

National Aeronautics and Space Administration (NASA) Fiscal Year 2025 Agency Report

1. Please provide a summary of your agency's activities undertaken to carry out the provisions of OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities". The summary should contain a link to the agency's standards-specific website(s) where information about your agency's standards and conformity assessment related activities are available.

NASA directly cites Office of Management and Budget (OMB) Circular No. A-119 and the preference for use of voluntary consensus standards (VCS) and participation in VCS bodies' activities in NASA directives (NASA Policy Directive (NPD) 7120.4, NASA Engineering and Program/Project Management Policy, and NASA Procedural Requirements (NPR) 7120.10, Technical Standards for NASA Programs and Projects. NASA requires, prior to proposing development, revision, or revalidation of a NASA technical standard, a determination be made whether a VCS exists or is in development that meets or can be tailored to meet NASA's needs. NASA technical discipline experts also evaluate the opportunity to replace an existing NASA technical standard with a VCS or propose conversion to a VCS, thereby reducing duplicate standards. NASA promotes the use of VCS by identifying and approving NASA-endorsed technical standards, a "pick list" of technical standards to consider first when selecting program and project requirements. These activities facilitate selection and use of VCS in lieu of NASA technical standards or other government agency standards in compliance with OMB Circular No. A-119. An on-demand access to VCS can be found on the NASA Technical Standards System (NTSS) website at <https://standards.nasa.gov>.

NASA encourages participation in VCS developing bodies and collects data on participation in development and revision of VCS. During this reporting period, 127 NASA representatives participated in 497 VCS development/revision activities on 197 unique committees, working on 300 unique standards across 36 Standards Developing Bodies.

Highlights of NASA's use of VCS continues across many Standards Developing Organizations as stated below:

NASA representatives participated in the ISO TC20/SC14 Subcommittee for Space Systems and Operations in support of promoting use of VCS. The committee's scope of work is the standardization for manned and unmanned space vehicles, their design, production, maintenance, operation, and disposal, and the environment in which they operate. Eight working groups and three advisory groups provide an international forum for addressing the standardization needs and concerns of organizations and personnel involved with the development and operation of space systems.

A NASA representative serves as the committee manager on the ISO/TC 20/SC 13, "Space data and information transfer systems" and serves as the Chair/secretariat for Consultative Committee for Space Data Systems (CCSDS), with NASA supporting 11 various CCSDS committees.

NASA is well represented on AIAA committees to promote development/revision and use of VCS, as these standards are applied on many NASA programs and projects in lieu of NASA standards. Some examples are the AIAA Aerospace Pressure Vessels Committee; AIAA S-080, Space Systems - Metallic Pressure Vessels, Pressurized Structures, and Pressure Components; AIAA S-081, Space Systems - Composite Overwrapped Pressure Vessels (COPVs); AIAA S-082, Space Systems -

Composite Overwrapped Pressure Vessels with a Composite Liner; AIAA S-110, Space Systems - Structures, Structural Components, and Structural Assemblies. AIAA G-095 Guide to Safety of Hydrogen and Hydrogen Systems; NASA representative is also chairing the committee in the revision of AIAA – S120B,” Mass Properties Control for Space Systems.

NASA subject matter experts supported IPC—Association Connecting Electronics Industries to ensure that the technical and training requirements in the Space Addendums to IPC documents continue to meet or exceed the baseline requirements of equivalent NASA specifications. In FY 2025 NASA representatives participated on 16 IPC committees supporting 58 IPC VCS standards.

NASA continues to participate in re-registration audits for ISO 9001 Quality Management System, in ISO 14001 Environmental Management System inspections and compliance activities, and in OSHA’s Voluntary Protection Program (VPP) assessments. Various other audits and follow-ups included internal quality, safety, environmental, and health inspections, including those for explosives, pressure vessel systems, propellants, pyrotechnics, radiation, environmental compliance.

NASA representatives are presently working on various 20 ASTM committees in support of 67 Voluntary Consensus Standards. In the ASTM F47 Commercial Spaceflight Committee, NASA participation spans a range of robotic and human spaceflight topics designed to develop standards that can be endorsed as a means of complying with FAA regulations or NASA requirements, or that can generally promote a more cogent state-of-practice in nascent areas where NASA has strategic interest in commercial services capabilities. NASA is involved in the development of a new Guide or Practice entitled, “New Practice for Safe Operating Practices In-Space for Space Fission Reactors Used for Nuclear Power and Propulsion.” This activity was identified as a high-priority gap for NASA. The effort will result in a recommended state-of-practice for in-space nuclear safety of fission systems that can be voluntarily followed by commercial vendors or levied on NASA contracts as appropriate.

NASA representative also led the development of SAE EIA 649-2, “Configuration Management Acquisition Requirements for Aeronautics and Space”. As a result, did not require NASA to develop its own internal NASA Configuration Management Standard.

Standards are critical in defining engineering, safety and mission assurance, and health and medical requirements for NASA missions. These technical standards include, but are not limited to, VCS cited in NASA directives and technical standards, other government agency standards, NASA technical standards, NASA-endorsed standards. Access to authorized personnel Agency-wide is provided to 28 VCS Standards Developing Bodies via subscription and on a pay-per-document basis with the capability to order additional standards as the need arises.

2. Please list the government-unique standards your agency used in lieu of voluntary consensus standards during FY 2025:

Government Unique Standard: **0**

Voluntary Standard (that was not used): **0**

Rationale (for not using): **Not Applicable. NASA reports voluntary consensus standards usage on a categorical basis.**