MAJOR SYSTEM ACQUISITIONS PROCESS

(A-109)

MAJOR SYSTEM - COMBINATION OF ELEMENTS (HARDWARE, SOFTWARE, FACILITIES, AND SERVICES) THAT FUNCTION TOGETHER TO PRODUCE CAPABILITIES REQUIRED TO FULFILL A MISSION NEED

SYSTEM ACQUISITION PROCESS - SEQUENCE OF ACTIVITIES BEGINNING WITH DOCUMENTATION OF MISSION NEED AND ENDING WITH INTRODUCTION OF MAJOR SYSTEM INTO OPERATIONAL USE OR OTHERWISE SUCCESSFUL ACHIEVEMENT OF PROGRAM OBJECTIVES
RECOGNIZED MAJOR SYSTEM ACQUISITION

- IS A CRITICAL AND EXPENSIVE ACTIVITY
- IMPACTS TECHNOLOGY, NATION’S ECONOMIC/FISCAL POLICIES, ACCOMPLISHMENT OF AGENCY MISSION

ESTABLISHED POLICIES AND OBJECTIVES FOR PLANNING AND MANAGEMENT OF MAJOR SYSTEM ACQUISITIONS

CHARACTERIZED BY

- TIME-PHASED PROCESS
- SYSTEMATIC AND DISCIPLINED APPROACH

A-109 GENERAL POLICIES

- EXPRESS NEEDS IN MISSION TERMS TO ENCOURAGE INNOVATION AND COMPETITION OF ALTERNATE SYSTEM DESIGN CONCEPTS

- PLACE EMPHASIS ON INITIAL ACTIVITIES OF ACQUISITION PROCESS TO ALLOW COMPETITIVE EXPLORATION OF ALTERNATIVE CONCEPTS

- COMMUNICATE WITH CONGRESS EARLY IN THE ACQUISITION PROCESS

- ESTABLISH CLEAR LINES OF AUTHORITY, RESPONSIBILITY, ACCOUNTABILITY

- ENSURE APPROPRIATE MANAGEMENT-LEVEL INVOLVEMENT IN DECISIONS/AGENCY HEAD APPROVAL AT KEY DECISION POINTS

- RELY ON PRIVATE INDUSTRY
A-109 OBJECTIVES

- Ensure major system fulfills mission need, operates effectively, justifies allocation of limited agency resources
- Establish integrated approach for budgeting, contracting, managing programs
- Ensure procedures employed provide appropriate trade-offs
- Maintain competition throughout acquisition process wherever economically feasible and beneficial

NMI 7100.14B

- Implements policies and objectives of A-109
- Applies to all programs designated as major system acquisitions
  - Estimated cumulative acquisition cost of $100M
  - Significantly new or improved capability directed at/critical to fulfilling agency mission
  - Acquisition warranting special management attention
RECOGNIZES 2 TYPES OF SYSTEM DESIGN CONCEPT COMPETITION

- CLASS 1 - ALTERNATIVE SYSTEM DESIGN CONCEPT (PREFERRED) COMPETITION SEEKING ALTERNATIVE METHODS OF ACHIEVING REQUIRED CAPABILITY

- CLASS 2 - SINGLE SYSTEM DESIGN CONCEPT COMPETITION SEEKING PROPOSALS FOR PREDETERMINED SINGLE DESIGN CONCEPT TO ACHIEVE REQUIRED CAPABILITY

- BOTH TYPES ACCOMPLISHED UNDER FULL AND OPEN COMPETITION UNLESS APPROPRIATELY JUSTIFIED

MAJOR SYSTEM ACQUISITION PROGRAM PHASES

PHASE A - PRELIMINARY ANALYSIS

PHASE B - DEFINITION

PHASE C/D - DESIGN, FULL-SCALE DEVELOPMENT, OPERATION
PHASE A - PRELIMINARY ANALYSIS

- Primarily an in-house effort
- Involves analysis of alternative overall project concepts for accomplishing mission
- Results in study documentation detailing feasible concept(s) suitable for detailed study in phase B

PHASE B - DEFINITION

- Majority of effort contracted
- Involves detailed study/comparative analysis of phase A concepts
- Technology, development support requirements developed
- Trade-off analyses accomplished
- Results in preliminary designs and specs
PHASE C/D - DESIGN, FULL-SCALE DEVELOPMENT, OPERATION

- Effort accomplished by contract
- Involves detailed definition, hardware design/development
- Results in actual manufacture, checkout, operation, evaluation of major system

ADMINISTRATOR APPROVAL OF KEY DECISIONS

(1) Mission Need Statement (MNS)

(2) Selection of design concepts

RESULT IN
APPROVAL TO PROCEED WITH PHASE B

(3) Reaffirmation of MNS

RESULT IN
COMMITMENT OF AGENCY TO FULL-SCALE DEVELOPMENT
NASA NMI 7100.14B ACQUISITION PROCESS
(OMB Circular A-109)

PROGRAM PHASES

A  B  C/D

Phase A' Feasibility Studies (Alternate System Design Concepts)
Development  Full Scale Development  Production
Operations

Need

Mission Need Statement

Administrator's Approvals
- Mission Need Statement
- Approves Selection of System Design Concepts
- Approval to Proceed/Realignment

When
- Prior to Phase B
- Prior to Phase C/D and Prior to Separate Phase D, if Applicable

Rationale
- Identify Need, Priority, and Resources
- Selects System Design Concepts to be Pursued in Phase B
- Reverify Mission Need and Value to Agency, if Applicable

PROCUREMENT PROCESS

- PHASE B AND PHASE C/D CONDUCTED UNDER FULL AND OPEN COMPETITION UNLESS JUSTIFIED
- PROCUREMENTS CONDUCTED IN ACCORDANCE WITH SOURCE EVALUATION BOARD HANDBOOK
SOLICITATION FOR PHASE B - CLASS 1 TYPE

- Outlines broad alternative system design concepts selected
- Defined in terms of mission needs, schedule objectives, cost objectives, operating constraints
- Unconstrained by predetermined configurations, specs, or equipment approaches to
- Gain benefits of industry innovation and competition

SOLICITATION FOR PHASE B - CLASS 2 TYPE

- Specifies single concept to be pursued
- No alternative concepts requested/required
- Need explained within mission terms, schedule objectives, and operating constraints

(Considered only when justified by urgency of need or physical/financial impracticality of demonstrating alternatives)
PHASE B SOLICITATIONS (CLASS 1 AND CLASS 2)

0 SOLICIT BROAD BASE OF QUALIFIED SOURCES

0 INFORM OFFERORS FOLLOW-ON RFP'S WILL BE SENT

0 WITHOUT REQUEST TO OFFERORS SELECTED FOR PHASE B WHO SUCCESSFULLY PROVE THEIR DESIGN CONCEPTS

0 UPON REQUEST TO OTHER POTENTIAL OFFERORS

0 NOTIFY OFFERORS OF POSSIBILITY THAT ALL PHASE B CONCEPT STUDY RESULTS (MINUS PROPRIETARY DATA) MAY BE MADE AVAILABLE FOR OPEN COMPETITION FOR CONTINUED CONCEPT STUDIES OR FOR PHASE C/D

IF

NASA DETERMINES CONCEPTS PROPOSED UNDER PHASE B CONTRACTS DO NOT ADEQUATELY FULFILL MISSION NEED OBJECTIVES

0 PROVIDE, TO EXTENT KNOWN, OPERATIONAL TEST CONDITIONS, MISSION PERFORMANCE CRITERIA, LIFE CYCLE COST FACTORS TO BE USED IN EVALUATION AND SELECTION OF SYSTEMS FOR PHASE C/D

0 SOLICITATION RESULTS IN PARALLEL, SHORT-TERM, FIXED-PRICE CONTRACTS
DISSEMINATION/EXCHANGE OF INFO UNDER PHASE B

- RESULTS OF PRIOR STUDIES MADE AVAILABLE TO POTENTIAL OFFERORS
- DISCLOSURE/CORRECTION OF WEAKNESSES AFTER SELECTION OF A PHASE B CONTRACTOR PERMITTED (BUT AVOID TECHNICAL LEVELING)
- TECHNICAL TRANSFUSION/CROSS-FERTILIZATION NORMALLY PROHIBITED

SOLICITATIONS FOR PHASE C/D

STRUCTURED TO ELICIT FOR SEB’S EVALUATION AND SSO’S CONSIDERATION DATA SUCH AS:

- SYSTEM CONCEPT PERFORMANCE MEASURED AGAINST NEED AND OBJECTIVES
- RISKS AND POTENTIAL RESOLUTION
- ESTIMATED ACQUISITION AND OWNERSHIP COSTS
- CONTRACTOR’S DEMONSTRATED MANAGEMENT, FINANCIAL, AND TECHNICAL CAPABILITIES TO MEET PROGRAM OBJECTIVES
SUMMARY

- COMPETITIVE A-109 PROCESS MAKES SENSE
- PROVIDES
  - SYSTEMATIC, INTEGRATED MANAGEMENT APPROACH
  - APPROPRIATE MANAGEMENT-LEVEL INVOLVEMENT
  - INNOVATION AND "BEST IDEAS" FROM PRIVATE SECTOR IN SATISFYING MISSION NEEDS