

Department of the Interior Departmental Manual

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Chapter 6: Information Resources Life Cycle Management

Originating Office: Office of Information Resources Management

375 DM 6

6.1 Purpose. This chapter describes the information resources life cycle management (LCM) process in the Department of the Interior. It establishes policies and assigns responsibilities for the use of LCM in planning and managing major information resources.

6.2 General. LCM is the Department's approach to managing major information resources from the initial identification of a need to their replacement or termination. This chapter describes a standard LCM structure to be followed during the life cycle of all types of major information resources, which include office automation systems, automated information systems, automated data processing equipment, and telecommunications systems.

6.3 Authority.

- A. Office of Management and Budget Circular No. A-130.
- B. Federal Information Processing Standards Publications (FIPS PUB 38 and 64).

6.4 Definitions.

A. Life Cycle Management (LCM). A management approach which provides a structured process for planning and control of an information resource from inception to replacement or termination. LCM provides a common framework for facilitating control of the process, specifying the contents of deliverables, improving communications among diverse interest groups, and managing the information resources development/acquisition process. The effort and level of detail of the activities performed using the LCM management approach are to be commensurate with the size, complexity, and importance of the resource.

B. Phase. A distinct interval in the life cycle characterized by the type of activities performed to produce specific end products.

C. Stage. A sub-component of a phase in which specific deliverables are produced.

D. Milestone. A moment in time in the life cycle in which reporting is required to implement management control of the project. Milestones coincide with the end of phases and

stages.

E. Information Resources. For the purposes of LCM, information resources are defined as the technology used in the collection, processing, transmission, dissemination, and storage of information. Information resources include automated information systems (AIS), office automation (OA) systems, automated data processing equipment (ADPE), and telecommunications systems.

F. Information Resources Project. A planned undertaking that may include a number of activities engaged in developing a solution to an information management problem. This includes projects to develop/acquire ADPE, AISs, OA systems, and telecommunications systems.

G. Major Information Resources. The criteria for defining major information resources can be found in the LCM policy covering the specific resources.

6.5 Objectives.

A. Provide a structured methodology for managing and controlling major information resources and their associated costs.

B. Ensure proper and responsive communications among resource users, managers, Departmental senior management, and data processing and Information Resources Management (IRM) personnel.

C. Ensure direct management accountability and responsibility for the performance and effective control of major information resources.

D. Provide close and continued management involvement and oversight in all aspects of major information resources projects.

E. Ensure that proper project management documentation and reporting practices are employed during the conduct of information resources projects.

6.6 Policy.

A. Department of the Interior organizations shall follow an LCM approach in planning, developing, enhancing, acquiring, and using major information resources.

B. Major information resources projects and their goals and priorities shall be clearly defined in each bureau's IRM Strategic Plan as described in 375 DM 4.

6.7 Responsibilities.

A. Information Resources Management Review Council (IRMRC). The IRMRC has responsibility for:

(1) Reviewing and making recommendations on requests to initiate major information resources projects.

(2) Providing Departmental leadership and guidance during the life cycle of major information resources projects.

(3) Reviewing significant milestones during the life cycle of the project and making decisions on the continuation of the project after each significant milestone.

B. Office of Information Resources Management (OIRM). The Director, OIRM, has responsibility for:

(1) Developing and maintaining Departmental LCM policies and handbooks establishing the minimum acceptable management requirements and standards applicable to major information resources projects.

(2) Exercising oversight for implementing IRM LCM policy in bureaus and offices.

(3) Interpreting Federal and Departmental IRM LCM regulations and

(4) Providing support and assistance to the IRMRC in reviewing major information resources projects.

C. Assistant Secretaries. Assistant Secretaries are responsible for:

(1) Ensuring that the LCM concept and requirements described in this chapter and in the Departmental IRM LCM handbooks are applied to all major information resources projects initiated by their respective bureaus and offices.

(2) Ensuring that major information resources projects are based on valid program mission or administrative requirements.

D. Heads of Bureaus. Heads of bureaus are responsible for:

(1) Ensuring that the LCM process is applied to all major information resources projects within their respective bureaus.

(2) Designating officials within user organizations to be responsible for management and control of specific major information resources projects.

6.8 Life Cycle Structure. The life cycle represents the time span between the establishment of a need for a resource and the end of its operational use. Overall, the life cycle is divided into discrete phases and stages with formal milestones established as points for management control. The phases and their associated stages are described below:

A. Initiation Phase.

(1) The purpose of this phase is to initiate those activities necessary to obtain management approvals for the information resources project. Mission needs are identified and validated, alternative functional concepts to satisfy the needs are proposed, and the technical and operational feasibility of the alternative concepts is assessed. A benefit/cost analysis for each alternative is performed and analyzed, and a feasible concept is recommended for further consideration. The results of this phase provide a framework which guides the work performed in subsequent phases.

(2) Stages. There are two stages in this phase:

- (a) Mission Analysis.
- (b) Concept Development.

B. Development Phase.

(1) The purpose of this phase is to provide a detailed description of the resource's functional requirements and capabilities, transform these requirements into detailed design specifications, update the benefit/cost analysis, and construct/acquire a complete working resource capable of satisfying the identified mission need. All elements of the resource are thoroughly tested to determine if it is ready for implementation.

(2) Stages. There are four stages in this phase:

- (a) Analysis.
- (b) Design.
- (c) Construction/Acquisition.
- (d) User Acceptance.

C. Operation Phase.

(1) The purpose of this phase is to install the resource in its production environment, perform any necessary conversion activities, pass the resource over to its respective owner and manager, maintain its operational effectiveness, and conduct periodic reviews to ensure that it continues to meet the users requirements.

(2) Stages. There are two stages in this phase.

- (a) Implementation.
- (b) Maintenance.

6.9 Reviews and Approvals.

A. IRMRC Approvals. Major information resources projects shall report their progress to the IRMRC at predetermined milestones throughout the life cycle. These milestones represent key decision points where the IRMRC reviews the project status and makes decisions regarding the continuation of the project. IRMRC approvals are required at the following decision points and their associated milestones for the project to continue:

(1) Decision point #1 coincides with the milestone that occurs at the end of the Concept Development Stage in the Initiation Phase. Concept decision and next phase budget approvals are required.

(2) Decision point #2 coincides with the milestone that occurs at the end of the Design Stage in the Development Phase. Design and funding approvals for acquisition/construction are required.

(3) Decision point #3 coincides with the milestone that occurs at the end of the User Acceptance Stage in the Development Phase. Approval to implement the resources in an operational environment is required.

B. Other Approvals. Detailed guidance regarding bureau and/or OIRM approvals can be found in the specific functional area LCM policies and handbooks.

6.10 Documentation. The following documents are produced throughout the life cycle and support the management decision making process.

A. Decision Paper. The principal document used for recording essential information regarding the project. It focuses on the issues relevant to a particular phase or stage and the particular decision needed from management. Decision papers are submitted for management review at specific milestones throughout the life cycle.

B. Mission Needs Statement. This document identifies the current mission needs and deficiencies, determines significant assumptions and restraints, and recommends the exploration of alternative solutions to correct the deficiencies. It is prepared during the Mission Analysis Stage and submitted for management review at the end of that stage. It is validated or updated throughout the life cycle and is included in each decision paper.

C. Benefit/Cost Analysis. This document provides an analysis of the costs, benefits and uncertainties of each alternative concept to determine the most cost-effective means of satisfying the stated mission need. After selection of a concept, the benefit/cost analysis is updated, as appropriate, throughout the life cycle and is included in each decision paper.

6.11 LCM Functional Guidance. Additional guidance on the application of LCM to specific IRM functional areas can be found in the following policies and handbooks:

- A. 376 DM 10, Life Cycle Management of Automated Information Systems.
- B. Application Systems Life Cycle Management, Departmental Handbook (376 DM 10).
- C. Project Manager's Guide to Application Systems Life Cycle Management (376 DM 10).
- D. 385 DM 5, Life Cycle Management of Office Automation Systems.
- E. Office Automation System Life Cycle Management Handbook
- F. 375 DM 7, Economic Analysis for IRM Decisionmaking.

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