Regulation   31 August 1999
No. 25-1-2

Information Management
LIFE CYCLE MANAGEMENT OF INFORMATION SYSTEMS (LCMIS)

1. Purpose.

This regulation provides a disciplined, yet flexible, management approach for developing quality automated Information Systems (IS) within the US Army Corps of Engineers (USACE). The principal part of this regulation delineates LCMIS roles, responsibilities, and policies within the Corps. Figure 1 shows a graphic view of the LCMIS process. It implements the acquisition precepts of DoDD 5000.2-R and AR 70-1 in alignment with DoDD 8000.1 and DoDD 7740.1 for promotion of coordinated and integrated information management functions. Pertinent references are in Appendix A.

LCMIS has two principal goals:

a. To ensure that all IS programmatic decisions are based on the best value and on the total anticipated benefits that will be derived over the life of the IS or IS modernization.

b. To control expenditures on IS, yet ensure the satisfaction of mission needs to the greatest extent possible and in a manner producing best value.

2. Applicability.

a. This regulation is applicable to:

(1) All HQUSACE staff elements, and all USACE Commands having an interest in any phase of development, operation or management of IS as defined in Appendix B.

(2) Corps-owned IS, that is, IS which are developed as USACE projects and/or will be retained by the Corps as Information Technology (IT) assets after project completion.

b. This regulation does *not* apply to:

(1) IS developed for non-Corps customers. However, the customer is responsible for complying with the appropriate regulations and statutes related to IT;

(2) IS or other IT specifically designed as integral parts of Corps-owned Facility Support systems (see Appendix B); and

(3) IS having developmental and deployment (program) costs of less than $500K or total life cycle costs estimated to

This regulation supersedes ER 25-1-2, Life Cycle Management of Automated Information Systems (LCMIS), issued 30 Nov 1993.
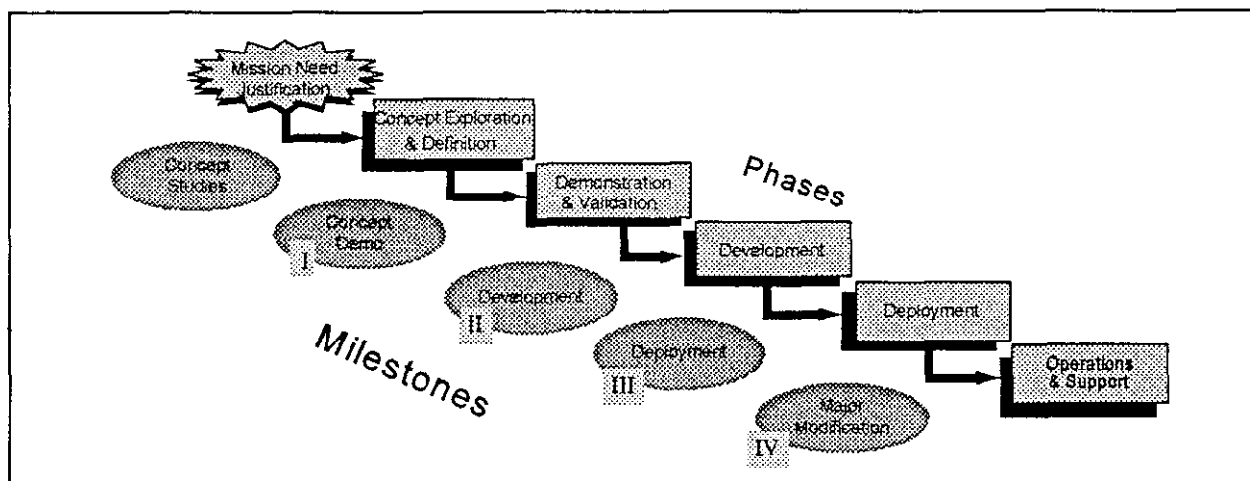
Figure 1. Milestones in Life Cycle Management of Information Systems

be less than $1M. In these Class IV C systems, LCMIS oversight will be the responsibility of the local DIM/CIM.

c. This regulation applies to the Acquisition CATegory (ACAT) IV (total program costs of less than $30 million). Detailed descriptions of the three component classes of ACAT IV Information Systems (IS), are provided in this regulation, as well as the decision criteria Minimum Exit Requirements (MER) for each phase and the Milestone Decision Authorities (MDAs) for each class. ACATs are an integral part of AR 70-1 for Army materiel and is the predominant guidance for any IS, or other acquisitions coming under ACAT program cost and life cycle cost thresholds.

d. Implementation of LCMIS for existing USACE AIS will go into effect at the next milestone, or at an In-Process Review (IPR). All AIS currently deployed are considered to be in the Operations and Support Phase. Milestone IV (Major Modification Decision) reviews will be

conducted no later than four years after Milestone III approval (Production Decision) and every **three** years thereafter, or earlier, to effect mission changes.

3. **References.**

See Appendix A for references.

4. **Distribution.**

Approved for public release, distribution is unlimited.

5. **Policy.**

a. Funds shall not be obligated, nor solicitations released for any IS that has not successfully completed an appropriate management oversight review as required by this regulation. This requirement for a successful oversight review is met when the designated MDA makes a management judgment on what program activities may be permitted and specifically authorizes, in writing, those activities.

2

b. Business Process Analyses (BPA).

Before making significant information technology investments in support of Corps business processes, proponents will analyze missions and revise mission-related and administrative work processes as required. Specifically, mission analysis and appropriate work process revision is required prior to making IT investments of $2M or more in a fiscal year or $30M or more in total life cycle costs. The Functional Proponent (FP) will attest to the above actions through review and validation of the Mission Needs Statement (MNS).

c. Integrated Product Teams (IPT).

IPTs will be established by the MDA for each ACAT IV IS. The IPT will consist of empowered individuals appointed by the MDA, meeting together and individually with the System Manager (SM) throughout the program's progress. The IPT will act to raise and resolve issues early, provide recommendations for tailoring and streamlining the program.

The IPT will help the SM successfully achieve each milestone decision and will develop a memorandum documenting the issues/risks raised, for the MDA with a recommendation as to whether an actual In Progress Review (IPR) or a "paper IPR" should be held.

d. General LCMIS Principles.

A full five-phase LCM process has been developed to plan and manage IS projects and is outlined in Appendix C. The full process will usually apply to larger multi-site IS projects in ACAT IV Class A. The majority of IS projects, with smaller resource requirements will involve fewer required plans and formalized decisions as well as less documentation overall.

The following principles apply to all Corps-developed IS:

(1) Streamline the IS life-cycle management process by minimizing management oversight layering, and by delegating review and milestone approval authority to the lowest organizational level commensurate with the resources and risk involved, and the provisions of this regulation. The SM, with the concurrence of the MDA, may tailor the five-phase LCM process - and any documentation requirements involved - to accommodate the individual IS project. The MDA must concur with a SM's specific tailoring strategy prior to the project obtaining Milestone I approval. MDA's are authorized to waive any non-statutory requirements and take action, when warranted, to submit waivers for statutory requirements. Appendix C also provides guidelines on tailoring.

(2) IS milestone review by the appropriate MDA is required at a level commensurate with the Program and Life Cycle cost estimates contained in the current updated economic analysis (EA). Such an updated EA is a minimum exit requirement from each phase. The MDA review and approval is needed prior to allocation of funding for execution of each successive LCMIS phase.

(3) FPs and SMs will develop IS in accordance with, and specifically to

3

support, the USACE Command Strategic Plan as well as their own organizational strategic/performance plans.

(4) Ensure electronic record keeping requirements are an integral part of any IS to include appropriate retention and disposition instructions for records in the system.

(5) Determine when information in the system affects legal rights and interests of agency personnel and take appropriate action to ensure these rights and interests are protected.

(6) Incorporate peacetime, mobilization, and wartime operational requirements for readiness, deployability, security, survivability, and sustainability in all IS.

(7) Maximize the use of modern technologies and methodologies to achieve flexibility in responding to evolving functional requirements. These are necessary to improve software quality, maximize software reusability and portability to minimize software development and maintenance costs, and to reduce current or future operation and costs.

(8) Design and development of ACAT IV class B or higher systems will comply with the USACE Command Data Model (CDM); however, data standardization is encouraged for all ACAT levels.

(9) To facilitate migration to an Open Systems Environment (OSE), SMs and MDs shall follow the standards listed in the Joint Technical Architecture-Army (JTA-A) as supplemented by Corps of Engineers

extensions.

(10) All IT costs for any Corps IS will be duly recorded according to the current Information Technology Investment Portfolio System (ITIPS) guidance. The USACE Information Technology Portfolio thus generated will be the basis for making IT capital planning and investment decisions.

(11) The Functional Proponent for an IS is responsible for all financial aspects of the project - including the programming and budgeting responsibilities - throughout all LCMIS phases. Such programming and budgeting includes not only development costs, but also the preparation of estimates for all other associated IS costs, e.g., local fielding, operations and maintenance. USACE IS FPs will use planning, programming, budgeting, and execution system (PPBES) practices IAW AR 1-1, and implementing Corps guidance found in Appendix C of this regulation.

e. Modifications to IS which exceed 15% of the approved program cost require an IPR by the next higher level of MDA approval authority.

f. An official file of LCMIS approval documents will be maintained by the appropriate LCMIS MDA. A complete file, including required annexes, will be maintained by the SM, and will contain all project documentation required by this directive. This file will be kept available for inspection and review.

g. IS projects at USACE laboratories and the associated IT are specifically included under this directive. However,

the special Research and Development (R&D) role performed by the Corps laboratories requires some latitude in viewing the internal R&D projects of those laboratories and centers. Accordingly, after attaining Milestone 0 approval, those internal R&D projects which are *in development* at a USACE laboratory may request an MDA deferral of Phase I (Demonstration & Validation) documentation and Milestone I approvals - and combine them with the required Milestone II (Development Decision) documentation and approvals.

h. This regulation does not directly apply to IS which are integral to Corps-owned facilities.

i. IAW the general guidelines of DODI 5000.2-R and AR 70-1, USACE policy is to encourage approval of tailoring by the MDA for any IS where the Concept Exploration Phase demonstrates that commercially available software and hardware, without additional programming or other code modification, will fully satisfy the requirement. In such cases, if requested by the SM and approved by the MDA, the LCMIS procedures may be condensed or modified to reflect this Commercial Off-The-Shelf (COTS)-type acquisition strategy. The ensuing Milestone review documentation must satisfy the requirements for the combined phases or milestones.

6. LCMIS Procedures

a. The LCMIS phases summarized in Figure 1 are detailed in Appendix C. Pamphlets, manuals and policy memoranda cited in Appendix A provide useful guidance on acquisition, configuration management, and other IM topics.

b. AR 70-1 provides detailed descriptions of the four Acquisition CATegories (ACATs) for all Army materiel including Information Systems (IS) and Information Technology (IT). USACE has further defined ACAT IV IS into *three classes and thresholds, class A , B, and C.* The approval authority, degree of management oversight, and documentation requirements differ for each class.

c. The information system class threshold is determined, for IS being developed, by program costs (costs incurred from project initiation through full deployment to each operational site) as given in the most recent update of the IS economic analysis.

d. The information system class threshold is determined, for IS already in operation, by estimating total life cycle costs (costs incurred from project Concept Exploration and Definition (Phase one) through its Operations & Support (Phase four) and Milestone Decision to terminate or initiate major modification (Milestone IV).

e. Table 1 gives the ACAT IV classes and approval authorities. These approval authorities may not be delegated except where noted.

f. Any information system, at any acquisition level, can be designated as an ACAT III (special interest system) by the DA Chief Information Officer (CIO) or higher authority. The Corps CIO can designate any ACAT IV IS as a special

interest system.

g. ACATs I and II (program costs exceeding $30 million) may concern a Corps-wide or standard information system (for which USACE is proponent) that supports the larger Army, other DoD, or Federal agencies. Management oversight will be assigned by the Commander, USACE, for these Corps-wide or standard systems. These systems are implemented through directives from higher authority, primarily AR 70-1.

h. IS having developmental and deployment (program) costs of less than $500K or total life cycle costs estimated to be less than $1.0M (ACAT IV Class C) are not directly bound by the policies in this regulation. Adequate oversight for such smaller systems will be the responsibility of the appropriate CIM or DIM.

i. Special cases for LCMIS management responsibility:

(1) IS of any size or costs which will be deployed at multiple sites beyond the jurisdiction of the organization originating the LCMIS proposal (e.g., outside the source USACE MSC or other sub-command), or outside USACE will be treated and managed as an ACAT IV Class A.

(2) For IS developed by the Corps for other DoD agencies that are the Functional Proponent (FP), the FP will assume full LCMIS management responsibility according to the LCMIS program of that component or agency.

j. **Reviews.**

(1) In Progress Reviews (IPR). The IPR is the review forum for all ACAT IV programs. Reviews will be conducted at milestones and at other times deemed necessary by the MDA. The IPR will be chaired by the MDA and will include specifically invited representatives as appropriate.

(2) Milestone Decision Reviews (MDR). At each MDR, the MDA must have a balanced assessment of a program's readiness to proceed into the next phase. The forum for MDRs of Corps IS will be IPR. The IPR may be formal or informal ("paper IPR") per recommendation of the Integrated Product Team (IPT) and at the discretion of the MDA.

(3) The MDA has the authority to tailor, or waive, documentation requirements for any IPR or MDR.

k. **Cost Tracking.**

Appropriate procedures will be established and tailored for each project to track actual costs, benefits, and savings accurately. These costs and savings will be compared to the projected costs and savings as identified in the Financial Analysis and will be reported in the LCMIS System Decision Papers (SDP).

l. **Sustainment costs.**

USACE IS will be designed to optimize total system performance and minimize the cost of ownership. SMs, FPs and MDAs will take all required actions to minimize estimated sustainment (operations and support - (O&S)) costs of developmental systems and reduce the actual sustainment

costs of deployed ACAT IV IS. Specific requirements are to:

(1) Include operating and support O&S costs in IS economic analyses;

(2) Address O&S costs in milestone exit criteria;

(3) Baseline O&S cost for each *deployed* system; and

(4) Prepare sustainment budgets for the system that accurately state the true needs of the system and are aligned with the schedule of implementing improvements.

m. During the system development process, the USACE Audit Office is to review system design, development and modification to ensure that management policies are carried out in the system development process and provide a reasonable assurance that the necessary controls and audit trails are included.

n. The USACE Inspector General should consider the review of IS life cycle management actions as potential special interest items for the Deputy Commanding General (DCG).

o. Reimbursable IS projects. MSC, Districts, Laboratories, and FOA performing reimbursable information system development work for other activities or agencies will perform this work based on a written agreement. The written agreement will specify the role of each party for reporting requirements under DoD, Army and the Corps IM Planning and LCMIS processes. Ordinarily, the reimbursed MSC, Laboratory, or FOA will

not be responsible for LCMIS approvals and reporting requirements associated with the Army and Corps IM planning process, or LCMIS for information system development done for MACOMs or for agencies outside Department of the Army (DA).

7. **Responsibilities.**

a. **Deputy Commanding General (DCG).**

The DCG will ensure that the broad trend and continuity of the LCMIS program, including resource allocations, are in alignment with Command Executive priorities.

b. **Deputy Chief of Staff for Corporate Information (DCSCI).**

The DCSCI will:

(1) As delegated by the Commanding General (CG) serve as IS Milestone Decision Authority (MDA) for the ACAT IV Class A as specified in Table 1. As the MDA, establish: any LCMIS process tailoring for each IS; the exit criteria for that IS to successfully complete the present LCMIS phase; and the review criteria of the ensuing milestone decision.

(2) Form an Integrated Product Team (IPT) for each ACAT IV Class A IS to raise and resolve issues with the Systems Manager.

(3) Establish policies and standards for the planning, programming, life cycle management, and use of USACE information resources including information technology.

Table 1

Classes of ACAT IV Systems, Milestone Decision Authorities, Mandatory Documentation

ACAT IV	PROGRAM COST THRESHOLD (All fund types)	Total Life-Cycle Costs	MILESTONE DECISION AUTHORITY (MDA)	Mandatory Documentation
Class A	$ 2.5 M to $ 30 M [1,5]	$10.0 M to $ 159 M	USACE C I O [2]	Economic Analysis (EA), Systems Decision Paper (SDP) [3]
Class B	$ 500 K to $ 2.5 M [5]	$ 1.0 M to $ 10.0 M	MSC, Labs, Centers, FOAs DIM/CIM [4]	Economic Analysis (EA), Systems Decision Paper (SDP)
Class C	to $ 500 K [6]	to $ 1.0 M	At option of CIM/DIM [6]	At option of CIM/DIM [6]

1. ACATs I and II (program costs exceeding $30 million) are managed and implemented through directives from higher authority, e.g. DoDD 5000.1, AR 70-1.

2. As delegated by the CG (in his role as materiel command commander) per AR 70-1.

3. See Appendix C for SDP contents.

4. MDA authority may be delegated.

5. IS of any size or cost which will be deployed at multiple sites beyond the jurisdiction of organization originating the LCMIS proposal will be managed as ACAT IV Class A IS.

6. Adequate oversight for smaller IS having developmental and deployment (program) costs of less than $ 500K or total life cycle costs estimated to be less than $ 1.0M shall follow the principles and approach in this regulation. The oversight function for these smaller IS shall be the responsibility of the appropriate CIM or DIM.

(4) Establish and implement USACE Information Systems management review and milestone approval processes and procedures, consistent with this regulation and AR 70-1.

(5) Oversee the review and approval of new IS and existing IS modernizations.

(6) Ensure that the policies and procedures of the Defense Federal Acquisition Regulation Supplement (DFARS), and applicable Office of Management and Budget directives are followed in acquisition of IS.

(7) Develop, implement through instruction, and monitor LCMIS procedures and guidelines for HQ Staff elements, MSCs, Laboratories and FOAs.

(8) Conduct periodic visits to review, evaluate and ensure that the LCMIS process is functioning effectively and to instruct field personnel in LCMIS best practices. Support IRM oversight actions within USACE.

(9) Nominate to the CG those IS which require special interest review and approval (ACAT III) by USACE MDAs or higher authorities.

(10) Facilitate all Corps IS and business processes analyses.

c. **Data Architecture Control Committee (DACC).**

(1) Receive and analyze from the Command Data Administrator (CDA), proposed changes in the formal data model for new or modernized IS.

(2) Manage the Command Data Model (CDM).

(3) Recommend changes to the CDM, and recommend alternative actions.

d. **Commanders, Laboratory, Center and FOA Directors.**

Commanders and Directors will:

(1) Designate the Director/Chief of Information Management (DIM/CIM) or senior information resources management official to approve information system developments and/or acquisitions within their respective delegated approval thresholds.

(2) Form, if necessary, local management boards, steering committees and IPTs for IRM initiatives.

(3) Ensure that a Systems Manager (SM) is appointed for each IS managed under this regulation.

(4) Ensure that appropriate staff are accomplishing their oversight and support of LCMIS in accordance with DoD Directive 5000.2-R, AR 70-1 and this regulation.

e. **Directors/Chiefs of Information Management (DIM/CIM) of MSC, Districts, Laboratories and FOA.**

The DIM/CIM will:

(1) Serve as IS Milestone Decision Authority (MDA) for ACAT IV Class B as specified in Table 1. As the MDA, establish: any LCMIS process tailoring for

each IS; the exit criteria for that IS to successfully complete the present LCMIS phase; and the review criteria of the ensuing milestone decision.

(2) Ensure that functional users and/or project managers identify, define and prioritize needs throughout all phases of the IS life cycle.

(3) Formally assess the operational adequacy of new and/or modernized systems and evaluate alternative IS approaches, and validate the selected system approach.

(4) Ensure that the IS development is consistent with all USACE policy and guidance.

f. Functional Proponents (FP) for Information Systems (IS) will:

(1) Designate a Systems Manager (SM) to serve as the IS life cycle manager, and instruct the SM to implement policies and procedures in compliance with the AR 70-1 and this regulation throughout the life cycle of the system.

(2) Designate a Material Developer (MD) or technical manager to serve as the officer responsible for development and maintenance of the information system, and instruct the MD to implement policies and procedures in compliance with DoD Directive 5000.2-R, AR 70-1, and this regulation.

(3) Ensure that existing systems, as well as those in the developmental stages, are managed in compliance with DoD Directive 5000.2-R, AR 70-1, and this

regulation.

(4) Select and document an appropriate Acquisition Strategy (AS) and associated method of development that will support the development and deployment of the proposed IS.

(5) Require that functional users identify, define, and prioritize needs; participate in all LCM phases; and formally assess the operational adequacy of a new or modernized IS.

g. Systems Managers (SM).

The default decision maker in all IS developments is the SM. The SM may make all project operational and developmental decisions which are not specifically reserved to the MDA by this regulation.

h. USACE Contracting Officers.

Prior to commencing any contracting actions involving Information Technology (IT) resources or issuing any delivery order against an umbrella contract, will:

(1) Verify that appropriate LCMIS approvals have been obtained in accordance with this regulation.

(2) Process only acquisition actions, leading to procurement authorizations, that have obtained appropriate approvals as detailed in this regulation.

(3) Confirm that an appropriate Acquisition Strategy (AS) and associated method of development that will support the development and deployment of the proposed IS have been selected.

FOR THE COMMANDER:

3 Appendices
App A - References
App B - Definitions and Acronyms
App C - Procedures and Implementing Guidance

RUSSELL L. FUHRMAN
Major General, USA
Chief of Staff