

December 23, 1996

Mr. Patrick W. Cooke, Executive Secretary
Interagency Committee on Standards Policy
National Institute of Standards and Technology
Building 820, Room 164
Gaithersburg, MD 20899

Dear Mr. Cooke:

Enclosed is the Nuclear Regulatory Commission's Annual Report on the implementation of OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Standards." The report covers the period October 1, 1995, through September 30, 1996. This report has also been submitted to you via e-mail in WP 6.1 format.

If you have any questions concerning the enclosed report, please contact Mr. Gilbert C. Millman (Program Manager, Codes and Standards) at (301) 415-5843 or at gcm@nrc.gov.

Sincerely,

/s/ John W. Craig

John W. Craig, Standards Executive
Office of Nuclear Regulatory Research
U.S. Nuclear Regulatory Commission

Enclosure: As stated

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U.S. NUCLEAR REGULATORY COMMISSION
Annual Report on
Implementation of OMB Circular A-119
October 1, 1995 - September 30, 1996

The U.S. Nuclear Regulatory Commission (NRC) uses voluntary standards as an integral part of its regulatory process. The NRC incorporates the provisions of certain voluntary standards into its regulations through the method of "incorporation by reference," and recognizes other voluntary standards through, for example, its regulatory guide series as providing acceptable methods for satisfying general provisions of the regulations. NRC recognizes the value of the broad expertise and perspectives that are drawn on in the development of a voluntary standard, and in general, would prefer to adopt an existing voluntary standard or promote the development of a new standard rather than to unilaterally establish its own criteria. To this end, the NRC staff participates actively on over 350 voluntary standards writing committees.

Following is the NRC response to the reporting provisions of OMB Circular A-119.

1) The nature and extent of agency participation in the development and utilization of voluntary standards:

- a) The number of agency employees participating in at least one standards development group: 163
- b) The number of voluntary standards the agency has adopted since October 1, 1995, which resulted from agency participation in a standards development group:

In final regulatory document: 8

In regulatory document submitted for public comment: 10

Of the six standards endorsed in final regulatory documents, two were incorporated by reference into an NRC regulation, four were endorsed in regulatory guides, and one was referenced in an NRC Generic Letter. The 10 standards referenced in draft regulatory documents were all referenced in draft regulatory guides.

The following two standards were incorporated by reference into 10 CFR § 50.55a of the NRC regulations.

- Subsection IWE (Inservice Inspection of Metal Containments and Liners of Concrete Containments) (1992 Edition with 1992 Addenda) of Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components" of the ASME Boiler and Pressure Vessel (BPV) Code

- Subsection IWL (Inservice Inspection of Concrete Containments) (1992 Edition with 1992 Addenda) of Section XI of the ASME BPV Code

The following five standards were endorsed in final regulatory guides, as noted:

- IEEE Standard 338-1987, "Periodic Surveillance Testing;" endorsed in Regulatory Guide 1.118
- IEEE Standard 7-4.3.2, "Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations;" endorsed in Regulatory Guide 1.152
- IEEE Standard 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations;" endorsed in Regulatory Guide 1.153
- ANS 3.5-1993, "Nuclear Power Plant Simulators for Use in Operator Training and Examination;" endorsed in Regulatory Guide 1.149
- ASTM Standard E 399-83, "Standard Test Method for Plain-Strain Fracture Toughness of Metallic Materials;" endorsed in Regulatory Guide 1.162

The following standard was endorsed through an NRC Generic Letter:

- ASME Code Case OMN-1, "Alternative Rules for Preservice and Inservice Testing of certain Electric Motor Operated valve Assemblies in LWR Power Plants;" endorsed in NRC Generic letter 96-05

The following ten standards have been endorsed in draft Regulatory Guides for which the public comment period closed after the period of this annual report.

- IEEE Standard 1012-1986, "Software Verification and Validation Plans"
- IEEE Standard 1028-1988, "Software Reviews and Audits"
- IEEE Standard 828-1990, "Software Configuration Management"
- IEEE Standard 1042-1987, "Guide to Software Configuration Management"

- IEEE Standard 829-1983, "Software Test Documentation"
- IEEE Standard 1008-1987, "Software Unit Testing"
- IEEE Standard 830-1993, "Recommended Practice for Software Requirements Specifications"
- IEEE Standard 1074-1991, "Developing Software Life Cycle Processes"
- IEEE Standard 450-1987, "Recommended practice for Maintenance, Testing, and replacement of large Lead Storage Batteries for Generating Stations and Substations"
- ANS 3.1-1993, "Selection, Qualification, and Training of Personnel for Nuclear Power Plants"

- c) The number of standards the agency has replaced with appropriate voluntary standards as a result of reviewing existing standards per the five year review cycle specified in paragraph 8b.(3) of the Circular.

None. NRC's use of voluntary standards in its regulatory process is a longstanding and ongoing part of its regulatory activities. While additional standards are added to the process, it has been more common to update references to incorporate the latest version of the many referenced standards. The following ongoing activities at NRC will result in a significant number of additional new and revised standards being incorporated into the regulatory process during subsequent reporting cycles for OMB Circular A-119.

- i) *Periodic Update of ASME Boiler and Pressure Vessel Code References in NRC Regulations:* The NRC incorporates by reference into its regulation (i.e., 10 CFR 50.55a, Codes and standards) the nuclear portion of the ASME Boiler and Pressure Vessel (B&PV) Code and, therein, auxiliary referenced standards. Rather than promulgate NRC developed requirements that cover construction, inservice inspection, and inservice testing of certain components used in nuclear power plants, NRC incorporates by reference applicable ASME consensus standards into its regulation.

Addenda to the ASME B&PV Code are issued on an annual basis and new editions are issued every three years. The NRC staff participates actively on many of the committee that develop the ASME B&PV Code. Routinely, the staff reviews the later edition and addenda for acceptability and, as appropriate, updates the regulations to incorporate the latest revisions with any necessary limitations and modifications. The NRC staff is presently preparing a proposed rule that would incorporate the 1989 through

1995 Addenda of the ASME B&PV Code, Section III "Rules for Construction of Nuclear Power Plant Components," and Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components." The proposed rule would also incorporate the 1990 through 1995 Addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants."

- ii) *NRC Adoption of Code Cases:* As noted above, the ASME B&PV Code is, in part, incorporated by reference into the NRC regulations to serve as the regulatory requirement for certain aspects of the construction, inspection, and testing of components used in nuclear power plants. Four times a year, the ASME issues Code Cases, which provide ASME approved alternatives to the ASME B&PV Code. The NRC staff reviews these code cases and makes a determination as to whether, with respect to other applicable regulatory criteria, they represent acceptable alternatives to the existing ASME B&PV Code incorporated by reference into the regulations. The acceptability of these code cases is specified in three regulatory guides (i.e., Regulatory Guide (RG) 1.84 (Design), RG 1.85 (Materials), and RG 1.147 (Inservice Inspection and testing). Revisions to these regulatory guides have been prepared for public comment. Their final issuance during the next annual report cycle will result in more than 35 new or revised code cases being incorporated into the NRC regulatory process.
 - iii) *Update of References to Codes and Standards in NRC Regulatory Documents:* Voluntary codes and standards are incorporated into many NRC regulatory documents. This includes NRC Regulations, Bulletins, Information Notices, Generic Letters, Regulatory Guides, and the Standard Review plan. A program has been implemented to systematically identify all references to voluntary codes and standards in NRC regulatory documents to permit an evaluation of the need to update the existing references. The results of this review have been published in NUREG/CR-5973, Rev.2, "Codes and Standards and Other Guidance Cited in Regulatory Documents."
- 2) Identification of any voluntary standards that have been adopted for the purpose of promoting environmentally sound and energy efficient materials, systems, services or practices: None.
 - 3) In addition, each agency should address its current or planned implementation of the provisions of the revised Circular. In particular, this should include name, title, address, and telephone no. of the agency Standards Executive and steps taken (or to be taken) as to how the executive's agency-wide responsibilities are to be carried out:

a) The Standards Executive for the NRC is:

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U.S. Nuclear Regulatory Commission
Office of Nuclear Regulatory Research
Division of Engineering Technology
Mail Stop T-10D20
Washington, D.C. 20555

Telephone: (301) 415-6982
e-mail: jwcl@nrc.gov

b) Establishing agency views on standards issues and decisions:

In general, NRC positions on new standards and revisions of existing standards are developed in a two part process. The first part involves NRC staff participation in standards organizations. This part applies to a significant portion of the standards activities in which the NRC is engaged. It involves development of ballot positions by NRC staff committee members through a process that includes discussing the issue with other cognizant NRC headquarters and regional staff. This coordination of views continues as the revision is elevated through the committee review process, to be balloted by the standards development organization consensus committee and applicable board. The positions established in this manner by the staff participants on the various committees do not represent formal agency positions. They represent the positions of the staff members on each committee, and reflect the views and comments of other knowledgeable NRC staff members.

The second part of the process establishes a formal NRC position. This occurs when a standard is incorporated by reference into a regulation, regulatory guide, or other generic regulatory document. The implementing regulatory document and appropriate supporting regulatory analysis, which addresses cost-benefit aspects of using the standard as a requirement or as an alternative to an existing requirement, are prepared for formal NRC review and approval. Following public comment period and resolution of comments, the item is resubmitted for NRC review and approval for final issuance and use of the standard in the regulatory process.

c) Coordinating Participation Within the Agency and With Others.

The two-part process noted above for establishing staff positions on standards has a mechanism for coordinating participation within the agency, and obtaining public comments. For example, staff positions for ASME committee ballot actions are coordinated with cognizant NRC staff through meetings which are held prior to codes and standards meetings. The purpose of the coordination meeting

is for the staff to exchange views and background information on proposed revisions for the purpose of providing the staff committee member with a basis for establishing a ballot position. A record is provided in trip reports and letter ballots of individual staff ballot actions as items move through the standards development process to successively higher standards writing committees. Information gained at each level is factored into the staff committee member for subsequent ballot action.

The formal NRC position on the standard is established when the published standard is incorporated into an NRC regulation, regulatory guide, or other generic regulatory document. The public comment process provides interested members of the public and the nuclear industry with an opportunity to express their views.

Assurance that a specific standard is incorporated into the regulatory process consistent with related standards and other criteria used by the NRC is one of the responsibilities of the NRC Committee for Review of Generic Requirements (CRGR). The CRGR, which is comprised of NRC senior managers, is responsible for ensuring that adequate basis exists for imposing a specific standard as a requirement, and for ensuring that standards that are proposed as acceptable alternatives to existing requirements do not permit an unacceptable relaxation. Additionally, the NRC process includes review, as appropriate, by advisory committees (i.e., Advisory Committee for Reactor Safety (ACRS) and Advisory Committee for Nuclear Waste).

In order to coordinate the assignment of NRC staff on voluntary standards committees, all appointments to and resignations from voluntary standards committees are approved and issued by the Director of the Office of Nuclear Regulatory Research. This follows concurrence by the NRC Standards Executive and other senior level managers.

d) Meeting reporting requirements:

The NRC Standards Executive has assigned specific staff to coordinate the gathering and compiling of NRC -wide information necessary to satisfy OMB Circular A-119 reporting requirements. In addition, The Office of Nuclear Regulatory Research, which is responsible for coordinating standards activities within the agency, has established and staffed a new position of Program Manager, Codes and Standards. This individual has full-time responsibility for coordinating agency wide development and implementation of codes and standards, and is designated to support the specific activities of the Standards Executive in the agency's implementation of OMB Circular A-119.

- e) Establishing a procedure to ensure a 5-year standards review cycle, when applicable:

NRC staff are continually alert to the need to identify voluntary standards whose references need to be updated in regulatory documents, and to incorporate new standards in lieu of staff developed criteria where acceptable or no standards previously existed. This is an ongoing process, which is consistent with the extensive participation of NRC staff on voluntary standards committees. For this reason, the NRC has not implemented a specific 5-year review program. A summary of the results of the ongoing process as it affects the NRC use of voluntary standards will be reported on an annual basis.