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**NPR 2800.1**

Effective Date: September 17,  
1998

Expiration Date: May 01, 2008

**COMPLIANCE IS MANDATORY**

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## **Managing Information Technology w/Change 1, 9/17/04**

**Responsible Office: Office of the Chief Information Officer**

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# Change History

## NPR 2800.1, Managing Information Technology

Chg#	Approved	Description/Comments
1	09/17/04	Directive revalidated. Corrections/changes made to the Preface, and Chapters 1 and 2 to correct various directive classification number references and titles.

### DISTRIBUTION:

NODIS

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Effective Date: September 17, 1998

# Preface

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## P.1.Purpose

This document provides guidance for implementing NASA Procedural Requirements (NPR) 2800, Managing Information Technology, which establishes policies for planning, acquiring, managing, and using Information Technology (IT) to accomplish NASA's missions and programs efficiently, effectively, and securely. IT is defined to include computers, ancillary equipment, software, firmware, networks, support services, personnel, funds, and related resources. By implementing IT procedures and guidelines that are aligned with NASA's Strategic Plan and integrated with its strategic management process, NASA seeks to make measurable improvements in mission performance, cost of program/project development and operations, and service delivery to the public through the strategic application of IT. Procedures and requirements for IT security and records management are provided in NASA NPR 2810.1, Security of Information Technology and NPR 1441.1, NASA Records Retention Schedule, respectively.

## P.2 Applicability

The procedures and requirements contained in this NPR are applicable to NASA Headquarters and Centers, including component facilities, the Jet Propulsion Laboratory, and other contractors, to the extent defined in each contract and to the extent that interoperability is required (see section 2.2.3).

## P.3 Authority

Public Law 107-347, E-Government Act of 2002

42 U.S.C. 2473(c)(1), Section 203(c)(1) of the National Aeronautics and Space Act of 1958, as amended.

44 U.S.C. 3501, et seq., the Paperwork Reduction Act of 1995 (Public Law 104-13), as amended.

40 U.S.C. 1401, et seq., Section 808 of Public Law 104-208, the Clinger-Cohen Act of 1996 [renaming, in pertinent part, the Information Technology Management Reform Act (ITMRA), Division E of Public Law 104-106].

31 U.S.C. 1101 note, Government Performance and Results Act of 1993 (Public Law 103-62).

5 U.S.C., Section 552, the Freedom of Information Act, as amended.

5 CFR 1320, Controlling Paperwork Burdens on the Public.

Executive Order 13011, Federal Information Technology.

OMB Circular No. A-11, Preparation and Submission of Budget Estimates.

OMB Circular 119, Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment.

OMB Circular No. A-130, Management of Federal Information Resources.

NPD 2800.1, Managing Information Technology.

## **P.4 References**

NPD 1382.17, Privacy Act -- Internal NASA Direction in Furtherance of NASA Regulations

NPD 1440.6, NASA Records Management

NPR 1441.1, NASA Records Retention Schedules

NPR 1600.2, NASA Security Policy.

NPD 2810.1, Security of Information Technology.

NPR 2810.1, Security of Information Technology.

NPD 2820.1, NASA Software Policies.

NPD 7120.4, Program/Project Management.

NPR 7120.5, NASA Program and Project Management Processes and Requirements.

NPD 2190.1, NASA Export Control Program.

NPR 2190.1, NASA Export Control Program.

NPR 1000.2, NASA Strategic Management Handbook.

## **P.5 Cancellation**

NMI 1415.1B, dated December 13, 1991.

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/s/

**Lee B. Holcomb**  
**Chief Information Officer**

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# Chapter 1. Chief Information Officer Organization

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The NASA Chief Information Officer (CIO) maintains an organizational framework that is integrated with the way the Agency implements its programs and projects. The CIO works with CIO Representatives from the Strategic Enterprises and Centers to support the Agency in the accomplishment of its missions and programs through the efficient and cost-effective utilization of IT. The NASA CIO Operating Model, Figure 1-1, shows the participants and their relationships. The roles and responsibilities of the CIO, CIO Council, CIO Representatives, CIO Representatives Board, IT Principal Centers, Expert Centers, and Center of Excellence for IT are all described in this chapter.

## 1.1. NASA CIO

The NASA CIO is the principal advisor to the Administrator and other senior officials on matters pertaining to IT and is responsible for establishing IT policies and promoting standards and a secure architecture to support scientific, engineering, and administrative data requirements. The NASA CIO serves on the Agency Program Management Council to assure that the IT investments which enable mission-focused programs and projects are given appropriate visibility and review. The NASA CIO is the primary advocate for the IT investment strategy and will establish metrics to manage the Agency's IT investments. The NASA CIO reports for the Agency to the Office of Management and Budget (OMB) and Congress on the impact of IT investments on programmatic outcomes. The NASA CIO will recommend outsourcing and privatization of IT where appropriate, promote technology advancements and infusion, and assure IT training for Agency personnel. The NASA CIO is responsible for implementing NPR 7120.5 in IT program/project life-cycle management practices and working with the Chief Financial Officer (CFO) to provide financial information systems.

## 1.2. CIO Council

The CIO Council provides a broad senior management focus for key policy, standards,

and funding decisions for the Agency`s IT. It is chaired by the NASA CIO and consists of the NASA Deputy CIO, CFO or Deputy, Enterprise Associate Administrators or Deputies, Assistant Administrator for Institutional and Corporate Management, Chief Engineer or Deputy, Chief Technologist or Deputy, and Manager, Space Operations Management Office (SOMO). The CIO Council establishes Agency-level IT policies and serves as a forum for addressing Agency-level initiatives and issues. The CIO Council sets the IT investment strategy for the Agency, assuring a balance of programmatic and institutional IT support; approves NASA`s IT strategic and 5-year plans and proposed IT priorities which have resource impacts; approves disposition of IT budget and program issues; makes a final determination regarding adoption of NASA IT standards; and serves as the IT capital investment advisory group to the NASA Capital Investment Council (CIC).

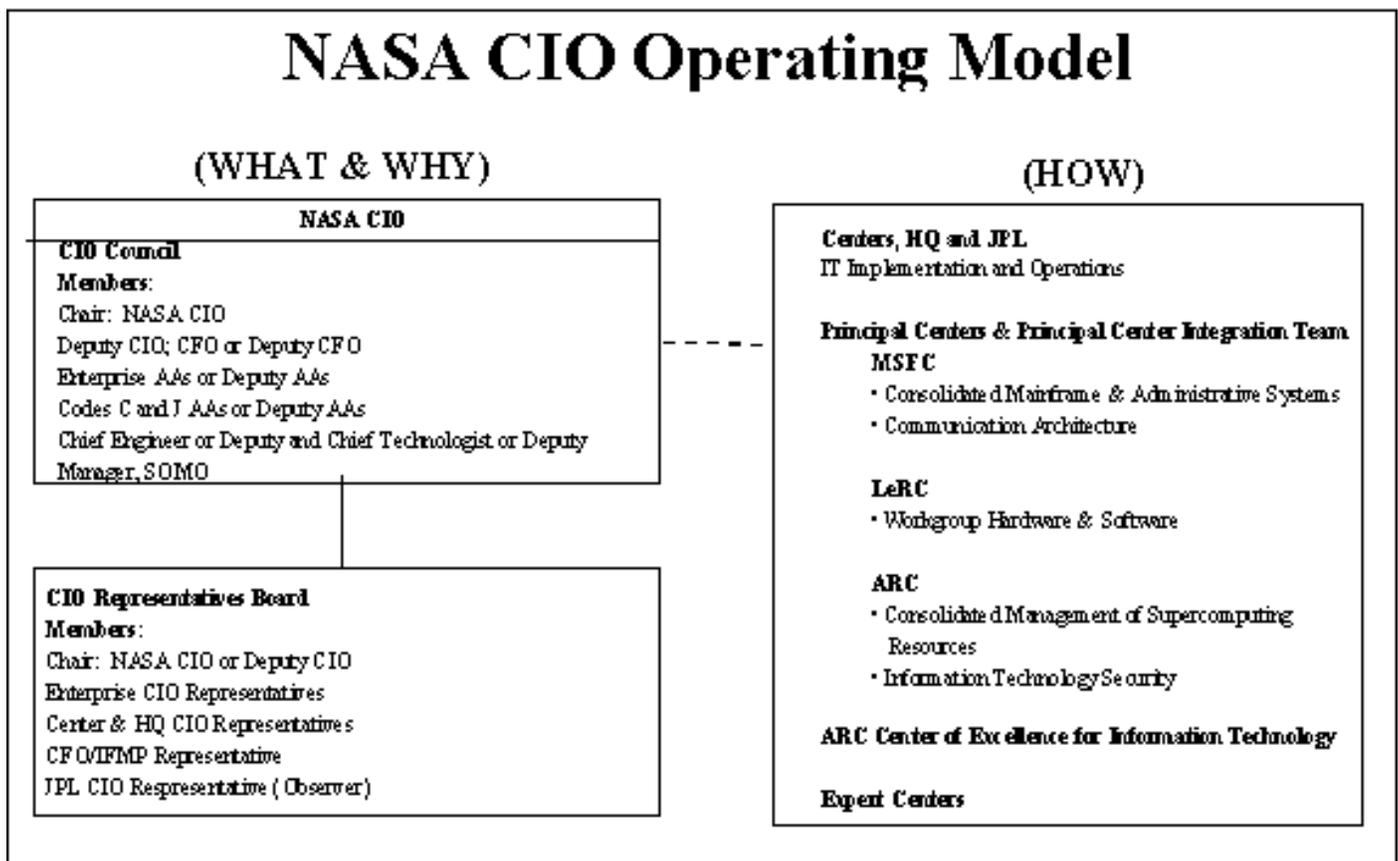


Figure 1-1

### 1.3. CIO Representatives

Each Enterprise Associate Administrator, Center Director, and the Assistant Administrator for Institutional and Corporate Management will appoint a senior official to represent his/her respective organization and collaborate with the NASA CIO in establishing IT policies and standards.

## 1.3.1. Enterprise CIO Representatives

In support of the NASA CIO, the Enterprise CIO Representatives will work with Center CIO Representatives to analyze Enterprise mission processes and recommend IT solutions to support or improve processes and mission outcomes, promote a secure IT environment, and serve as the advocate for the Enterprise IT requirements and budget. The Enterprise CIO Representative will (1) have management-level knowledge of Centers' IT activities in order to influence improvement of management processes; (2) be members of the CIO Representatives Board and work with the NASA CIO, the CIO Council, and the Center CIO Representatives to develop strategies, policies, standards, and guidelines that will improve Agency/Enterprise mission outcomes; (3) assure that the Principal/Expert Center and Center of Excellence activities are integrated; (4) identify and recommend IT areas to be privatized/outsourced; and (5) promote appropriate IT training for Enterprise personnel.

The Enterprise CIO Representative is responsible for assuring that the subordinate Principal Centers have the necessary capability and resources to perform approved assignments and for providing insight to Principal Center activities.

### 1.3.2. Center CIO Representatives

The Center CIO Representatives (Note: All references to Center CIO Representatives include the Headquarters CIO Representative) will (1) implement an effective IT investment plan consistent with established Agency, Enterprise, and Center policies, goals, and standards; (2) concur on all Center major IT investments to assure regulatory, policy, and compliance with standards; (3) advise and counsel Center senior managers (including program managers) on IT investments; (4) define and report metrics; (5) ensure that implementation procedures and Center standards are established in compliance with Agency and Enterprise policies and standards; (6) report to an individual who has management and budgetary authority to implement Center IT investment decisions; (7) coordinate the Center IT budgets, requirements, and investments with the Enterprise CIO Representatives (at Headquarters, the Assistant Administrator for Institutional and Corporate Management); and (8) have the authority to represent and commit the Center at Agency management meetings. The responsibility for assuring a secure IT environment, resolving areas of duplication, and encouraging IT training for Center personnel, is inherent in the Center CIO Representative responsibilities.

### 1.3.3. CIO Representatives Board

The CIO Representatives Board supports the CIO Council in establishing IT policies and plans and approves standards. Chaired by the NASA CIO, the Board is composed of CIO Representatives from the Strategic Enterprises and Centers along with

representatives from the Office of the CFO and, as an observer, the Jet Propulsion Laboratory. The CIO Representatives Board is responsible for drafting the Agency IT investment plans, identifying unnecessary redundancies, and recommending strategies that optimize capabilities. The Board makes recommendations to the CIO Council on IT investments or initiatives that impact infrastructure or multiple Enterprises. The CIO Representatives Board will develop IT performance metrics and periodically evaluate progress in achieving Agency objectives and report its findings to the CIO Council. The Board works closely with the Principal Center Integration Team (PCIT) (as described in paragraph 1.4.2 below) to facilitate coordination of Agency IT Principal Center initiatives.

## 1.4. Principal Centers

The NASA CIO will designate Principal Centers to coordinate Agencywide initiatives in specific IT architecture areas. The Principal Centers will define the IT architecture associated with their areas of responsibility, maintain configuration control, and identify and recommend standards. The Principal Centers will be the NASA organizations responsible for development, investigation, testing, selection process, integration, implementation planning, and/or procurement planning of hardware and software to support the NASA communication architecture, workgroup hardware and software, IT security, consolidated mainframe and administrative systems, and consolidated management of supercomputers. The Principal Centers will actively solicit the technical expertise of other NASA Centers to assure that the full technical expertise of the Agency is effectively utilized and that Center-specific requirements are properly addressed. Principal Centers are fully responsible for managing assigned activities for the Agency, to include those supporting activities performed at Expert Centers (those Centers designated lead in specific Principal Center support areas). The extent to which Principal Centers rely on the technical expertise at other Centers is discretionary. As such, the Principal Centers must be cognizant of IT requirements for all NASA Centers.

### 1.4.1. Principal Centers for Standards/Architecture

Principal Centers have been designated for leading Agencywide activities in the following areas:

Information Technology Security Ames Research Center

Classified Communications Security

(COMSEC) Kennedy Space Center

Workgroup Hardware & Software Lewis Research Center

Communications Architecture Marshall Space Flight Center

## 1.4.2. Principal Center Integration Team

The Principal Centers will interface with the NASA CIO and CIO Representatives Board through the PCIT which includes the Project Managers from the Communications Architecture, IT Security, Workgroup Hardware and Software Principal Centers, and a representative of the NASA CIO. The PCIT will recommend an integrated set of priorities and processes to the CIO Representatives Board for approval and resource commitment. Additional resource requests for baseline modifications or new starts will be presented to the CIO Council for decision after the Principal Centers' recommendations and implementation strategies are provided to the CIO Representatives Board.

## 1.4.3. Principal Centers for Consolidated Management and Operations

Principal Centers have been designated for Agencywide Management and Operations of the following areas:

Supercomputing Ames Research Center

Mainframe and Administrative Systems Marshall Space Flight Center

Desktop Outsourcing Goddard Space Flight Center

# 1.5. Center of Excellence for Information Technology

The Center of Excellence (COE) for IT, Ames Research Center (ARC), provides the Agency with a single IT research focus. The Agency utilizes the COE to leverage the products of IT research and development. The NASA CIO has a role in bridging the gap between the COE and the operational IT requirements of the Agency. To this end, the NASA CIO will work closely with the Office of Aeronautics and Space Transportation Technology and ARC to assure appropriate coordination between this research effort and the Agency's operational needs.

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# Chapter 2. Information Technology Management Processes

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2.0 IT has always been a critical enabler and catalyst for NASA programs. Therefore, the way NASA manages IT is critical to the success of programs and missions. The use of increasingly more sophisticated, interoperable IT dictates that in some areas NASA adopt common processes for management of IT. This chapter defines those necessary common procedures and guidelines for the management of IT to be followed throughout the Agency.

## 2.1. Information Technology Investment Planning and Control

1. NASA has formalized a process for managing IT investments that is fully integrated with the Agency's new frameworks for strategic management, program management, and budget/financial management. Figure 2-1 illustrates how IT planning, budgeting, execution, and evaluation processes relate to Agency processes. NASA's IT investment process supports the activities and decisions made to select IT projects and systems, control and monitor these projects throughout their life cycle, and evaluate results.

a. Prior to proposing an investment in IT, project managers will determine whether the Agency should be performing the function, if the private sector or another agency should support the function, and if the function needs to be redesigned to improve its efficiency. Any new initiatives proposed will be structured into manageable projects which are consistent with Federal and Agency technical architectures and standards. Furthermore, new initiatives must demonstrate a positive projected return on investment, reduce risk, promote interoperability, and better correlate mission need with current technology and market conditions.

b. Mandatory Information Technology Security requirements, as stated in OMB Circular No. A-130, Appendix III, and NASA Policy Directive (NPD) 2810.1, Information Technology Security, must be considered in all IT life-cycle development and operational phases.

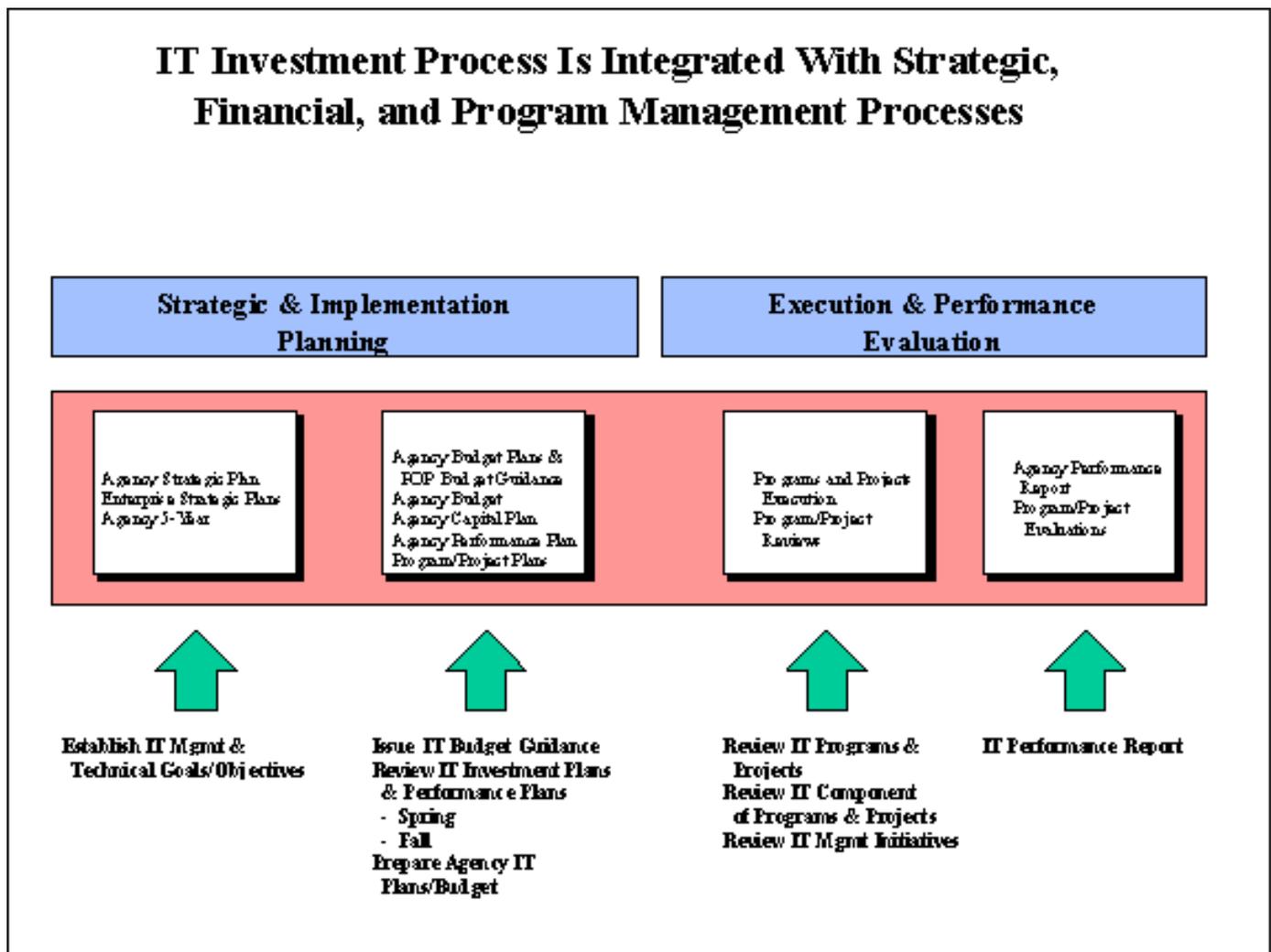
## 2.1.1. Planning and Budgeting for Information Technology Investments

The planning phase is the "core" of the investment process; it allows the Agency to focus on priorities while keeping alternatives in mind. The planning phase is inextricably linked to the budget phase. Good investment planning helps develop, justify, and carry out budget proposals.

### 2.1.1.1. Strategic Planning

Each year the Senior Management Council assesses and revalidates NASA's mission, goals, objectives, strategies, key assumptions, and performance indicators documented in the NASA Strategic Plan. The NASA CIO, other members of the Administrator's staff, the Associate Administrators, and Center Directors all participate to define the strategic direction for the Agency.

Within the context of the NASA Strategic Plan, the CIO identifies IT strategic goals and objectives to support planned missions and promote cross-Enterprise efficiencies, consistent with the Agency and Enterprise Strategic Plans. These IT goals and objectives form the foundation for the IT budget guidance issued as part of the annual budget planning process.



## Figure 2-1

### 2.1.1.2 Planning for New Investments in Information Technology

Investment planning is an ongoing process that incorporates a detailed analysis of current and new requirements with projections of funding needs. Prior to issuance of the Agency's Program Operating Plan (POP) guidance, the NASA CIO will conduct reviews and provide recommendations for major new investments in IT. These recommendations will be within the management framework for programmatic and capital investments described below.

#### a. Capital Investment Council

The NASA CIO supports the CIC for investment decisions in the area of IT. The NASA CIO, supported by the NASA CIO Council and CIO Representatives Board, is responsible for developing or coordinating a complete analysis of the IT strategy, investment plans, and major planned management initiatives to improve the delivery of IT capabilities for the Agency. Upon recommendation of the CIO Council, the CIC reviews proposed major investments in IT infrastructure, multi-Enterprise IT investments, and IT management initiatives and makes recommendations to the Administrator.

Managers seeking approval for major IT investments will provide an analysis containing the relevant elements in the following:

1. A description of NASA requirements based on missions, including linkage to the NASA Strategic Plan, the Enterprise Strategic Plans, and the Center Implementation Plans;
2. A prioritized list of requirements, including time phasing;
3. A description of existing and in-process NASA capabilities, including condition and inputs from appropriate ongoing functional assessment activities;
4. An evaluation of requirements, a description of related Federal, academic, industry, and other capabilities, including partnering potential capabilities, and funding profiles;
5. An investment strategy with proposed roles for the implementing Strategic Enterprises, the Centers of Excellence, and other elements of the organization; and,
6. Cost, schedule, and performance metrics for the entire life cycle.

#### b. Program Management Council

1. The majority of NASA's IT investments are made within the context of programmatic investments.
2. Program Management Councils exist at the Agency, Lead Center, and Center levels

to oversee the formulation, approval, implementation and evaluation of Agency programs and projects. The NASA CIO is a member of the Agency-level Program Management Council, and Center CIO Representatives support Program Management Councils at their respective Centers.

3. At the Agency level, Enterprise Associate Administrators present and advocate major new programs to the NASA Program Management Council which, in turn, presents its recommendations to the Administrator. The Enterprise Associate Administrator includes the needs of Enterprise programs and projects in formulating long-term institutional investment strategies, including IT. Details regarding information to be presented to the Agency-level Program Management Council for proposed new programs/projects are contained in NPR 7120.5A, NASA Program and Project Management Processes and Requirements.

4. IT requirements and the associated investment strategies are addressed as part of the technical, cost, and schedule assessments.

#### 2.1.1.3. Program Operating Plan

Each budget cycle is initiated by guidance from OMB providing planning estimates, as well as policy guidance for the preparation of the Agency's budget request. Budget Formulation.

1. Budget planning begins with the issuance of NASA's POP guidance by the Administrator. The guidance is issued to the Strategic Enterprises and reflects the first-order priorities of program content. It includes the results of the prior-year budget planning products, decisions made by the Program Management Council, and capital investment decisions documented by the CIC. It also includes additional guidance regarding potential new initiatives, an investment profile for ongoing programs, performance goals, and associated metrics. The NASA CIO provides general and detailed guidance for submission of IT plans and budgets as part of the POP guidance. Detailed formats and schedules specific to the budget year are provided in the guidance. Figure 2-2, Planning Cycle, illustrates the integration of the IT planning and budgeting process with Agency processes and timelines.

2. Consistent with NASA's POP guidance, each Enterprise develops its own detailed guidance which includes the Enterprise program investment strategy, including prioritization and potential new program starts; institutional investment guidance, including IT; and Enterprise-level performance metrics and goals (both programmatic and nonprogrammatic). In response to the Enterprise POP guidance, the Center prepares resource requirements which are integrated into the Agency's annual submittal of its 5-year budget.

#### b. Enterprise and Agency Reviews and Investment Decisions

Each Strategic Enterprise is responsible for balancing the anticipated resource availability with the activities that are identified by the planning process. The

Enterprise Associate Administrator allocates resources among programs and revises performance requirements as necessary to establish performance baselines. Enterprise CIO Representatives participate in these reviews and decision processes to assure the appropriate investment in IT.

c. CIO Investment Review

Consistent with the Agency's budget planning and review cycle, the NASA CIO conducts an annual review of the Agency's IT investment plans with Enterprise and Center CIO Representatives. The purposes of the CIO review are to examine overall IT investment strategies to identify opportunities for Agency economies and efficiencies, gain an overall understanding of the balance among portfolio components (e.g., new versus operational investments), and conduct a high-level review of the IT investments that are being proposed. Individual investments are reviewed to assure that investment criteria contained in the POP guidance have been addressed and that risk and return on investment considerations have been properly assessed. These reviews provide a foundation for the NASA CIO to advocate IT investments as part of the overall Agency investment decision process and serve to identify opportunities for subsequent CIO initiatives to improve mission and infrastructure efficiencies.

### Planning Cycle

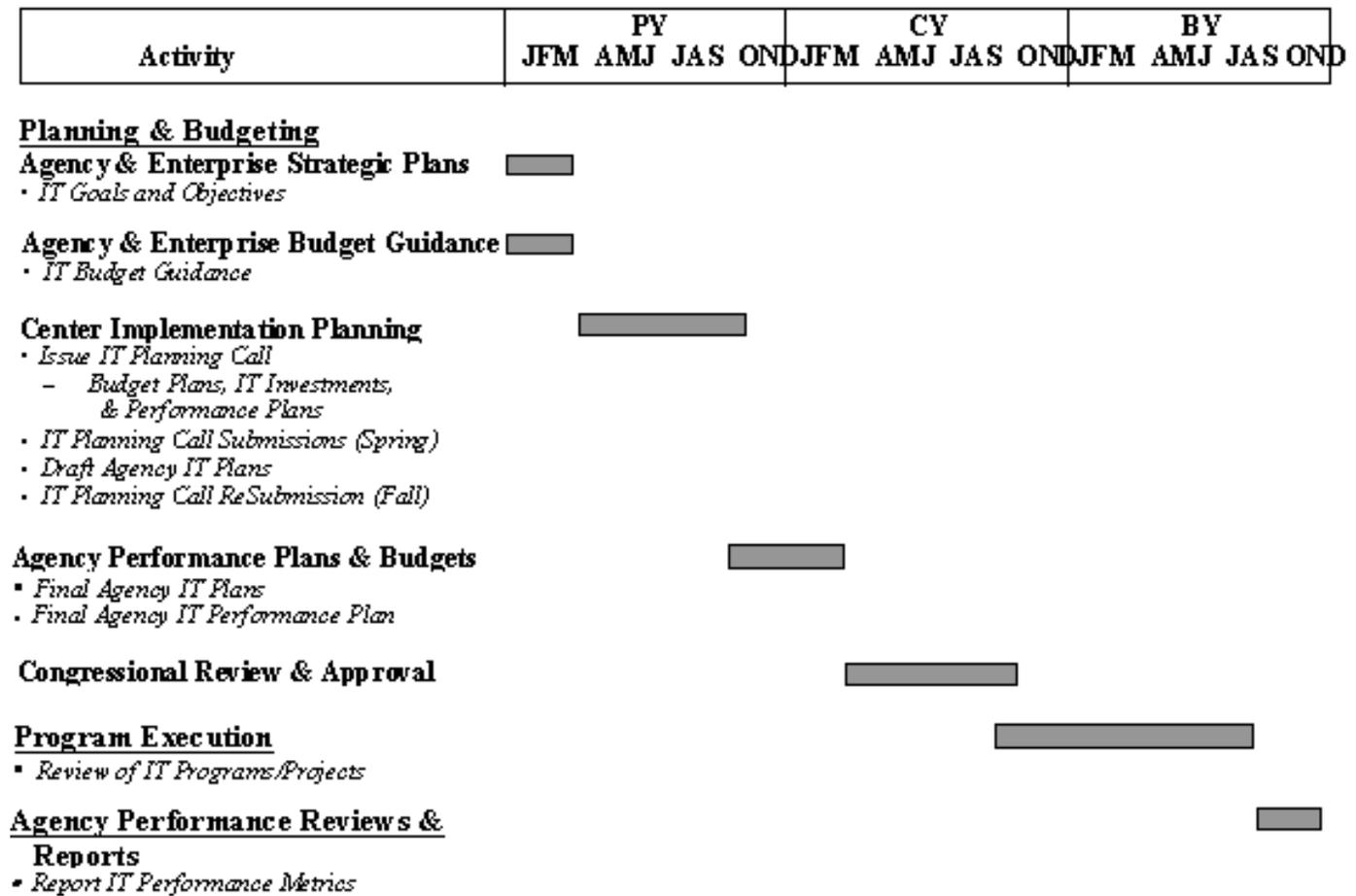


Figure 2-2

## d. Agency Integration and Decision

The final budget request transmitted to OMB reflects the POP decision process which incorporates IT requirements. The Strategic Plan and budget process are fully compatible. The content of the budget request describes the way in which the Administrator plans to achieve progress toward meeting the goals and objectives that appear in the NASA Strategic Plan within the multiyear funding allowance available. The Administrator approves the final 5-year budget submittal. This process assures that all IT investments have been reviewed and approved within the framework of the Agency's management structures and have the full commitment of the Agency.

### 2.1.2. Execution and Performance Evaluation

The execution of IT investment decisions and performance evaluation are conducted within the framework prescribed by NASA's strategic management process for executing its mission and assessing its performance.

#### 2.1.2.1. Performance Reviews

a. NASA has established program and project evaluation processes to provide an independent assessment of the continuing ability of a program or project to meet its technical and programmatic commitments. Evaluation occurs throughout the life cycle of the program or project. It uses the benefits of peer experiences, customer appraisal, and management expertise and tools in independent review of program or project concepts, plans, status, and performance. Requirements for the reviews are tailored, based on such factors as program and project size, criticality, and risk, and are detailed in the Program Commitment Agreement and program/project plans. The outcome of the evaluation process is a set of conclusions regarding the ability to meet commitments and recommendations for proceeding with, modifying, or terminating the program or project. NPD 7120.4 and NPR 7120.5, describe the requirements for the evaluation process. Additional requirements for software projects are contained in the directive on NASA Software Policies, NPD 2820.1. The NASA CIO is a member of the Agency PMC, and Center CIO Representatives support the PMC's at their respective Centers to assure that IT investments meet technical, cost, and success criteria.

b. As the majority of NASA's IT investments are made within the context of programmatic investments, mission support IT investments are reviewed as part of the program/project's assessment. These program/project specific IT investments are reviewed by the PMC governing the overall program or project. Status of all programs and projects is reviewed on a regular basis (normally quarterly or monthly) by the Governing PMC (GPMC). Other reviews can be called as necessary by appropriate management, including the NASA CIO or Enterprise/Center CIO Representatives. At all status reviews, progress is reported and evaluated against planned accomplishments. Specific quantitative metrics, as defined in the approved

Program/Project Plan, are also reviewed. IT investments are reviewed within the context of the program/project's overall technical, cost, schedule, and performance assessment.

c. Major Agencywide infrastructure or multi-Enterprise IT investments and IT management initiatives, approved through the CIC, are assigned to Lead Centers for implementation. These investments will be governed by commitments and measures documented in Program Commitment Agreements and Program Plans and reviewed by the GPMC. At a minimum, the following performance measures are tracked: budget plans/annual and life-cycle costs; summary schedule of major milestones; and performance indicators to measure customer satisfaction and cost/service unit. These measures are tracked throughout the investment's life cycle. Progress in meeting established investment measures is reviewed frequently at the Center level, consistent

d. with the Agency's established project management practices; it is also reviewed as part of the annual IT investment review conducted as part of the budget planning process; and it is additionally reviewed as required by the NASA CIO, the CIO Council, and the CIC.

e. Whenever a program/project, including IT investments initiated through the CIC, is in jeopardy of being unable to meet its commitments within the predefined resource constraints, it is subject to a termination review by the GPMC. One trigger for a termination review is a projection that the development or life-cycle cost of the program/project will exceed its stated Program Commitment Agreement limit. Other triggers for a termination review will be specified in the Program Commitment Agreement. The decision on whether to terminate a specific Program/Project will be made by the NASA Administrator for programs reviewed by the NASA PMC, the Enterprise Associate Administrator for programs reviewed by a Lead Center PMC, and the Lead Center Director for projects reviewed by a Center-level PMC.

#### 2.1.2.2. NASA Performance Report

In response to Government Performance and Results Act requirements, NASA has defined a set of performance measures, including a measure for IT investments, that will be used as a management tool to assess progress towards achieving Agency goals and objectives. NASA IT performance measures for customer satisfaction and return on investment for major Agency IT infrastructure investments for desktops and local area networks, supercomputing, mainframe computing, and wide area networks are included in the annual Performance Plan and are reported as part of the Agency's annual Performance Report.

## 2.2. NASA IT Standards and/or Architectures

a. The NASA CIO establishes Agencywide IT standards and/or architectures to facilitate implementation of an integrated and interoperable NASA IT architecture

which enables secure information exchange and resource sharing. New IT investments must be compatible with Federal and NASA standards and/or architectures while taking advantage of emerging technologies. NASA organizations and NASA contractors, for which a standard and/or architecture apply (see paragraph 2.2.3 for a definition of the criteria for contractor applicability), must comply with the standard and/or architecture unless a waiver is obtained.

b. In establishing standards the following principle will apply: NASA IT standards and/or architectures must not conflict with or cause incompatibility problems with Federal IT standards and/or architectures. Standards should be specified as functionally as possible. Standards which can not be specified functionally should be specified first, based on interface requirements, or second, on a product on an equal-to or better-than basis.

### 2.2.1 Setting NASA IT Standards and/or Architectures

a. The Principal Centers, Expert Centers, and Principal Center Integration Team (PCIT) play an integral role in developing, documenting, integrating, and formally proposing NASA standards and/or architectures. Once a standard and/or architecture is formally proposed, the NASA CIO Representatives Board and the NASA CIO Council conduct final evaluations and reviews and recommend either adoption or rejection of the proposal as a NASA IT standard and/or architecture to the NASA CIO.

b. The specific process for establishing NASA IT standards and/or architectures is as follows:

1. The cognizant Principal Center will analyze, test, develop, and integrate proposed NASA IT standards and/or architectures or revisions to existing standards and/or architectures.
2. Once a Principal Center has completed its analysis, testing, developing, and integrating, it will submit the proposed NASA IT standard and/or architecture to the PCIT.
3. The PCIT will recommend approval or rejection of proposed standards and/or architectures to the NASA CIO Representatives Board.
4. The CIO Representatives Board will evaluate and vote on NASA IT standards and/or architectures recommended to them by the PCIT.
5. Finally, the NASA CIO will present IT standards and/or architectures for which the CIO Representative Board votes to accept as NASA IT standards and/or architectures to the NASA CIO Council for its approval or rejection.
6. The NASA CIO office will publish approved NASA IT standards and/or architectures and make them accessible via the NASA CIO Home Page.

### 2.2.2. Local IT Standards and/or Architectures

Local standards and/or architectures may be implemented to the extent there is no conflict or incompatibility with either Federal or NASA standards and/or architectures. The process for establishing local standards and/or architectures is as follows:

- a. The proposed local standard and/or architecture must have the concurrence of the Center CIO Representative through a local configuration control board process which ensures that there are no incompatibilities or conflicts with existing Federal or NASA standards and/or architectures.
- b. Should problems arise with a locally implemented standard and/or architecture, the issue will be resolved by the Center CIO Representative. If Center-level resolution is not possible, the Center CIO Representative will apprise the PCIT and bring the issue to the CIO Representatives Board for mediation.

### 2.2.3. Application of NASA IT Standards and/or Architectures to Contractors

Agency IT standards and/or architectures issued by the NASA CIO are applicable to NASA contractors as follows:

- a. To the extent required for electronic exchange of information between a NASA organization and the contractor and for delivery of products to be used to provide both intra-agency and interagency information exchange specified in the contract.
- b. The contract requires delivery of an IT system to NASA.

### 2.2.4. Waivers to NASA IT Standards and/or Architectures

Waivers to IT standards and/or architectures will be granted by the NASA CIO. In some cases, responsibility for granting waivers will be delegated to Enterprise or Center CIO Representatives as appropriate. The procedure for requesting waivers follows:

- a. The Center CIO Representative will submit waiver requests through the cognizant Enterprise CIO Representative to the IT Principal Center responsible for the NASA IT standard and/or architecture. The Headquarters CIO will submit waiver requests directly to the appropriate IT Principal Center. Waiver requests will include the following:
  1. The NASA IT standard and/or architecture to be waived.
  2. The reason a waiver is required.
  3. Justification for the waiver.
  4. A proposed date by which the Center will be compliant with the NASA IT standard and/or architecture.

b. The IT Principal Center will evaluate the waiver request within 4 weeks and recommend approval or disapproval to the NASA CIO. Based on the Principal Center's recommendation, the NASA CIO will either approve or disapprove the request and notify the requesting Center.

### 2.2.5. Waivers to Mandatory Federal Information Processing Standards (FIPS) and Federal Telecommunications Standards (FED-STD)

Waivers of mandatory FIPS and FED-STD will be granted only by the NASA CIO and only when compliance will cause a major impact on the accomplishment of NASA's mission or a major adverse financial impact on NASA's mission that is not offset by Agencywide or Government wide savings.

The evaluation and approval process for FIPS and FED-STD is as follows:

a. The Center CIO Representative will submit waiver requests through the cognizant Enterprise CIO Representative to the IT Principal Center designated in section 1.4.1 for the relevant architecture area. Waiver requests will include the following:

1. The mandatory FIPS and/or FED-STD to be waived.
2. The reason a waiver is required.
3. Justification for the waiver.
4. A migration plan which states when the Center will be compliant with the mandatory FIPS and FED-STD or the reason(s) and justification(s) if a migration plan is not appropriate.

The IT Principal Center will evaluate the request and make a recommendation on approval or disapproval to the NASA CIO within 4 weeks of receipt of the request. Based on the Principal Center's recommendation, the NASA CIO will either approve or disapprove the request and notify the requesting Center.

b. The cognizant IT Principal Center will publish approved waivers to mandatory FIPS and FED-STD in the Federal Register (FR) using the following procedure:

1. Prepare the FR notice in compliance with NPD 1400.2, Publication of NASA Documents in the Federal Register. Certification and submission of these notices will be coordinated with the Headquarters Office of Management Systems and Facilities and the Office of General Counsel.
2. Make the Headquarters Office of Legislative Affairs aware of the need to notify the House Government Reform and Oversight Committee and the Senate Governmental Affairs Committee of the waiver.
3. Draft a decision memorandum, for signature by the NASA CIO, stating that NASA

has granted a waiver to a mandatory FIPS or FED-STD. Once signed, the NASA CIO will forward this memorandum to the address below:

National Institute of Standards and Technology  
Attention: FIPS/FED-STD Waiver Decisions  
Technology Building, Room B-154  
Gaithersburg, MD 20899

## 2.3. Information Collection From the Public

The Information Collection Budget (ICB) process facilitates the review of the planned collection of information from the public, including NASA contractors, and reporting of the total planned information collection burden on the public to the OMB. This ICB process does not apply to collection of Program/Project unique information such as progress reviews or project deliverables. The process is consistent with the Paperwork Reduction Act of 1995, implementing guidance, and provides an annual ICB per OMB regulation, Controlling Paperwork Burdens on the Public (5 CFR 1320). It assures that all proposed collections minimize the burden of the collection of information on those who are to respond, including through the use of automated collection techniques or other forms of IT. The OMB uses the ICB in conjunction with management reviews of other agency activities to assess information collection priorities and as a tool to help maintain the lowest necessary level of paperwork burden on the public, consistent with the Federal Government's need for information.

### 2.3.1. Responsibilities

The NASA CIO is the senior NASA official responsible for establishing a process that is independent of program responsibility to evaluate fairly whether proposed collections of information should be approved. The Agency ICB Clearance Officer is appointed by the NASA CIO. Each Center and Headquarters Functional Office will appoint an ICB Clearance Officer to coordinate clearance requests and ICB reporting.

### 2.3.2. Information Collection Clearance Procedures

Any NASA employee proposing collection of information from the public, including from NASA contractors, must justify the requirement, take steps to minimize the collection burden, and comply with clearance and reporting procedures. Before initiating collection of information from the public, the cognizant ICB Clearance Officer must submit a request for clearance to the Agency Clearance Officer. The phrase "collection of information" is defined to be the obtaining, causing to be obtained, soliciting, or requiring the disclosure to third parties or the public, of facts or opinions by or for an agency, regardless of the form or format, calling for either answers to identical questions posed to, or identical reporting or recordkeeping requirements imposed on, 10 or more persons, other than agencies, an instrumentality, or employees of the United States; or answers to questions posed to agencies, an

instrumentality, or employees of the United States which are to be used for general statistical purposes. Reporting requirements levied on NASA contractors are included within this definition. A clearance request must include the following:

1. OMB Form 83-1 (Detailed information required for completing OMB Form 83-1 and attachments is contained in instructions accompanying the form);
2. Certification Statement;
3. Supporting Statement; and
4. Copy of relevant statute mandating or authorizing the collection.

The Agency ICB Clearance Officer will perform the following:

1. Evaluate each proposed collection of information or extension of an existing one;
2. Publish a 60-day Notice in the Federal Register;
3. Summarize any public comments and the Agency's response to the comments; and
4. After 60 days, send the information clearance package along with the summary of comments and text of the 60 and 30-day Federal Register Notices to OMB for review. Concurrently publish a 30-day Notice in Federal Register.

OMB generally has 60 days from the date the Agency submits an information clearance package (or the date a 30-day Federal Register Notice is published, whichever is later) to take an action. If the Agency request for clearance is approved, OMB will provide a valid control number to be displayed along with the notice of the legal consequences of failing to display the control number. OMB control numbers assigned to approved collections of information are valid for a maximum of 3 years. The status of approved collections is tracked annually through ICB reporting.

### 2.3.3. Information Collection Budget Procedures

OMB requires an annual submission of the Agency's ICB to report the total information collection burden for the current year and estimated burden for the next year. The ICB also reports the identification of the most significant burden reduction accomplishments and planned initiatives. Detailed specifications for submission of the ICB are issued annually by OMB. Subsequently, the Agency ICB Clearance Officer will issue a call for information collection plans.

## 2.4. Obsolescence Management

NASA's goal in obsolescence management is to assure that obsolete IT equipment is replaced and excessed to promote the Agency's IT interoperability goals. IT equipment

is obsolete if one or more of the following apply:

- a. Any hardware that is 7 years of age or older. Age begins from the date that the Center acquires it (if the equipment is acquired through another agency or by a contractor, age begins on the date acquired by the other agency or contractor), as recorded in the NASA Equipment Management System (NEMS).
- b. Equipment that is 5 years old or older and no longer supported by vendor.
- c. Equipment that is 5 years old or older and noninteroperable with the existing infrastructure.
- d. Computer Systems that do not meet the minimum configuration as defined by applicable NASA standards.
- e. Equipment that is 5 years old or older with maintenance and operations costs that exceed 30 percent of replacement cost.

#### 2.4.1. Obsolescence Management Process

Obsolescence management policy is the responsibility of the NASA CIO and the hierarchy of CIO Representatives. The Headquarters and Center CIO Representatives are responsible for managing obsolescence at the operational level and for reaching, and sustaining into the future, an IT inventory with an average age of no more than 3 years by the year 2000. Enterprise CIO Representatives are responsible for oversight to assure that the average age of IT at their respective Centers is reduced. The following principles apply to obsolescence management:

- a. Obsolescence goals apply to Government-furnished property used by contractors.
- b. Replaced obsolete IT will be excessed, utilizing appropriate property disposal procedures. Excessed IT equipment should be made available to primary/secondary educational institutions to further the infusion of computer technology.
- c. Replacement IT must meet NASA's minimum standards for interoperability for both hardware and software products.
- d. When replacing IT, capability augmentation must meet the test of mission requirements or result from routinely provided technology advancements.
- e. Replacement IT must comply with Year 2000 operability requirements.

#### 2.4.2. Obsolescence Plans and Reports

Obsolescence plans will be developed and status of IT inventories will be reported annually by Headquarters and each Center, through their respective Enterprise CIO Representative.

- a. Headquarters and Center CIO Representatives are responsible for establishing annual replacement plans which include the prioritized items for replacement.
- b. Status reports will be submitted to the NASA CIO no later than April 7 of each year. Data from the NASA Equipment Management System will be used for calculating average age of IT components. Average age will be calculated as of March 31 of each year.

## **2.5. Responding to Electronic Freedom of Information Act Requests**

To comply with the Electronic Freedom of Information amendments of 1996, NASA will make available to the public nonexempt information in electronic formats created after November 1, 1996. Documents may be requested in any electronic format that is reasonably available. The following procedures will be employed responding to FOIA requests:

- a. A search will be made electronically, if the information requested is maintained electronically, and physically, if maintained in hard copy.
- b. Headquarters and each NASA Center will maintain electronic reading rooms on the World Wide Web (WWW). Guidance on information to be placed in the electronic reading rooms is provided by the Office of Public Affairs, Headquarters Freedom of Information Act FOIA office. The Headquarters FOIA Home Page (URL: [www.hq.nasa.gov/office/pao/FOIA/](http://www.hq.nasa.gov/office/pao/FOIA/)) contains FOIA guidance.
- c. Headquarters and each NASA Center will establish a FOIA Home Page on the WWW with an electronic mail address to each site beginning with FOIA@(appropriate Center abbreviation). Nasa gov (e.g., <http://www.hq.nasa.gov/office/pao/FOIA/>). The FOIA Home Page will reside prominently on the Headquarters and each Center Home Page for easy access by the public. The Home Page will contain, at a minimum, the electronic reading room, instructions on processing a FOIA request, and links to every other NASA facility (both FOIA and front entrance).

## **2.6. Information Dissemination on the Internet**

The Internet is a fundamental communications tool for executing the Agency's missions. These include the function, as provided in the National Aeronautics and Space Act, to "provide for the widest practicable and appropriate dissemination of information concerning its [NASA's] activities and the results thereof."

### 2.6.1. Dissemination of Information Through the Internet

Before any information is made available on resources within the "nasa.gov" domain, the following actions must be completed:

- a. A determination must be made that the information to be disseminated through official NASA computing resources is directly related to the official duties and responsibilities of individuals and organizations within NASA.
- b. Supervisory approval authorizing release of information to the public must be obtained in accordance with NASA's policies. The local NASA Office of Public Affairs should be consulted to determine what authorization is needed.
- c. Sensitive, confidential, export controlled, copyright protected, or privacy information should not be placed in publicly available directories.
- d. A clear accountability for the accuracy and appropriateness of information to be displayed must be established before any information regarding NASA activities, missions, organizations, publications, is posted on the Internet via NASA "servers" for public access. This accountability requirement applies when using World Wide Web, Gopher, or other Internet information service. Furthermore, the accountability requirement applies to direct references ("hyperlinks") to external information sources. Whenever a hyperlink is established, NASA is responsible for linking to appropriate material and ensuring that the link is viable. If the content of the link changes, NASA must reevaluate whether or not to maintain the link. When linking to external sites (outside the .gov domain), a disclaimer shall be displayed. This disclaimer may appear on the page or pages listing external links or thorough an intermediate "exit notice" page generated by the server. An example of such an exit notice is located at the White House World Wide Web site at <http://www.whitehouse.gov/>.
- e. Descriptions and images, representing the products of any NASA entity, must be accompanied by the identification of the NASA official responsible for the content of the products being represented.
- f. Approval from the appropriate NASA manager must be obtained prior to storage of any information accessible via Internet.
- g. Software developed under NASA auspices must be reviewed in accordance with established NASA policy on commercial technology transfer, including the NASA Export Control Program, before the software can be made available through the Internet.
- h. Appropriate protections and restrictions from public access (i.e., from outside the nasa.gov domain) must be established for information intended for "NASA ONLY".

### 2.6.2. Management of Internet Home Pages

When information is placed on a NASA Home Page, the following actions should be taken:

a. The following Unique Resource Locator (URL) address naming schema should be followed:

1. The URL for NASA's top level Home Page is "www.nasa.gov". This URL address is owned by the Headquarters Public Affairs Office (PAO), and it should not be used by any other organization. Furthermore, the Headquarters PAO controls links to this page.

2. The URL address of NASA Centers' top pages should be in the form, "www.xxxx.nasa.gov", where xxxx is indicative of a Center (e.g., ARC ,GSFC, KSC, MSFC). This top-level Home Page is controlled by the individual Center's PAO.

3. The address naming schema for major NASA programs generally will be in one of two forms:

"www.(program name).nasa.gov" (e.g., "www.iss.nasa.gov") or "www.installation.nasa.gov/(program name)" (e.g., "www.jsc.nasa.gov/iss"). If a server is dedicated to a program, the first address naming schema may be more appropriate. When widespread interest is anticipated, an exception to this overall address naming schema may be appropriate to simplify searching for the general public (e.g., <http://shuttle.nasa.gov> is the URL for the Shuttle Home Page).

4. All other Home Pages should be a subordinate form of the address, "www.yyy.xxx.nasa.gov/sss", where "yyy" represents the name of the server and "xxx" represents the name of the location, and "sss" is the name of the subordinate activity or office.

b. Links should be established such that --

1. The NASA Home Page is linked with the primary Home Pages at each of the NASA Centers and Headquarters offices.

2. The primary Home Pages at NASA Centers and Headquarters offices are linked to primary Center and Headquarters organizational Web sites at that location.

3. All links external to NASA should be clearly identified as such.

4. Each organizational/program Home Page should include an explicit link back to the NASA Home Page.

5. Home Pages containing related information are linked together as much as possible.

6. Each Home Page Point of Contact (usually known as the "curator") assures the validity of external and internal links (i.e., ensuring that the link remains functional rather than ensuring that the content of the linked site remains unchanged).

c. The curator of each Home Page will assure the validity and timeliness of the information posted on the Home Page. Information posted must be kept current and accurate. Before information is posted, it must be examined carefully for accuracy. Once information is posted, it should be kept current or removed. The curator will have information reviewed at least monthly to assure that it is current.