

September 8, 1997

FOR: The Commissioners

FROM: L. Joseph Callan /s/  
Executive Director for Operations

SUBJECT: CHANGES TO PARAGRAPH (h) OF 10 CFR PART 50.55a, "CODES AND STANDARDS"

## PURPOSE:

To request Commission approval to issue a direct final rule to incorporate by reference a national consensus standard in 10 CFR 50.55a(h), which establishes minimum functional and design requirements for the power, instrumentation, and control portions of safety systems for nuclear power plants.

## CATEGORY:

This paper covers a routine matter.

## BACKGROUND:

In 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," 50.55a(h) requires that the protection systems in nuclear power plants must meet the requirements set forth in the Institute of Electrical and Electronics Engineers (IEEE) Std. 279-1971, "Criteria for Protection Systems for Nuclear Generating Stations." However, IEEE Std. 279-1971 is obsolete and has been withdrawn by IEEE. This standard has been superseded by IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations."

In November 1995, the NRC staff issued for public comment a draft regulatory guide, DG-1042, which was proposed Revision 1 to Regulatory Guide 1.153, "Criteria for Safety Systems." This draft regulatory guide proposed to endorse IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995). Because there were no adverse public comments to Revision 1 to Regulatory Guide 1.153, the staff believes that there is general public consensus that IEEE Std. 603-1991 provides acceptable criteria for safety systems in nuclear power plants.

## DISCUSSION:

The issuance of this direct final rule is consistent with the provisions of the National Technology Transfer and Advancement Act of 1995, P.L. 104-113, which encourages Federal regulatory agencies to consider adopting consensus industry standards as an alternative to de novo agency development of standards affecting an industry. The rule would mandate the use of IEEE Std. 603-1991 for future nuclear power plants, including final design approvals, design certifications and combined licenses under 10 CFR Part 52. Current licensees may continue to meet the requirements set forth in the edition or revision of IEEE Std. 279 in effect on the formal date of their application for a construction permit or may, at their option, use IEEE Std. 603-1991, provided they comply with all applicable requirements for making changes to their licensing basis. However, changes to protection systems in operating nuclear power plants initiated on or after January 1, 1998, must meet the requirements in IEEE Std. 603-1991.

In view of the lack of adverse comment received by the NRC staff on the draft Revision 1 to Regulatory Guide 1.153, "Criteria for Safety Systems," the rule will be published as a "direct final rule." The direct final rule would become effective 90 days after publication in the Federal Register. If the NRC receives significant adverse comments within 45 days after publication, then the NRC will publish a document that withdraws this action, and will address the comments received in response to an identical proposed rule which is being concurrently published in the proposed rule section of the Federal Register. Any significant adverse comments will be addressed in a subsequent final rule. The NRC will not initiate a second comment period on this action.

For purposes of this rule, the terms "protection systems," "safety systems," and "safety-related systems" are synonymous.

## COORDINATION:

The Office of Chief Information Officer has reviewed the direct final rule for information technology and information management implications and concurs in it. The Chief Financial Officer has no comments on this final rule. Both the ACRS and the CRGR support the proposed action. The Office of the General Counsel has no legal objection.

## RECOMMENDATION:

That the Commission:

1. Approve for publication in the Federal Register the direct final rule amending 10 CFR Part 50.55a (h) (Attachment 1).

2. Approve for publication in the Federal Register an identical proposed rule

(Attachment 2).

3. Note:

- a. That the direct final rule would become effective 90 days after publication in the Federal Register.
- b. That the rule does not constitute a "major rule" for purposes of the Small Business Regulatory Enforcement Fairness Act; therefore, it is not subject to the 60-day congressional review period prior to effectiveness. However, the appropriate congressional committees will be informed of this action (Attachment 3).
- c. That a regulatory analysis is included (Attachment 4).
- d. That an Environmental Assessment and finding of no significant impact is included (Attachment 5).
- e. That approval by the Director of the Federal Register will be obtained for incorporating by reference a national consensus standard (Attachment 6).

L. Joseph Callan  
Executive Director for Operations

- Attachments:
- 1. [Federal Register Notice of Amendment: Direct Final Rule](#)
  - 2. [Proposed Rule](#)
  - 3. [Draft Congressional Letters](#)
  - 4. [Regulatory Analysis](#)
  - 5. [Environmental Assessment](#)
  - 6. [Draft Letter to Director of Federal Register](#)

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ATTACHMENT 1  
[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

RIN 3150-AF73

Codes and Standards; IEEE

National Consensus Standard

AGENCY: Nuclear Regulatory Commission.

ACTION: Direct final rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to incorporate by reference IEEE Std. 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. This action is necessary to endorse the latest version of this national consensus standard in NRC's regulations, and replace an IEEE standard currently endorsed in the NRC's regulations which has been withdrawn by the IEEE.

EFFECTIVE DATE: The final rule is effective on (90 days after publication in the Federal Register), unless significant adverse comments are received by (45 days after publication in the Federal Register). If the effective date is delayed, timely notice will be published in the Federal Register. The incorporation by reference of IEEE Std. 603-1991 is approved by the Director of the Federal Register as of (90 days after publication).

ADDRESSES: Mail comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; Attention: Rulemaking and Adjudications Staff. Hand deliver comments to 11555 Rockville Pike, Rockville, Maryland, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

FOR FURTHER INFORMATION CONTACT: Satish K. Aggarwal, Senior Program Manager, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone (301) 415-6005, Fax (301) 415-5074 (e-mail: SKA@NRC.GOV).

SUPPLEMENTARY INFORMATION:

NRC considers this rulemaking, which endorses IEEE Std. 603.1991, to be noncontroversial because, as noted in the background discussion, there was no adverse public comment on the regulatory guide endorsing this standard. Accordingly, the Commission finds that public notice and opportunity for comment are unnecessary pursuant to

5 U.S.C. 553(b)(B). Thus, the Commission is publishing this rule in final form without seeking public comments on the amendment in a proposed rule. This action will become effective on (90 days after publication). However, if the NRC receives significant adverse comments by (45 days after publication), then the NRC will publish a document that withdraws this action, and will address the comments received in response to an identical proposed rule which is being concurrently published in the proposed rules section of this Federal Register. Any significant adverse comments will be

addressed in a subsequent final rule. The NRC will not initiate a second comment period on this action in the event the direct final rule is withdrawn.

## Background

In 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," 50.55a requires that the protection systems in nuclear power plants meet the requirements set forth in IEEE Std. 279, "Criteria for Protection Systems for Nuclear Power Generating Stations," in effect on the formal docket date of the application. However, IEEE Std. 279 is obsolete, has been withdrawn by IEEE and has now been superseded by IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations."

In November 1995, the NRC staff issued for public comment a draft regulatory guide, DG-1042, which was proposed Revision 1 to Regulatory Guide 1.153, "Criteria for Safety Systems." This draft regulatory guide proposed to endorse IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995). Because there were no adverse public comments to Revision 1 to Regulatory Guide 1.153, the Commission believes that there is general public consensus that IEEE Std. 603-1991 provides acceptable criteria for safety systems in nuclear power plants.

## Discussion

The direct final rule incorporates a national consensus standard, IEEE Std. 603-1991, for establishing minimal functional and design requirements for power, instrumentation, and control portions of safety systems for nuclear power plants into NRC regulations. This action is consistent with the provisions of the National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, which encourages Federal regulatory agencies to consider adopting industry consensus standards as an alternative to de novo agency development of standards affecting an industry. This action is also consistent with the NRC policy of evaluating the latest versions of national consensus standards in terms of their suitability for endorsement by regulations or regulatory guides.

Currently, 10 CFR 50.55 a (h) specifies that "protection systems" for plants with construction permits issued after January 1, 1971, must meet the requirements in IEEE Std. 279 in effect on the formal docket date of the application for a construction permit. IEEE Std. 279, states that a "protection system" encompasses all electric and mechanical devices and circuitry (from sensors to actuation device input terminals) involved in generating those signals associated with the protective function. These signals include those that actuate reactor trip and that, in the event of a serious reactor accident, actuate engineered safeguards such as containment isolation, core spray, safety injection, pressure reduction, and air cleaning. "Protective Function" is defined by IEEE Std. 279, as "the sensing of one or more variables associated with a particular generating station condition, signal processing, and the initiation and completion of the protective action at values of the variables established in the design bases."

IEEE Std. 603-1991, uses the term "safety systems" rather than "protection systems." A "safety system" is defined by IEEE Std. 603-1991, as "a system that is relied upon to remain functional during and following design basis events to ensure: (i) the integrity of the reactor coolant pressure boundary, (ii) the capability to shut down the reactor and maintain it in a safe shut down condition, or (iii) the capability to prevent or mitigate the consequences of accidents that could result in potential off-site exposures comparable to the 10 CFR Part 100 guidelines. A "safety function" is defined by IEEE Std. 603-1991, as "one of the processes or conditions

(for example, emergency negative reactivity insertion, post accident heat removal, emergency core cooling, post-accident radioactivity removal, and containment isolation) essential to maintain plant parameters within acceptable limits established for a design basis event."

The Commission considers that the systems covered by IEEE Std. 603-1991 and IEEE Std. 279-1971 are the same. Therefore, for purposes of paragraph (h) of 10 CFR 50.55a, "protection systems," and "safety systems" are synonymous. The Commission notes that these two terms are also synonymous with the term "safety-related systems," used elsewhere in Commission's regulations. Therefore, licensees are expected to apply IEEE Std. 279-1971 and IEEE Std. 603-1991, as appropriate, to "safety-related systems."

This rule mandates the use of IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995) for future nuclear power plants, including final design approvals, design certifications and combined licenses under 10 CFR Part 52. Current licensees may continue to meet the requirements set forth in the edition or revision of IEEE Std. 279 in effect on the formal date of their application for a construction permit or may, at their option, use IEEE Std. 603-1991, provided they comply with all applicable requirements for making changes to their licensing basis. However, changes to protection systems in operating nuclear power plants initiated on or after January 1, 1998 must meet the requirements in IEEE Std. 603-1991. For purposes of this rule, "changes" to protection systems include (i) modifications, augmentation or replacement of protection systems permitted by license amendments, (ii) changes made by the licensees pursuant to procedures in 10 CFR 50.59, and (iii) plant-specific departures from a design certification rule under 10 CFR Part 52. In-kind (like-for-like) replacement of protection system components are not considered changes to the protection systems.

Section 3 of IEEE Std. 603-1991 references several industry codes and standards. If the referenced standard has been endorsed in a regulatory guide, the standard constitutes a method acceptable to the Commission of meeting a regulatory requirement as described in the regulatory guide. If a referenced standard has not been endorsed in a regulatory guide, the licensees and applicants may consider and use the information in the referenced standard consistent with current regulatory practices.

## Electronic Access

You may also provide comments via the NRC's interactive rulemaking website through the NRC home page (<http://www.nrc.gov>). This site provides the availability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking website, contact Ms. Carol Gallagher, (301) 415-5905 (e-mail: [CAG@nrc.gov](mailto:CAG@nrc.gov)).

Finding of No Environmental Impact: Availability of Environmental Assessment

The Commission has determined under the National Environmental Policy Act of 1969, as amended, and the Commission's regulations in Subpart A of 10 CFR Part 51, that this rule would not be a major Federal action significantly affecting the quality of the human environment and, therefore, an environment impact statement is not required. The Commission has prepared an Environmental Assessment supporting this finding of no significant environmental impact.

The NRC has sent a copy of the environmental assessment and a copy of the Federal Register Notice to every State liaison officer and requested their comments on the environmental assessment. The environmental assessment is available for inspection at the NRC Public Document Room, 2120 L Street NW., Washington, DC. Also, the NRC has committed itself to complying in all its actions with the Presidential Executive Order # 12898-Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, dated February 11, 1994. Therefore, the NRC also has determined that there are no disproportionate, high, and adverse impacts on minority and low-income populations. The NRC uses the following working definition of environmental justice: environmental justice means the fair treatment and meaningful involvement of all people, regardless of race, ethnicity, culture, income, or educational level with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

#### Paperwork Reduction Act Statement

This final rule does not contain a new or amended information collection requirement subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, et seq.). Existing requirements were approved by the Office of Management and Budget, approval No. 3150-0011.

#### Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

#### Regulatory Analysis

The Commission has prepared a regulatory analysis which shows that the proposed amendment does not impose any new requirements or costs on current licensees who do not make changes to safety systems. However, licensees planning or proposing changes to power and instrumentation & control systems will be impacted because they will be required to meet the requirements of IEEE Std. 603-1991 for the changes even though the remainder of the plant power and I&C systems are only required to meet their current licensing basis. The draft regulatory analysis is available for inspection in the NRC Public Document Room, 2120 L Street, NW., Washington, D.C.

#### Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980 (5 U.S.C. 605(b)), the Commission certifies that this rule will not have a significant economic impact on small entities. This rule affects only the operation of nuclear power plants. The companies that own these plants do not fall within the scope of the definition of "small entities" set forth in the Regulatory Flexibility Act or the small business size standards adopted by the NRC (10 CFR 2.810). Since these companies are dominant in their service areas, this rule does not fall within the purview of the Act.

#### Backfit Analysis

The rule requires applicants and holders of new construction permits, new operating licenses, new final design approvals, new design certifications and combined licenses to comply with IEEE Std. 603-1991 (including the correction sheet dated January 30, 1995). Changes to protection systems in existing operating plants initiated on or after January 1, 1998 must meet the requirements of IEEE Std. 603-1991. IEEE Std. 279 will continue to apply to existing nuclear power plants that do not make any changes to their protection systems, but the rule permits the licensee the option of meeting IEEE Std. 603-1991.

The backfit rule was not intended to apply to regulatory actions which change expectations of prospective applicants, and therefore the backfit rule does not apply to the portion of the rule applicable to new construction permits, new operating licenses, new final design approvals, new design certifications and combined licenses. This rule does not change the licensing basis (i.e., IEEE Std. 279) for plants that do not intend to make any changes to their power and instrumentation and control systems. However, the rule would require future changes to existing power and instrumentation and control portions of protection systems to comply with the new standard. This would not be considered a backfit, since the changes are voluntarily initiated by the licensee, or separately imposed by the NRC after a separate backfit analysis. This is consistent with past NRC practice and the discussions on backfitting in "Value-Impact Statement" prepared for Revision 1 to Regulatory Guide 1.153. A copy of the Value-Impact Statement is available for inspection or copying for a fee in the Commission's Public Document Room at 2120 L Street NW., Washington, DC, under Task DG-1042.

In summary, the NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to this direct final rule because it does not impose any backfits as defined in 10 CFR 50.109(a)(1) and, therefore, a backfit analysis has not been prepared for this direct final rule.

#### Small Business Regulatory Enforcement Fairness Act

In accordance with the Small Business Regulatory Enforcement Fairness Act of 1996, the NRC has determined that this action is not a major rule and has verified this determination with the Office of Information and Regulatory Affairs of OMB.

#### List of Subjects in 10 CFR Part 50

Antitrust, Classified Information, Criminal penalties, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, and Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganizations Act of 1974, as amended, and 5 U.S.C. 552 and 553, the NRC is adopting the following amendment to 10 CFR Part 50.

Part 50 - Domestic Licensing of Production and Utilization Facilities

1. The authority citation for Part 50 continues to read as follows:

AUTHORITY: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 955 as amended (42 U.S.C. 2131, 2235), sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, and 50.54 (dd), and 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138), Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235), Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844). Sections 50.58, 50.91, and 50.92 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80 - 50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2. In 50.55a, paragraph (h) is revised to read as follows:

50.55a Codes and standards.

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(h) Protection and Safety Systems. (1) IEEE Std. 603-1991 and the correction sheet dated January 30, 1995, which are referenced in paragraph (h)(3) and (h)(4), are approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. A notice of any changes made to the material incorporated by reference will be published in the Federal Register. Copies of IEEE Std. 603-1991 may be purchased from the Institute of Electrical and Electronics Engineers Service Center, 445 Hoes Lane, Piscataway, NJ 08855. It is also available for inspection at the NRC Library, 11545 Rockville Pike, Rockville, MD 20852-2738, and at the Office of the Federal Register, 800 North Capital Street, NW, Suite 700, Washington, DC. IEEE Std. 279, which is referenced in paragraph (h)(2) of this section was approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of this standard are also available as indicated for IEEE Std. 603-1991.

(2) Definitions.

(i) For purposes of this paragraph the terms "protection systems," "safety systems," and "safety-related systems" are synonymous.

(ii) Changes to protection systems include modification, augmentation or replacement of protection systems permitted by license amendments, changes to protection systems made by licensees pursuant to 10 CFR 50.59, and plant specific departures from a design certification rule under 10 CFR Part 52.

(3) Protection systems. For nuclear power plants with construction permits issued after January 1, 1971, but prior to January 1, 1998, protection systems must meet the requirements set forth either in the Institute of Electrical and Electronics Engineers (IEEE) Std. 279, "Criteria for Protection Systems for Nuclear Power Generating Stations," or in IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations," and the correction sheet dated January 30, 1995. However, changes to protection systems initiated on or after January 1, 1998 must meet the requirements set forth in IEEE Std. 603-1991, and the correction sheet dated January 30, 1995.

(4) Safety systems. For construction permits, operating licenses, final design approvals, design certifications and combined licenses issued on or after January 1, 1998, safety systems must meet the requirements set forth in IEEE Std. 603-1991, and the correction sheet, dated January 30, 1995.

Dated at Rockville, Maryland, this day of , 1997.

For the Nuclear Regulatory Commission.

John C. Hoyle,  
Secretary of the Commission.

ATTACHMENT 2  
[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

## Codes And Standards; IEEE National Consensus Standard

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The Nuclear Regulatory Commission is amending its regulations to incorporate by reference IEEE Std 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. This action is necessary to endorse the latest version of this national consensus standard in NRC's regulations, and replace an IEEE Standard currently endorsed in the NRC's regulations which has been withdrawn by the IEEE.

DATE: Comments on the proposed rule must be received on or before (45 days after publication).

ADDRESSES: Mail comments to: Secretary, U.S. Nuclear Regulatory Commission,

Washington, DC 20555-0001; Attention: Rulemaking and Adjudications Staff. Hand deliver comments to 11555 Rockville Pike, Rockville, Maryland, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

Copies of any comments received may be examined at the NRC Public Document Room, 2120 L Street, NW, (lower level), Washington, DC.

For information on submitting comments electronically, see the discussion under Electronic Access in the Supplementary Information Section.

FOR FURTHER INFORMATION CONTACT: Satish K. Aggarwal, Senior Program Manager, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, Telephone (301) 415-6005, Fax (301) 415-5074, E-mail: SKA@NRC.GOV

#### SUPPLEMENTARY INFORMATION:

For additional information, see the direct final rule published in the Rules and Regulations Section of this Federal Register.

#### Procedural Background

Because NRC considers this rulemaking noncontroversial, we are publishing this proposed rule concurrently as a direct final rule. The direct final rule will become effective on (90 days after publication). However, if the NRC receives significant adverse comments on the direct final rule by (45 days after publication), then the NRC will publish a document that withdraws the direct final rule. If the direct final rule is withdrawn, the NRC will address the comments received in a subsequent final rule. The NRC will not initiate a second comment period on this action in the event the direct final rule is withdrawn.

#### Electronic Access

You may also provide comments via the NRC's interactive rulemaking website through the NRC home page (<http://www.nrc.gov>). This site provides the availability to upload comments as files (any format), if your web browser supports that function. For information about the interactive rulemaking website, contact Ms. Carol Gallagher, (301) 415-5905 (e-mail: CAG@nrc.gov).

#### List of Subjects in 10 CFR Part 50

Antitrust, Classified Information, Criminal penalties, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, and Reporting and recordkeeping requirements.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganizations Act of 1974, as amended, and 5 U.S.C. 552 and 553, the NRC is adopting the following amendment to 10 CFR Part 50.

#### Part 50 - Domestic Licensing of Production and Utilization Facilities

1. The authority citation for Part 50 continues to read as follows:

AUTHORITY: Secs. 102, 103, 104, 105, 161, 182, 183, 186, 189, 68 Stat. 936, 937, 938, 948, 953, 954, 955, 956, as amended, sec. 234, 83 Stat. 1244, as amended (42 U.S.C. 2132, 2133, 2134, 2135, 2201, 2232, 2233, 2236, 2239, 2282); secs. 201, as amended, 202, 206, 88 Stat. 1242, as amended, 1244, 1246 (42 U.S.C. 5841, 5842, 5846).

Section 50.7 also issued under Pub. L. 95-601, sec. 10, 92 Stat. 2951 (42 U.S.C. 5851). Section 50.10 also issued under secs. 101, 185, 68 Stat. 955 as amended (42 U.S.C. 2131, 2235), sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.13, and 50.54 (dd), and 50.103 also issued under sec. 108, 68 Stat. 939, as amended (42 U.S.C. 2138), Sections 50.23, 50.35, 50.55, and 50.56 also issued under sec. 185, 68 Stat. 955 (42 U.S.C. 2235), Sections 50.33a, 50.55a and Appendix Q also issued under sec. 102, Pub. L. 91-190, 83 Stat. 853 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204, 88 Stat. 1245 (42 U.S.C. 5844). Sections 50.58, 50.91, and 50.92 also issued under Pub. L. 97-415, 96 Stat. 2073 (42 U.S.C. 2239). Section 50.78 also issued under sec. 122, 68 Stat. 939 (42 U.S.C. 2152). Sections 50.80 - 50.81 also issued under sec. 184, 68 Stat. 954, as amended (42 U.S.C. 2234). Appendix F also issued under sec. 187, 68 Stat. 955 (42 U.S.C. 2237).

2.In 50.55a, paragraph (h) is revised to read as follows:

50.55a Codes and standards.

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(h) Protection and Safety Systems. (1) IEEE Std. 603-1991, including the correction sheet dated January 30, 1995, which is referenced in paragraph (h)(3), are approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. A notice of any changes made to the material incorporated by reference will be published in the Federal Register. Copies of IEEE Std. 603-1991 may be purchased from the Institute of Electrical and Electronics Engineers Service Center, 445 Hoes Lane, Piscataway, NJ 08855. It is also available for inspection at the NRC Library, 11545 Rockville Pike, Rockville, MD 20852-2738, and at the Office of the Federal Register, 800 North Capital Street, NW, Suite 700, Washington, DC. IEEE Std. 279, which is referenced in paragraph (h)(2) of this section was approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of this standard are also available as indicated for IEEE Std. 603-1991.

(2) Definitions.

(i) For purposes of this paragraph the terms "protection systems," "safety systems," and "safety-related systems" are synonymous.

(ii) Changes to protection systems include modification, augmentation or replacement of protection systems permitted by license amendments, changes made to protection systems by licensees pursuant to 10 CFR 50.59, and plant specific departures from a design certification rule under 10 CFR Part 52.

(3) Protection systems. For nuclear power plants with construction permits issued after January 1, 1971, but prior to January 1, 1998, protection systems must meet the requirements set forth in either the Institute of Electrical and Electronics Engineers (IEEE) Std. 279, "Criteria for Protection Systems for Nuclear Power Generating Stations," or in IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations," and the correction sheet dated January 30, 1995. However, changes to protection systems initiated on or after January 1, 1998 must meet the requirements set forth in IEEE Std. 603-1991, and the correction sheet dated January 30, 1995.

(4) Safety systems. For construction permits, operating licenses, final design approvals, design certifications and combined licenses issued on or after January 1, 1998, safety systems must meet the requirements set forth in IEEE Std. 603-1991, and the correction sheet, dated January 30, 1995.

Dated at Rockville, Maryland, this day of , 1997.

For the Nuclear Regulatory Commission.

John C. Hoyle,  
Secretary of the Commission.

November 14, 1997

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The Honorable Al Gore  
President of the United  
States Senate  
Washington, DC 20510  
Dear Mr. President:

Pursuant to Subtitle E of the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. 801, the Nuclear Regulatory Commission (NRC) is submitting a direct final rule that will amend the Commission's rules in 10 CFR Part 50.55a. Specifically, Paragraph (h) will be amended to incorporate by reference Institute of Electrical & Electronics Engineers (IEEE) Std. 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. This action is necessary to endorse the latest version of this national consensus standard in the NRC's regulations, and replace an IEEE standard currently endorsed in the NRC's regulations which has been withdrawn by the IEEE.

We have determined that this is not a "major rule" as defined in 5 U.S.C. 804(2). We have confirmed this determination with the Office of Management and Budget.

Enclosed is a copy of the direct final rule and the proposed rule, which are being transmitted to the Federal Register for publication. Also enclosed is a copy of the Regulatory Analysis for this direct final rule. The direct final rule will become effective 90 days after publication in the Federal Register unless significant adverse comments are received.

Sincerely,

Dennis K. Rathbun, Director  
Office of Congressional Affairs

Enclosures: as stated

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Mr. Robert Murphy  
General Counsel  
General Accounting Office  
Room 7175  
441 G St., NW.  
Washington, DC 20548  
Dear Mr. Murphy:

Pursuant to Subtitle E of the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. 801, the Nuclear Regulatory Commission (NRC) is submitting a direct final rule that will amend the Commission's rules in 10 CFR Part 50.55a. Specifically, Paragraph (h) will be amended to incorporate by reference Institute of Electrical & Electronics Engineers (IEEE) Std. 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. This action is necessary to endorse the latest version of this national consensus standard in the NRC's regulations, and replace an IEEE standard currently endorsed in the NRC's regulations which has been withdrawn by the IEEE.

We have determined that this is not a "major rule" as defined in 5 U.S.C. 804(2). We have confirmed this determination with the Office of Management and Budget.

Enclosed is a copy of the direct final rule and the proposed rule, which are being transmitted to the Federal Register for publication. Also enclosed is a copy of the Regulatory Analysis for this direct final rule. The direct final rule will become effective 90 days after publication in the Federal Register unless significant adverse comments are received.

Sincerely,

Dennis K. Rathbun, Director  
Office of Congressional Affairs

Enclosures: as stated

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The Honorable Newt Gingrich  
Speaker of the United States  
House of Representatives  
Washington, DC 20515  
Dear Mr. Speaker:

Pursuant to Subtitle E of the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. 801, the Nuclear Regulatory Commission (NRC) is submitting a direct final rule that will amend the Commission's rules in 10 CFR Part 50.55a. Specifically, Paragraph (h) will be amended to incorporate by reference Institute of Electrical & Electronics Engineers (IEEE) Std. 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. This action is necessary to endorse the latest version of this national consensus standard in the NRC's regulations, and replace an IEEE standard currently endorsed in the NRC's regulations which has been withdrawn by the IEEE.

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Sincerely,

Dennis K. Rathbun, Director  
Office of Congressional Affairs

Enclosures: as stated

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The Honorable James M. Inhofe, Chairman  
Subcommittee on Clean Air, Wetlands, Private  
Property and Nuclear Safety

Committee on Environment and Public Works  
United States Senate  
Washington, DC 20510  
Dear Mr. Chairman:

The NRC has sent to the Office of the Federal Register for publication the enclosed amendment to the Commission's rules in 10 CFR Part 50.55a (h). This rule will be amended to incorporate by reference Institute of Electrical & Electronics Engineers

(IEEE) Std. 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. This action is necessary to endorse the latest version of this national consensus standard in the NRC's regulations, and replace an IEEE standard currently endorsed in the NRC's regulations which has been withdrawn by the IEEE.

The Commission is issuing this direct final rule with an effective date 90 days after publication in the Federal Register unless significantly adverse comments are received.

Sincerely,

Dennis K. Rathbun, Director  
Office of Congressional Affairs

Enclosure: as stated

cc: Senator Bob Graham

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The Honorable Dan Schaefer, Chairman  
Subcommittee on Energy and Power  
Committee on Commerce  
United States House of Representatives  
Washington, DC 20515  
Dear Mr. Chairman:

The NRC has sent to the Office of the Federal Register for publication the enclosed amendment to the Commission's rules in 10 CFR Part 50.55a (h). This rule will be amended to incorporate by reference Institute of Electrical & Electronics Engineers (IEEE) Std. 603-1991, a national consensus standard for power, instrumentation, and control portions of safety systems in nuclear power plants. This action is necessary to endorse the latest version of this national consensus standard in the NRC's regulations, and replace an IEEE standard currently endorsed in the NRC's regulations which has been withdrawn by the IEEE.

The Commission is issuing this direct final rule with an effective date 90 days after publication in the Federal Register unless significantly adverse comments are received.

Sincerely,

Dennis K. Rathbun, Director  
Office of Congressional Affairs

Enclosure: as stated

cc: Representative Ralph Hall

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ATTACHMENT 5

**ENVIRONMENTAL ASSESSMENT AND FINDING  
OF NO SIGNIFICANT IMPACT**

***ENVIRONMENTAL ASSESSMENT***

***Identification of Rulemaking:***

The NRC is proposing to amend 10 CFR 50.55a, which defines the requirements for applying national consensus standards. Paragraph "h" of this section currently requires that protection systems in nuclear power plants meet the requirements set forth in IEEE Std. 279, "Criteria for Protection Systems for Nuclear Generating Stations." However, IEEE Std. 279-1971 is obsolete and has been withdrawn by IEEE. This standard has now been superseded by

IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations."

The proposed amendment to 10 CFR 50.55a (h) would require that for construction permits, operating licenses, combined licenses, and design certifications, issued on or after January 1, 1998, the safety systems meet the requirements set forth in IEEE Std. 603-1991. Changes to safety systems in existing operating power plants initiated after January 1, 1998 must also meet the requirements of IEEE Std. 603-1991.

***The Need for the Rulemaking:***

The current regulation, 10 CFR 50.55a (h), is obsolete because it incorporates by reference IEEE Std. 279, which has been withdrawn by IEEE. NRC proposes to update this reference to a national consensus standard to reflect current technology. The Commission has concluded that IEEE Std. 603-1991 is a significant improvement over IEEE Std. 279-1971. The latest standard provides clear explanations to the general criteria provided in the earlier standard. It also includes criteria for shared systems and covers considerations of human factors, clarification of the criteria for interaction between sense and command features and other systems, and clarifications of the design basis event requirements for critical points in time or the plant conditions.

Thus, it is in the interest of the public health and safety for the Commission to adopt later versions of the IEEE systems criteria document. By providing clearer guidance on the criteria for safety systems, and by including criteria on related issues, IEEE Std. 603-1991 offers an improvement to health and safety by reducing the potential for misunderstanding of the criteria for safety systems.

***Environmental Impact of the Rulemaking:***

The Commission has completed its evaluation of the final rulemaking and concluded that these criteria contained in IEEE Std. 603-1991 will provide a means of promoting safe practices for design and evaluation of safety systems performance and reliability by providing clear guidance for criteria for safety systems. It is, thus, expected that the final rule will reduce the probability or consequences of an accident. The Commission also concluded that the final rule will not affect the amount and type of effluent that may be released off-site and there should be no significant increase in individual or cumulative occupational radiation exposure.

Accordingly, the Commission concludes that this final rule will result in no significant radiological environmental impact.

The final rule does not affect non-radiological plant effluent and has no other environmental impact. Therefore, the Commission concludes that there are no significant non-radiological environmental impacts associated with the amendment.

***Alternatives to the Proposed Amendment:***

One alternative to incorporating by reference into NRC regulations the updated IEEE Std. 603-1991, would be to take no action. This would mean that the NRC would continue to rely upon an obsolete industry standard, which has been withdrawn by IEEE. This option will not utilize the current state-of-technology and benefit from the operating experience gained over the past 20 years. This is not acceptable since the improvements in IEEE Std. 603-1991 can reduce the probability or consequences of an accident with no adverse impact on the environment or occupational exposure.

A second alternative would be to incorporate the entire text of IEEE Std. 603-1991 into the NRC regulations. This approach is not practicable.

***Alternative Use of Resources:***

This action does not involve the use of any resources not previously considered in other rulemakings.

***States Consulted and Sources Used:***

The Commission would mail this draft environmental assessment to the States for their comments.

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Mr. Raymond A. Mosley, Director  
Office of the Federal Register  
National Archives and Records Administration  
Washington, DC 20408  
Dear Mr. Mosley:

In accordance with 1 CFR part 51, we request that you approve the incorporation by reference of the material listed below in the Code of Federal Regulations (CFR). A copy of the material is enclosed. The following material will be referenced in 10 CFR 50.55a(h).

Institute of Electrical and Electronics Engineers (IEEE), ANSI/IEEE Std. 603-1991, "Criteria for Safety Systems for Nuclear Power Generating Stations," including the correction sheet dated January 30, 1995.

We have also enclosed a copy of the final rule that incorporates the material into the CFR.

If you have any questions on this matter, please call me on (301) 415-7163.

Sincerely,

Michael T. Lesar  
Liaison Officer  
Nuclear Regulatory Commission

Enclosures: As stated