. Is all reprogramming of funds, regardless of amount, to a new effort, (in other words, new proposal, project, or PE that was not included in the program previously justified to the Congress) forwarded to HQDA for prior approval?

3. Are new starts involving $2M or more in the first year and/or are projected to require $10M or more within a 3-year period provided to OSD for prior approval and prior approval of or notification to the appropriate congressional committees?

4. Is reprogramming of funds (regardless of amount) to or from an item that has been designated as a matter of special interest by one of the House and Senate committees on armed services and Senate committees on armed services or House and Senate committees on appropriations provided to OSD for prior approval and all four congressional committees?

5. Is reprogramming of funds (regardless of amount) from an item that has been designated as an OSD special interest item forwarded to OSD for prior approval?

6. Is reprogramming of funds (regardless of amount) from an item that has been designated as an HQDA special interest item forwarded to HQDA for prior approval?

7. Are reprogrammings prohibited which result in an increase to an PE or project that was deleted or reduced with prejudice by Congress?

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

8. Is reprogramming of funds between appropriations provided to OSD, OMB, and all four congressional committees for prior approval?

9. Are congressional, OSD, and HQDA special interest items provided to MACOMs/operating agencies by HQDA (DAMA-PPR-B) in the IAP and RAP?

10. Are above threshold reprogramming actions submitted with complete justification through commander channels to HQDA (DAMA-PPR-B) for prior approval?

11. Are actions taken to implement the reprogramming action prior to official approval notification being provided by HQDA to the affected MACOM/operating agency?

12. Does the MACOM/operating agency confirm that execution of the below threshold reprogramming affects only the current year and will not result in unfunded requirements in the subsequent year?

13. Does the MACOM/operating agency ensure that requested reprogramming includes only those funds which are required and can be obligated for current year missions?

EVENT CYCLE 5: Total Risk Assessing Cost Estimate (TRACE)

STEP: Develop the total risk assessing cost estimate (TRACE).

RISK: Actual development costs could unnecessarily exceed estimated costs in the acquisition of major weapons and materiel systems.

CONTROL OBJECTIVE: Provide a budgetary management tool to obtain the incremental funds which may be necessary to compensate for the reasonable expectancy of occurrence of those uncertainties associated with system development that are made through a technical risk assessment.

CONTROL TECHNIQUE: Comply with policies and procedures governing the TRACE program.

RESPONSE

TEST QUESTIONSYES NO NA REMARKS[1]

1. Does the DCSRDA determine disposition of TRACE risk cost funds held at HQDA but not required during first year of fund availability for the purpose for which these funds were appropriated by Congress?

2. Do MACOMs/operating agencies:

a. Incorporate TRACE requirements established for material acquisition systems (and adjustments thereto) into RDTE, A programs and budgets submitted to HQDA?

b. Notify HQDA (DAMA-PPR-B) of those portions of funded programs that are TRACE risk funds?

c. Accounts for and manage TRACE funds programmed and allocated by HQDA?

d. Submit recommendations to HQDA (DAMA-PPR-B) for release of withheld TRACE funds?

e. Advise HQDA (DAMA-PPR-B) promptly when TRACE funds held at HQDA are no longer needed?

3. Are TRACE funding requirements developed and approved during the system cost estimating process reported in total and separately identified by base cost and risk cost in programs and budgets submitted to HQDA?

EVENT CYCLE 6: RDTE manpower.

STEP: Assign RDTE manpower.

RISK: Manpower spaces could be assigned to an incorrect AMSCO without regard to the primary mission to be performed.

CONTROL OBJECTIVE: All manpower spaces should be assigned to a valid AMSCO (or corresponding PE for program years) on the basis of the primary mission to be performed.

CONTROL TECHNIQUE: Ensure procedures are in effect to assign manpower spaces to a valid AMSCO on the basis of the primary mission to be performed.

RESPONSE

Figure 1. INTERNET CONTROL REVIEW CHECKLIST—Continued

TEST QUESTIONS	YES	NO	NA	REMARKS[1]
1. Are all laboratory personnel (including management personnel) assigned to, initially programmed/budgeted for, and costed to an existing 6.2 (exploratory PE development)?				
2. Are all manpower spaces authorized for and assigned to a specific R&D center initially programmed/budgeted for and costed in a PE/project established specifically for such center?				
3. Are all RDTE, A manpower spaces authorized for and assigned to charter PM offices programmed/budgeted for and costed in the PE/project established for the major system(s) for which the PM has responsibility?				
4. Beginning with the FY87 program, are all RDTE, A BASEOPS and RPMA personnel assigned to and initially programmed, budgeted, and costed in program element 65894A (AMSCO 665894) for BASEOPS?				
5. Are manpower spaces authorized for RDTE, A AMHA assigned to, programmed/budgeted for and costed in PE 65898A (AMSCO 665898)?				
6. Are all personnel authorized for major range and test facilities bases, TRADOC test boards, other test facilities, Army Materiel Systems Analysis Agency, research and development centers/commands, Aviation Engineer Flight Activity and other activities/offices authorized/ established for a specific RDTE, A mission effort (excluding BASEOPS and RPMA personnel) assigned to, initially programmed/budgeted for, and costed to the program element/project established for the specific activity?				
7. Are costs for other than management and administration transferred out/reimbursed each pay period? M				

Notes:

[1] Provide reference to documentation or explanation for response. As the Function Proponent, I attest that the above-listed internal controls provided reasonable assurance that Army resources are adequately safeguarded. I am satisfied that if the above-listed controls are fully operational, the internal controls for this subtask throughout the Army are adequate.
Deputy Director of Materiel Plans and Programs
FUNCTIONAL PROPONENT I have reviewed this subtask within my organization and have supplemented the prescribed internal control review checklist when warranted by unique environmental circumstances. The controls prescribed in this checklist, as amended, are in place and operational for my organization (except for the weaknesses described in the attached plan, which includes schedules for correcting the weaknesses).
OPERATING MANAGER (SIGNATURE)

Figure 1. INTERNET CONTROL REVIEW CHECKLIST

Appendix A
References

Section I
Required Publications

AR 5–4
Department of the Army Productivity Improvement Program (DAMRIP). (Cited in para 3–14.)

AR 11–18
The Cost Analysis Program. (Cited in para 7–l*a*.)

AR 18–7
Automatic Data Processing Management Review Program. (Cited in para 9–5*c*(3).)

AR 37–7
Funding for First and Second Destination Transportation Under the Appropriation "Operation and Maintenance, Army". (Cited in para 3–15*b*.)

AR 37–20
Administrative Control of Appropriated Funds. (Cited in para 4–7*g*).

AR 37–21
Establishing and Recording of Commitments and Obligations. (Cited in paras 4–7, 4–8*a*, and 4–9*b*.)

AR 37–41
Regulations Governing the Use of Project Orders. (Cited in para 2–2*c*(3).)

AR 37–49
Budgeting, Funding, and Reimbursement for Base Operations Support of Army Activities. (Cited in para 3–4*a*.)

AR 37–100
Account/Code Structure. (Cited in paras 8–3, and 9–8*c*.)

AR 37–100–XX
The Army Management Structure. (Cited in paras 3–3*a*, 3–3*b*, 3–4*a* & *b*, 3–8*a*, 3–9, and 8–2*d*.)

AR 37–108
General Accounting and Reporting for Finance and Accounting Offices. (Cited in para 8–2.)

AR 70–1
Systems Acquisition Policy and Procedure. (Cited in para 7–7*a*.)

AR 70–10
Test and Evaluation During Development and Acquisition of Materiel. (Cited in para 3–8*a*.)

AR 70–69
Major Range and Test Facility Base. (Cited in paras 3–8*b* and 8–2*f*.)

AR 310–34
Equipment Authorization and Utilization Policies and Criteria and Common Tables of Allowances. (Cited in para 3–10*a*.)

AR 570–8
Army Management Headquarters Activities (AMHA). (Cited in paras 3–5*a* and 8–2*e*.)

AR 700–131
Loan of Army Materiel. (Cited in para 3–10*b*.)

AR 710–2
Supply Policy Below the Wholesale Level. (Cited in para 3–12*c*.)

AR 735–5
Basic Policies and Procedures for Property Accounting. (Cited in para 3–10*d*.)

AR 735–20
Financial Accounting and Reporting for Real Property and Capital Equipment. (Cited in para 3–10*d*.)

DA Pam 11–2
Research and Development Cost Guide for Army Materiel Systems. (Cited in para 7–1*b*.)

DA Pam 11–5
Standards for Presentation and Documentation of Life Cycle Cost Estimates for Army Materiel Systems. (Cited in para 7–1*c*.)

DOD 4000.19–R
Defense Regional Interservice Support (DRIS) Regulation. (Cited in paras 3–4*b* and 8–2*d*.)

Section II
Related Publications

A related publication is merely a source of additional information. The user does not have to read it to understand the regulation.

AR 11–2
Internal Control Systems

AR 70–9
Army Research Information Systems and Report

AR 70–69
Major Range and Test Facility Base

AR 570–4
Manpower Management

AR 570–8
Army Management Headquarters Activities (AMHA)

DOD Dir 5100.73
Department of Defense Management Headquarters and Headquarters Support

DOD 7110–1–M
Department of Defense Budget Guidance Manual

DOD Dir 7200.1
Administrative Control of Appropriations

Section III
Referenced Forms

DA Form 200
Transmittal Record

DD Form 1414
Base for Reprogramming Actions

Appendix B
TRACE Methodology

The methodology for conducting a TRACE is shown below.

B–1. Assume that the development of a single channel, selectable frequency, FM VHF radio transceiver is desired. To establish the TRACE value for this radio, the following methodology can be applied:

a. Prepare the engineering cost estimate for each element defined in the WBS.

b. Compute a risk factor. This factor would encompass both anticipated cost increases due to the uncertainty associated with the

development of an individual item in the WBS (for example, the oscillator) and cost increases that are caused by external sources due to such things as design changes caused by system interaction at this level of the WBS (for example, impact on the cost of the oscillator due to design changes in the transmitter).

c. Multiply the risk factor times the engineering cost estimate resulting in a revised estimate, or TRACE.

B–2. The initial WBS for cost estimation is shown at figure B–1.

B–3. Now that the WBS has been established, the first step in developing the TRACE is to prepare the engineering cost estimate. Suppose these costs were estimated as shown in table B–1. This data is entered in column (a) of table B–2.

Table B–1
Engineering cost estimate

WBS Element	Cost
Packaging	$21K
Transmitter	18K
Receiver	12K
Power supply	12K
Synthesizer	25K
(Frequency multiplication/reduction	(10K)
(Oscillator)	(15K)
TOTAL (Engineering cost estimate)	$88K

B–4. Next, a risk factor is developed for each component. The risk factor is a composite factor used in an attempt to account for potential increases in component costs due to both internal and external effects of design changes as well as those costs of broader origin (for example, modest work delays, delays in funding or parts) that affect the costs of even the best managed programs.

a. Examining individual components results in the conclusion that, except for the oscillator, engineering cost estimates (considering only the component by itself or internal effects) are certain. The design effort is not significantly different from previously accomplished work. To determine the contribution to the risk factor for the oscillator due to internal effects, costs for comparable oscillators from three other systems are examined.

b. The design process is highly complex and iterative; hence, it often causes interaction effects among system components. Design changes to the oscillator can induce design changes in the power supply and packaging areas which in turn could have design impact on the oscillator again. For each component, the contribution to the risk factor due to external effects is computed (taking into account all potential external cost contributors, such as interaction and funding delays, and the probabilities of occurrence of these costs). The risk factor for each component is a composite factor determined by combining the contributions of both internal and external effects. For example, it is estimated that the total of internal and external forces on the oscillator will result in a 57 percent increase over the engineering cost estimate. Therefore, the risk factor is 1.57 (table B–2, column b). The other risk factors are similarly generated.

B–5. The program TRACE can now be compiled as illustrated in table B–2. (Descriptions of the column headings were given in para B–1.)

B–6. Subsequently, program work is broken out by year for programming and budgeting purposes. For simplicity in keeping track of the yearly engineering costs, which are the amounts to be released initially to the program manager, this annual work breakout is accomplished using the engineering cost of the work elements. Each of the engineering costs is then multiplied by its respective risk factor (table B–2, column b) to produce the respective TRACE. Assume that the costs of the annual work breakout are as shown in table B–3.

B–7. On the basis of the calculations in table B–3, the budget request for year 1 would be $33.81K, and the programming amounts for the subsequent outyears would be $28.87K, $22.66K, and $23.77K, respectively, for a TRACE program total of $109.11K. Assume now that $33.81K was actually appropriated for year 1, and that at the end of year 1, only $30K had been required. If all of the work scheduled for year 1 was in fact completed, $3.81K has become excess to the year 1 requirement. As one alternative, these unobligated funds could be carried over, with DA advising the Congress of the reduced (by $3.81K) new DA requirement in the budget under review. It is recognized that these carryovers are undesirable, particularly if they are large; however, experience suggests that this would be by far a more manageable problem than requesting additional funds during the subsequent year when the closing statement of the current year shows a serious shortfall.

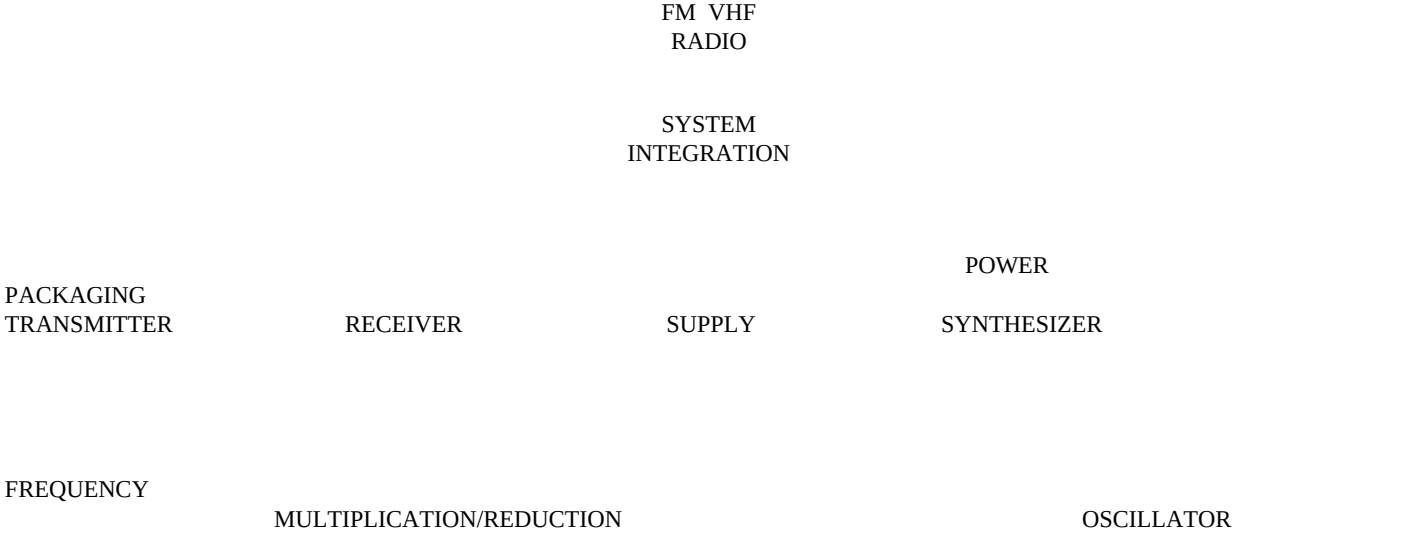


Figure B-1. Initial WBS for cost estimation

Table B–2
TRACE computational methodology

FM VHF radio WBS elements	Engineering cost est. $	Risk factor	Revised estimate (TRACE)
Packaging	21,000	1.34	28,140
Transmitter	18,000	1.13	20,340
Receiver	12,000	1.04	12,480
Power supply	12,000	1.20	14,400
Synthesizer	25,000		33,750
(Freq mult. reduc.)	(10,000)	1.02	(10,200)
(Oscillator)	(15,000)	1.57	(23,550)
TOTAL	$88,000		$109,110

Table B–3
Annual work breakout costs

WBS element	Estimated Costs (K) Year 1	Year 2	Year 3	Year 4
Packaging	3(4.02)	4(5.36)	6(8.04)	8(10.72)
Transmitter	6(6.78)	6(6.78)	3(3.39)	3(3.39)
Receiver	4(4.16)	4(4.16)	2(2.08)	2(2.08)
Power supply	4(4.80)	4(4.80)	2(2.40)	2(2.40)
Synthesizer	10(14.05	6(7.77)	5(6.75)	4(5.18)
(Freq. mult./reduc.)	(3)((3.06))	(3)((3.06))	(2)((2.04))	(2)((2.04))
(Oscillator)	(7)((10.99))	(3)((4.71))	(3)((4.71))	(2)((3.14))
TOTALS	27(33.81)	24(28.87)	18(22.66)	19(23.77)

Notes:
[1] TRACE figures are adjacent to the engineering estimate for each year.

Appendix C
Changes to Research and Development Planned Program (RCS CSCRD–9(R–5))

C–1. Preparation instructions

Instructions for preparing type 108, 80-column, punched cards for Changes to Research and Development Planned Program are as follows:

a. General instructions.

(1) All dollar values will be rounded to the nearest thousand dollars. Amounts greater than or equal to $500 will be rounded to the next higher thousand dollars.

(2) Two or more reprogramming actions affecting a single project will be totaled. Only the net change will be reported.

(3) All control fields, card columns 1 through 30, will be completed.

(4) A plus sign (12–6–8 punch) representing an increment, or a minus sign (11 punch) representing a decrement, will immediately precede the dollar amount of a reprogramming action.

b. Explanation of data elements. Data elements are explained below.

(1) Data-as-of-date. The last day of a reporting period for which submission of data is required.

(2) AMS code. The Army management structure code (fiscal code) that identifies RDTE,A budget programs, budget projects, budget subactivities (program elements), and related subdivisions. (See AR 37–100–XX for additional guidance.)

(3) Command reprogramming. A dollar amount (net change) transferred, within the MACOM/operating agency's limitations or as directed by ODCSRDA, from one DA project and/or PE to another.

(4) DA RDTE,A project number. The number assigned by ODCSRDA, in conjunction with the MACOM/operating agencies, to an RDTE,A project and used for control of the project throughout succeeding program years. (See AR 70–9, fig 4–2, for the structure of the DA RDTE,A program element/project numbers.)

(5) Program year. The fiscal year in which approval for financing was received.

c. Specific instructions. Specific instructions are shown in detail in table C–1.

C–2. Data corrections

A type 108 card will not be submitted to correct a previously submitted data error. Requests for data corrections will be forwarded by letter to HQDA (DAMA–PPR), WASH DC 20310–0666. The letter will indicate the DA project number, the error (change from), and the correction (change to). If possible, data corrections will be submitted prior to the submission of financial execution data.

C–3. Narrative explanation

a. In addition to the data elements reported on a type 108 card, a narrative explaining reprogramming changes of $1 million or more, or changes of 50 percent or more to the current-base-program is required. The narrative will include a precise but brief statement of the reasons for the reprogramming change and its impact on the projects involved.

b. Data elements to be included in the narrative report include the PE, DA project number, project title, dollar amount of reprogramming, and an explanatory narrative. This data will be prepared on 8½- by 11-inch paper as shown at figure C–1 and submitted with the type 108 cards.

C–4. Preparation and distribution of the report

This monthly report will be prepared and distributed by HQDA. At the project level, the report will reflect the approved RDTE,A program, command reprogramming action, HQDA-approved program changes, HQDA and OSD withholds, and OSD special interest items. Figure C–2 shows the format for this report.

Table C–1
Instructions for card type 108

Card columns: 1–3
Data element: Card code
Instructions: Punch 108.

Card columns: 4
Data element: Reporting agency
Instructions: Punch one character code that designates the reporting developing agency. (See para 9–2.)

Card columns: 5
Data element: Blank
Instructions: Leave blank.

Card columns: 6–8
Data element: Project serial number
Instructions: Punch last three digits of the approved DA RDTE project number.

Card columns: 9–11
Data element: Blank
Instructions: Leave blank.

Card columns: 12–13
Data element: Program year
Instructions: Punch fiscal year in which the program was approved and financed for execution.

Card columns: 14–19
Data element: AMS code
Instructions: Punch AMS code. Right justify with lead zeros when appropriate.

Card columns: 20–21
Data element: Year
Instructions: Punch calendar year.

Card columns: 22–23
Data element: Month
Instructions: Punch month and lead zero when appropriate.

Card columns: 24–25
Data element: Day
Instructions: Punch last day of reporting period.

Card columns: 26
Data element: Plus or minus sign
Instructions: Punch a 12–6–8 for a plus sign and an 11–zone punch for a minus.

Card columns: 27–32
Data element: Command reprogramming
Instructions: Punch current month net change by program year for the DA project serial number being justified. Right justify and zero fill.

Card columns: 33–80
Data element: Blank
Instructions: Leave blank.

Reporting MACOM/Operating Agency
Fiscal Year
Report Date

PROGRAM ELEMENT	DA PROJECT NUMBER	PROJECT TITLE	REPROGRAMING
666666	D999	Sherman Tank	$1,000,000

NARRATIVE EXPLANATION:

Figure C-1. Sample format for narrative reprogramming explanation

Table C–2
Format for Changes to Research and Development Planned Program (RCS CSCRD–9 (R–5))

PERIOD ENDING — CHANGES TO R AND D PLANNED PROGRAM (RCS CSCRD–9 (R–5)) — DOLLARS IN THOUSANDS

PROGRAM YEAR — MACOM/OPERATING AGENCY SUMMARY (MACOM/OPERATING AGENCY IDENTIFICATION)

PROGRAM ELEMENT	PROGRAM ELEMENT TITLE	MON	CONGRESS APPROVED	CONGRESS APPROVED	CURRENT BASE	BELOW THRESHOLD REPROGRAMING COMMAND	CURRENT	CURRENT PLANNED	WITHHOLDS		CURRENT APPROVD	(MEMO) OSD SPECIAL
DA PROJ. NO.	PROJECT TITLE	DIV	PROGRAM A	REPROG B	PROGRAM C	COM D	MONTH E	PROGRAM F	DA G	OSD H	PROGRAM I	INTEREST J
BUDGET ACTIVITY SHOWN AT BOTTOM OF PAGE.												

Glossary

Section I
Abbreviations

AARL
Army Aeromedical Research Laboratory

ACSI
Assistant Chief of Staff for Intelligence

ADCSRDA
Assistant Deputy Chief of Staff for Research, Development and Acquisition

ADP
automatic data processing

ADPE
automatic data processing equipment

AEFA
Aviation Engineer Flight Activity

AFSC
Air Force Systems Command

AIF
Army Industrial Fund

AMHA
Army Management Headquarters activities

AMMRC
Army Materiel and Mechanics Research Center

AMS
Army management structure

AMSAA
Army Materiel Systems Analysis Agency

AMSCO
Army management structure code

ARDC
Armament Research and Development Center

ARI
Army Research Institute

ARIEM
Army Research Institute of Environmental Medicine

AR&TL
Aviation Research and Technology Laboratories

ASA(RDA)
Assistant Secretary of the Army for Research, Development and Acquisition)

ASL
Atmospheric Sciences Laboratory

BASEOPS
base operations

BCE
baseline cost estimate

BRDC
Belvoir Research and Development Center

BRDL
Bio-Engineer Research and Development Laboratory

BRL
Ballistic Research Laboratory

CDS
Congressional Descriptive Summary

CENCOMS
Center for Communications Systems

CENSEI
Center for Systems Engineering and Integration

CENTACS
Center for Tactical Communications Systems

CERL
Construction Engineering Research Laboratory

COA
Comptroller of the Army

COB
Command Operating Budget

COE
Corps of Engineers

CRA
continuing resolution authority

CRDC
Chemical Research and Development Center

CRREL
Cold Regions Research and Engineering Laboratory

CSTAL
Combat Surveillance and Target Acquisition Laboratory

DA
Department of the Army

DCSRDA
Deputy Chief of Staff for Research, Development, and Acquisition

DOD
Department of Defense

DRB
Defense Resource Board

DRIS
Defense Regional Interservice Support

DT&E
developmental test and evaluation

EOE
element of expense

ETDL
Electronic Technology and Device Laboratory

ETL
Engineer Topographic Laboratory

EWL
Electronic Warfare Laboratory

FAD
fund authorization document

FAR
Federal Acquisition Regulation

FCRC
Federal Contract Research Center

FY
fiscal year

FYDP
Five Year Defense Program

HDL
Harry Diamond Laboratory

HEL
Human Engineering Laboratory

HQDA
Headquarters, Department of the Army

IAP
Initial Approved Program

ICD
Institute of Chemical Defense

IDR
Institute of Dental Research

IOTE
initial operational test and evaluation

IPCE
independent parametric cost estimate

IPR
in-process review

ISR
Institute of Surgical Research

LAIR
Letterman Army Institute of Research

LRRDAP
Long Range Research, Development and Acquisition Plan

MACOM
major Army command

MIPR
Military Interdepartmental Purchase Request

MRTFB
Major Range and Test Facility Base

MTS
members of the technical staff

NRDC
Natick Research and Development Center

NSF
National Science Foundation

NVEOL
Night Vision and Electro-Optics Laboratory

OASD(C)
Office of the Assistant Secretary of Defense (Comptroller)

OCA
Office of the Comptroller of the Army

ODCSOPS
Office of the Deputy Chief of Staff for Operations and Plans

ODCSRDA
Office of the Deputy Chief of Staff for Research, Development, and Acquisition

OMA
Operation and Maintenance, Army

OMB
Office of Management and Budget

OMEW
Office for Missile Electronic Warfare

OSD
Office of the Secretary of Defense

OSD PIF
Office of Secretary of Defense Productivity Investment Funding

OUSDRE
Office of the Under Secretary of Defense for Research and Engineering

PA
procurement appropriation

PBD
program budget decision

PBG
Program Budget Guidance

PDM
Program Decision Memorandum

PE
program element

PECIP
Productivity Enhancing Capital Investment Program

PM
program manager

POM
Program Objective Memorandum

PPBES
Planning, Programming, Budgeting, and Execution System

QRIP
Quick Return on Investment Program

RAP
Revised Approved Program

R&D
research and development

RDA
research, development and acquisition

RDTE,A
Research, Development, Test, and Evaluation, Army

RPMA
real property maintenance activities

SDIP
Strategic Defense Initiative Program

SPE
special purpose equipment

SWL
Signal Warfare Laboratory

T&E
test and evaluation

TFT
technical feasibility testing

TIARA
Tactical Intelligence and Related Activities

TOA
total obligational authority

TO&P
technical objectives and plans

TRACE
Total Risk Assessing Cost Estimate

TRADOC
U.S. Army Training and Doctrine Command

USAMRDC
U.S. Army Medical Research and Development Command

USAMRIID
U.S. Army Medical Research Institute of Infectious Diseases

USARO
U.S. Army Research Office

USDRE
Under Secretary of Defense for Research and Engineering

WBS
work breakdown structure

WES
Waterways Experiment Station

WRAIR
Walter Reed Army Institute of Research

Section II
Terms

Above threshold reprogramming action
An action to shift funds to another program element from the program element where appropriated that requires approval at the HQDA and higher level.

Below threshold reprogramming action
An action to shift funds to another program element from the program element where appropriated that falls within the scope of the approval authority delegated to a MACOM/ operating agency.

Congressional descriptive summary (CDS)
The detailed budget justification of a RDTE, A program element and project that is furnished to Congress annually to support a portion of the Army's RDTE,A budget request.

Contingent liabilities
In the case of outstanding fixed price contracts containing escalation, price redetermination or incentive clauses, contracts authorizing variations in quantities to be delivered or contracts where allowable interest may become payable by the Government or contractor claims, "contingent liabilities" may exist for price/quantity increases that cannot be recorded as valid obligations.

Contractual obligations
A category of obligations for RDTE,A work reported to the National Science Foundation. Includes cost of contracts and grants for performance of scientific research and development efforts awarded to commercial contractors (profit-making organization), educational institutions, and nonprofit organizations.

Defense Resource Board (DRB)
The senior resource management review panel of the DOD whose primary role is to help the Secretary of Defense manage the entire planning, programming, and budgeting process.

Engineering cost estimate
That materiel development program cost estimate produced by the materiel developer using currently established techniques and procedures based on engineering analysis of the known in-house and contract work to be performed in the execution of the program, and which normally does not include a provision for specifically identified risk.

Federal Contract Research Center (FCRC)
An independent, not-for-profit corporation

created to provide scientific, engineering, advanced systems planning and engineering, and technical review in specific fields to enhance the capabilities of Department of Defense agencies.

FCRC annual ceiling
An annual budgetary limitation established by the OUSDRE and allocated to the military services and other Department of Defense agencies to provide a balance with respect to mission, priority, and urgency of the requested support. The approved FCRC ceiling provides authority to utilize FCRC support; it does not provide funds to support the requested effort.

FCRC contract monitor
A DOD component, designated by OUSDRE, responsible for contracting with and controlling support provided by approved FCRCs. The U.S. Air Force has been designated as the DOD component for the FCRCs utilized by the Departmment of the Army.

Five Year Defense Program (FYDP)
The OSD publication that summarizes the approved plans and programs of DOD components in a comprehensive programming system related to their missions and covering a 5-year period. The FYDP is published in 10 volumes, each of which covers a major DOD program.

Forward financing
Funding of RDTE,A efforts (PEs projects, and tasks) in violation of incremental funding policy. This involves programming and budgeting for requirements in a program in advance of the fiscal year in which the requirements are expected to materialize.

Incremental funding
Funding that is provided on a year-by-year basis as distinguished from fully funding the total costs at the time the project is initially authorized.

Independent parametric cost estimate (IPCE)
That materiel development program cost estimate based on the statistical correlation of the development costs of systems to the performance characteristics (speed, range, payload, accuracy, and so forth) or physical attributes (weight, thrust, electrical power, and so forth) of these same systems. The IPCE is intended to be conducted by agencies independent of those producing the engineering cost estimate and the TRACE, and is to be used principally as a check of cost estimates built up from specific task assessments.

In-house obligations
This term is used for purposes of completing National Science Foundation reports. It covers all work performed by Government employees including monitoring of contractor effort. The cost of in-house work includes both direct and indirect costs associated with performance by Government personnel. This includes materials and supplies obtained through the supply system, but excludes contracts and grants specifically financed for research, development, test, and evaluation. Includes cost charged to all EOEs except 2581, 2582, 2583, and 2584 as defined in AR 37–100.

Initial Approved Program (IAP)
The annual program approved by OSD and HQDA and released to RDTE,A MACOMs/operating agencies in September of each year (for the following fiscal year). It is based on the annual apportionment review of the appropriation.

Laboratory management and administration
Those salaries and related costs for personnel performing functions that are not directly related to a specific scientific or engineering effort (for example, laboratory director ad immediate staff, and other non-BASEOPS staff).

Members of the technical staff (MTS)
A unit of measure for technical effort used to distribute FCRC support among individual programs/projects. One MTS man-year of effort includes all required efforts of technical and administrative personnel, plus all items of expense such as travel, equipment, computer usage, overhead, and other appropriate direct costs. Because these elements vary with each program, the cost per MTS is also a variable and must be separately established for each program.

New start (RDTE,A)
Initiation of new scope of work at the project or PE level which has not previously been identified to and funded by Congress. Particular emphasis is placed on new starts in Budget Activity 2, Advanced Technology Development, and Budget Activity 4, tactical programs.

Operating agency
A major organizational element within a military department that is responsible for—

a. The active planning, direction, and control of a program or segment thereof.

b. The control of funds allocated to it.

Program budget decision (PBD)
The medium used by the Secretary or Deputy Secretary of Defense to adjust each Service's September budget submission to OSD to arrive at the final amounts that will be included in the President's budget submission to Congress.

Program Decision Memorandum (PDM)
The medium used by the Secretary or Deputy Secretary of Defense to direct the services to amend their POM submission to OSD.

Program Decision Increment Package (PDIP)
The grouping of individual programs or proposed program adjustments into discrete packages so they can compete for dollar resources from the total Army funding program. These packages are evaluated by HQDA panels during the development of the Army POM.

Program element (PE)
A five-digit code assigned by OSD identifying specific effort(s) to be reported therein.

Program Objective Memorandum (POM)
The principal programming document submitted annually by each Service to OSD. It documents the proposed Service program for the conduct of assigned missions during the span of the 5-year cycle contained in the FYDP under consideration.

Project orders
A specific order for the manufacture of materials, supplies, and equipment and other work or services. Such orders, when placed with and accepted by a separately managed, Government-owned and operated establishment, obligate appropriations. The obligation is as binding as orders placed with commercial concerns.

RDTE,A activity
An organization that is a tenant or satellite on or near an installation, and obtains its primary source of funding from the RDTE,A appropriation. An activity may be a laboratory, test activity, or other organizational unit that has been assigned an RDTE,A mission and receives RDTE,A funds by a separate allotment of funds.

RDTE,A installation
An Army installation (post, camp, station, depot, and so forth) that obtains its primary source of funding for conduct of the in-house host mission through the RDTE,A appropriation. The RDTE,A appropriation will be used as the source of funding for BASEOPS/real property maintenance activity costs at such installations.

RDTE,A project
A specifically designed unit of RDTE,A effort or group of closely related efforts. RDTE,A projects are established to fulfill a stated or anticipated requirement. A project may consist of two or more related RDTE,A tasks.

RDTE,A task
A part of an RDTE,A project that identifies a finite unit of effort which has unity of scope and purpose. A task may be divided into subtasks or work units.

Reprogramming
Making changes in the application of funds for purposes other than those originally contemplated and budgeted for, testified to, and described in the justifications submitted to

congressional committees in support of fund authorizations and budget requests.

Revised Approved Program (RAP)
When the annual Defense Appropriation Act is enacted, the document that is used to adjust the initial program guidance provided to the MACOMs/operating agencies to bring the interim guidance in line with the program authorized and appropriated by Congress. The RAP is issued within 30 days of appropriation enactment by HQDA (DAMA–PPR–B).

Risk analysis
An analysis conducted as a part of the cost estimation process for a materiel development program in which risk factors are constructed encompassing probable cost increases to a program work element expected during its development, and based on sound engineering judgment concerning the degree of technical uncertainty involved.

Risk factor
A multiplication factor assigned to separately identified program work representing an assessment of the probable expansion of that work necessitated by changes in other elements of the program or by changes in the work itself.

Technical objectives and plans (TO&Ps)
Written descriptions of individual projects. The purpose of TO&Ps is to expand on the general contractual Statement of Work by defining the Government's specific objectives for particular programs or projects together with the FCRC's implementation plans and schedules for accomplishment of these objectives.

Termination costs
Amounts for which the Government may be liable on termination of a contract for convenience of the Government.

Total obligational authority (TOA)
A target provided by a senior level of management during program and budget development stages to guide subordinate levels of management on the total resources available for their programs during the period under consideration.

Total Risk Assessing Cost Estimate (TRACE)
A management system based on scientific methods, set procedures, and effective controls used in the development of RDTE,A program and budget requirements to arrive at cost estimates that more closely approach the eventual actual systems costs by way of a more realistic assessment of technical development risk and by allowing for the probability of having to compensate for a less-than-optimal program.

TRACE withhold
During the issue of the Initial Approved Program and the Revised Approved Program by HQDA to MACOMs/operating agencies, amounts budgeted for TRACE that are withheld at the HQDA level.

Section III
Special Abbreviations and Terms
There are no special terms.

USAPA

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PIN:	004428–000
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TIME:	09:51:11
PAGES SET:	48
DATA FILE:	s300.fil
DOCUMENT:	AR 70–6
DOC STATUS:	REVISION