NASA Policy Directive

NPD 8070.6C
Effective Date: February 04, 2008
Expiration Date: February 04, 2013

COMPLIANCE IS MANDATORY

Printable Format (PDF)

Request Notification of Change (NASA Only)

Subject: Technical Standards

Responsible Office: Office of the Chief Engineer

1. POLICY

This NPD establishes policy and responsibilities for the development, management, and use of technical standards and associated products (specifications, guidelines, and handbooks). NASA programs, projects, and functional activities shall:

a. Use established, consensus-based technical standards, as defined in OMB Circular A-119, to provide an effective basis for defining requirements, evaluating implementation approaches, assessing resulting performance, and ensuring quality throughout the system life cycle defined in NPR 7120.5D and NPR 7123.1.

b. Encourage commonality in the use of technical standards across NASA to promote excellence and consistency in practice, increase potential use of commercial items, reduce program/project costs, simplify interfaces, and improve interoperability in cooperative efforts.

c. Give preference to performance (outcome-based) standards in program/project technical requirement specifications over prescriptive design or process (product-based) standards. Detailed standards may be used where required to provide the level of detail required to ensure compatibility of form/fit/function and to meet essential needs, such as common test methods to ensure comparability of results.

d. Select and tailor standards (i.e., document necessary changes) to meet specific application needs and to avoid over- or under-specification of requirements. Application tailoring shall document traceability to the original standard and shall be approved by Technical Authority, as required by NPR 7120.5D, and for Safety and Mission Assurance programs by NPR 8715.3.

e. Ensure use of best practices in application of technical standards to NASA programs and projects through the following: (1) select current versions of technical standards

except where justified as impractical or incompatible with requirements; (2) review lessons learned associated with selected standards for applicability to current applications; (3) register use of standards imposed as requirements in the NASA Technical Standards System/Standards Update Notification System (at http://standards.nasa.gov) to receive notification of revisions; and (4) review revisions to imposed standards to determine the need for changes to requirements.

f. Designate mandatory standards, where determined essential to maintain technical rigor, to reduce risk, or to ensure interoperability. These standards are to be imposed as requirements for all NASA programs and projects unless determined to be inapplicable by Technical Authority as specified in NPR 7120.5D.

g. Use Voluntary Consensus Standards (VCS), both domestic and international, in lieu of Government-unique standards unless use of such standards would be inconsistent with applicable laws or otherwise impractical. "Impractical" includes circumstances when the use of VCS would fail to serve the Agency's program needs; would be infeasible; or would be inadequate, ineffectual, or inconsistent with Agency mission. (Ref. OMB Circular A-119, Section 6.a.)

h. Participate in the development of VCS to eliminate the necessity for development or maintenance of separate Government-unique standards when such participation is in the public interest and is compatible with NASA's missions, authorities, priorities, and budget resources. (Ref. OMB Circular A-119, Section 7.)

i. Establish and maintain NASA Technical Standards as required in areas where VCS and standards available from other sources would fail to meet NASA's program needs.

j. Give priority to development of technical standards supporting defined program/project needs. This may include issue of Interim NASA Technical Standards where required to meet time-critical requirements prior to full Center review and approval of NASA Technical Standards.

k. Review each NASA Technical Standard at least once every five years to determine if the standard is still needed, needs to be revised, or updated, and can be replaced by a voluntary consensus standard. NASA standards that are no longer needed or can be replaced by a voluntary consensus standard shall be canceled.

l. Support conversion of mature NASA Technical Standards to VCS except where the need for the standard is unique to NASA.

2. APPLICABILITY

This NPD is applicable to NASA Headquarters and NASA Centers, including Component Facilities, in the performance of Agency missions, programs, and projects, and to contractors to the extent specified in the contract(s).

3. AUTHORITY

a. 15 U.S.C. 272, paragraph (b), and note as modified by Section 12, "Standards Conformity" of "National Technology Transfer and Advancement Act of 1995," Public Law 104-113.

b. OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities," February 10, 1998.

4. APPLICABLE DOCUMENTS

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

b. NPR 7123.1, NASA Systems Engineering Processes and Requirements.

c. NPR 8715.3, NASA General Safety Program Requirements, Chapter 1, Section 13.

5. RESPONSIBILITY

a. The NASA Chief Engineer has the following responsibilities:

(1) Establish policy, provide strategic direction, maintain oversight, and evaluate effectiveness of NASA technical standardization activities.

(2) Maintain an integrated NASA Technical Standards System to provide Agency-wide access to standards and related information from all sources for use in NASA programs.

(3) Establish procedures for development, review, approval, distribution, and maintenance of NASA Technical Standards to ensure that all affected programs, projects, and Centers have the opportunity for review and approval of those standards.

(4) Develop and maintain NASA Technical Standards for engineering.

(5) Serve as or delegate Technical Authority for all technical standards for which the Office of the Chief Engineer is responsible, consistent with the procedures of NPR 7120.5D.

(6) Assign responsibilities and delegate authorities for establishing and maintaining capabilities required to support the standardization needs of NASA programs and projects.

(7) Serve as the designated NASA Standards Executive, as defined in OMB Circular A-119, to provide for external coordination of NASA standards activities, to provide NASA representation on the Interagency Committee for Standards Policy, and to provide an annual report on NASA standards activities to the OMB through the National Institute of Standards and Technology. That report shall include justification for any use of Government-unique standards in lieu of existing VCS.

(8) Coordinate and assess the implementation of standards policy and activities with NASA Headquarters Offices, Centers, and Technical Authorities.

b. Officials-in-Charge of Headquarters Offices that use technical standards have the following responsibilities:

(1) Identify priorities for development of NASA Technical Standards in their areas of authority, including the need for release of NASA Interim Technical Standards to meet time-critical program needs.

(2) Develop, approve, and maintain required NASA Technical Standards in specific areas for which they have unique technical and/or assigned functional responsibility and to provide current versions of approved standards to the Chief Engineer for inclusion in the NASA Technical Standards System.

(3) Serve as or delegate Technical Authority for all technical standards for which that office is responsible, consistent with the procedures of NPR 7120.5D and, for Safety and Mission Assurance programs, NPR 8715.3.

(4) Support, authorize participation of employees, and report annually on VCS activities to the Chief Engineer to support the annual NASA report to the National Institute of Standards and Technology as required by Section 5.a.(7).

c. NASA Centers, acting through their representatives to the Engineering Management Board, have the following responsibilities:

(1) Identify priorities for NASA Technical Standards needed for programs and projects.

(2) Support the development, review, and approval of NASA Technical Standards for which the Center has relevant expertise and provide for the maintenance and improvement of NASA Technical Standards for which they have assigned responsibility.

(3) Support, authorize participation of employees, and report annually on VCS activities to the Chief Engineer to support the annual report to the National Institute of Standards and Technology as required by Section 5.a(7).

(4) Designate a Center point of contact for coordination of standards development and approval activities with the Office of the Chief Engineer.

6. DELEGATION OF AUTHORITY

None

7. MEASUREMENTS/VERIFICATION

Performance metrics will be implemented to assess the effectiveness of standardization programs through measurement and evaluation of annual and trend values in the following areas:

a. Implementation of the requirements of OMB Circular A-119, including support and use of voluntary consensus standards, support of VCS development, and replacement of NASA standards with voluntary consensus standards.

b. Development, access to, and use of technical standards in NASA programs and projects.

8. CANCELLATION

NPD 8070.6B, dated May 7, 2003.

/s/ Michael Griffin
Administrator

ATTACHMENT A: (TEXT)

None.

(URL for Graphic)

None.

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