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Subject: NEI White Paper on "Improving the Effectiveness of 10 CFR 50.55a, Codes & Standards"

Project Number: 689

Dr. Mr. Chan:

Enclosed is a Nuclear Energy Institute (NEI)[1] White Paper that discusses our position on Improving the Effectiveness of 10 CFR 50.55a. NEI has presented certain portions of this information to John Grobe, Associate Director of Engineering and Safety Systems. As a result of those discussions, NEI has decided to formally submit our White Paper to initiate further discussion.

The purpose of this White Paper is to present improvements to the Nuclear Regulatory Commission (NRC) regulatory process associated with the ASME Boiler and Pressure Vessel Code and ASME Operations and Maintenance Code. NEI believes the regulatory process for updating and implementing the Code has become increasingly burdensome and inefficient. Thus, we believe now is a good time to recommend that the industry and NRC work together to develop a new, cost-effective, mutually beneficial framework for managing the use of the ASME Code.

[1] NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, materials licensees, and other organizations and individuals involved in the nuclear energy industry.

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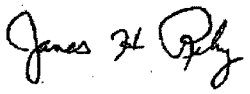
NEI asks that the staff review the enclosure and discuss this topic with us in a future public meeting. NEI seeks to encourage the NRC to transition to a new framework via rulemaking to revise 10 CFR 50.55a.

If you have any questions, please contact me at (202) 739-8137; jhr@nei.org or James Ross at (202) 739-8101; jr@nei.org.

Sincerely,



James H. Riley

Enclosure

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NEI White Paper

Improving the Effectiveness of 10 CFR 50.55a, Codes & Standards

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ABSTRACT

The U.S. Atomic Energy Commission (AEC), predecessor of the U.S. Nuclear Regulatory Commission (NRC), initially published 10 CFR 50.55a *[reference 1]* in 1971 to establish minimum quality standards for designing, fabricating, erecting, testing, and inspecting nuclear plant structures, systems, and components (SSCs) commensurate with the importance of their safety functions. The 1971 text comprised approximately two pages in the Federal Register's 3-column format. During the 35 years since its initial publication, the length of 10 CFR 50.55a has increased 10-fold to accommodate new Editions and Addenda of the ASME Boiler and Pressure Vessel Code (the "Code") and is now approximately 19 pages in the 3-column format.

Congress passed the National Technology Transfer and Advancement Act *[reference 2]* in 1995 to establish requirements and incentives for federal agencies to rely on industry codes and standards. Although the NRC is exempt from the Act because it is an independent federal agency, the NRC supports the use of industry codes and standards *[reference 3]*. Furthermore, the NRC staff participates in the consensus approval process that culminates in new ASME Code Editions and Addenda. Nevertheless, the NRC staff continues to impose limitations on the use of the Code, which is contrary to the consensus concept and detrimental to the efficient implementation of the standards development process.

10 CFR 50.55a incorporates large portions of the Code by reference. As such, they become obligatory regulatory requirements, and any deviation from the Code requires NRC approval. The current regulatory framework results annually in a large number of licensee requests for relief from specific requirements of the Code. This creates a significant, and in many cases unnecessary, administrative burden on both the nuclear industry and the NRC staff. A large percentage of NRC licensing actions are devoted to granting plant-specific relief from specific requirements of the Code. The administrative burden imposed by 10 CFR 50.55a far exceeds its safety benefit.

The objectives of the 1971 rulemaking have been satisfied. The NRC and industry now have an opportunity to develop a risk-informed, performance-based framework based on 35 years of experience with the Code. The current complex and prescriptive rule should be replaced with a straightforward, concise rule that requires each licensee to implement a design, inspection, and testing program that is described in detail in the Updated Final Safety Analysis Report (UFSAR), with proposed changes subject to the 10 CFR 50.59 change-control process *[reference 4]*.

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1.0 PURPOSE

The purpose of this White Paper is to present improvements to the NRC regulatory process associated with the ASME Boiler and Pressure Vessel Code (the "Code") and the ASME Operations and Maintenance Code (the "OM Code") (also referred to collectively hereinafter as the "Code").

The Code, which has been a regulatory requirement for over 35 years, is the industry-wide standard for the design, fabrication, inspection, and testing of nuclear plant pressure vessels, piping, pumps, and valves. It has become an accepted and fundamental part of the licensing basis for every operating nuclear plant. However, the regulatory process for updating and implementing the Code, as codified in 10 CFR 50.55a, has become complex and costly. Industry and NRC have achieved the benefits of standardizing to the Code, yet the burdensome sequence of Code updates, rulemakings, Code Cases, requests for alternatives to Code requirements, and requests for relief from Code requirements remains in effect. The process has become increasingly inefficient, as discussed in Section 3.0.

NEI recommends that industry and NRC work together to develop a new, cost-effective, mutually beneficial framework for managing the use of the ASME Code. Transition to the new framework will require rulemaking by NRC to revise 10 CFR 50.55a and procedure changes by all stakeholders to revise administrative controls.

2.0 PROBLEM STATEMENT

The current 10 CFR 50.55a is an inefficient and costly framework for establishing quality standards for SSCs that perform safety functions. It prescribes a series of inter-related steps that represent a significant configuration control challenge for the ASME, the nuclear industry, and the NRC.

First, since the Code is dynamic, ASME publishes periodic Code updates to incorporate corrections, revisions, and new information. Second, NRC incorporates new Code Editions and Addenda into 10 CFR 50.55a by means of rulemaking. Third, ASME publishes new Code Cases between Code updates to document the resolution of issues that will be published in the next update. Fourth, NRC updates three Regulatory Guides *[references 5,6,7]* to endorse, reject, or impose limitations on the use of new Code Cases. Fifth, NRC conducts a separate rulemaking to revise the Regulatory Guide revision numbers incorporated by reference in 10 CFR 50.55a. Finally, on an annual basis, approximately 30% of all licensing actions processed by the Office of Nuclear Reactor Regulation (NRR) are related to implementation of new ASME Code Editions or Addenda or to requests for alternatives to, or relief from, Code requirements. The resulting resource-intensive process is repeated approximately every three years. Many of these changes have minimum impact on plant safety.

10 CFR 50.55a is a prescriptive regulation that makes a large portion of the ASME Code, which is intentionally a detailed technical document, a regulatory requirement. This leads to the following list of the negative attributes:

1. Complicated syntax is difficult to understand and implement
2. Overlap with Technical Specifications
3. Uncertain outcomes and timing
4. Unnecessary administrative burden
5. Subject to interpretation
6. Difficult to apply precedent
7. Exemption processes separate from 10 CFR 50.12 *[reference 8]*
8. Inefficient use of ASME Code Cases
9. Excludes risk-informed or performance-based evaluations
10. Represents a potential disincentive to new plants
11. Delays the implementation of new Code Editions, Addenda, and Code Cases

3.0 BACKGROUND

The NRC and the nuclear industry recognize the value of industry codes and standards. Pressure vessels, piping, pumps, and valves that are part of the reactor coolant pressure boundary are designed, fabricated, inspected, and tested in accordance with the requirements of applicable ASME[1] Codes, and protection systems are designed to meet the criteria published in IEEE[2] standards. The codes and standards are developed and revised periodically by industry committees comprised of representatives of utilities, reactor designers, architect-engineers, component manufacturers, insurance companies, the NRC, and other organizations.

This section of the White Paper describes the historical relationship between ASME and IEEE nuclear codes and standards to 10 CFR 50.55a.

3.1 The 1971 Rulemaking

In 1969, new industry codes and standards and revisions to existing codes and standards generally did not become effective for at least a year after they were published for trial use and comment, and only then for contracts entered into after the effective date of the code or standard. It was not unusual for two years to elapse between their effective dates and their use in the design and fabrication of components because of the time between the contract execution date and the design or fabrication date for some reactor components. Another two to three years often elapsed between component fabrication and commercial operation of the power plant. As a result, it took several years for the value of improved codes to be realized at operating plants.

On November 25, 1969, the Atomic Energy Commission (AEC), predecessor of the NRC, published in the *Federal Register* a proposed rulemaking *[reference 9]* to promote uniform early compliance with ASME and IEEE codes and standards. The proposed rule established minimum quality standards for the design, fabrication, erection, construction, testing, and inspection of certain

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1 The American Society of Mechanical Engineers (ASME) was founded in 1880. In 1956, ASME established a Committee for the Pressure Vessel Code for the nuclear age. In 1963, the ASME Boiler and Pressure Vessel Committee proposed Section III for nuclear components. In 1968, ASME proposed the *Performance Test Code for Nuclear Reactor Fuel.* In 1969, the first company accredited under the *Nuclear Power Piping Code* shipped certified piping. For more information regarding the ASME, see http://www.asme.org/.

2 The Institute of Electrical and Electronic Engineers (IEEE) was formed in 1963 by the merger of the American Institute of Electrical Engineers (formed in 1884) and the Institute of Radio Engineers (formed in 1912) to advance technological innovation in electrotechnology and allied sciences. For more information regarding the IEEE, see http://www.ieee.org/.

systems and components of boiling and pressurized water-cooled nuclear power plants by requiring conformance with appropriate editions of published industry codes and standards.

Significant changes were made to the proposed rule to address public comments. Some of the more important changes were:

1) The final rule required that the applicability of codes and standards be based on component order date rather than construction permit date. To prevent abuse of outdated codes, the final rule required compliance with more recent codes than those in effect on the order date if the components were ordered more than a specified number of months before issuance of the construction permit.

2) The final rule applied to future code revisions on the date they become effective unless the Commission published a notice in the *Federal Register* that defined compliance exceptions.

3) The definition of reactor coolant pressure boundary was revised.

The objectives of the final rule published on June 12, 1971, as 10 CFR 50.55a, *[reference 1]* were (1) to address public comments on the proposed rule, (2) to simplify and stabilize the licensing process, and (3) to establish a degree of protection of public health and safety equivalent to that provided by the proposed rule.

For situations in which compliance with specific code or standard criteria, in whole or in part, would result in hardship or unusual difficulty without a compensating increase in the level of safety, the final rule established exemption processes through which licensees could request alternatives to, or relief from, the criteria based on NRC concurrence that the alternatives or reliefs would provide an acceptable level of safety and quality.

The final rule concluded that compliance with more recent codes and standards than those cited in the proposed rule would result in a significant improvement in the level of quality in design, fabrication, and testing of SSCs important to safety. Therefore, the final rule encouraged compliance whenever practicable regardless of the component purchase date.

The final rule also noted that the safety significance of particular SSCs may warrant supplementary criteria, and stipulated that appropriate criteria may be adopted by applicants and licensees, or imposed by the NRC.

3.2 Expanding Requirements in 10 CFR 50.55a

The early philosophy of 10 CFR 50.55a was established when the first generation of commercial light water reactors were being designed and constructed. It continued to be applied as nuclear codes and standards evolved.

The 1970 Edition of ASME Section XI *[reference 10]* was in effect when 10 CFR 50.55a was published in 1971. A few years later, ASME began to develop requirements for in-service testing of pumps and valves, first in ASME Section XI, and later in the OM Code *[reference 11]*. The ASME continued to revise Section III *[reference 12]* and Section XI to incorporate new information.

Since 1971, the ASME has significantly expanded the requirements in Section XI and the OM Code to address new insights and findings pertaining to the integrity of passive pressure-retaining components and the functionality of safety-significant pumps, valves, snubbers, and other active equipment.

Table 1 is a summary and timeline of the ASME and IEEE changes that have been incorporated into 10 CFR 50.55a since 1971. The more significant changes are listed below:

1976 The NRC substantially modified the in-service inspection requirements in 10 CFR 50.55a(g). The intervals for revising examination and testing programs in accordance with the latest edition of Section XI that was incorporated by reference were changed to 40 months and 20 months, respectively.

1979 The NRC incorporated the first set of limitations on Section XI. The intervals for revising inspection and testing programs in accordance with the latest edition or addenda of Section XI that was incorporated by reference were changed to 120 months from 40 months and 20 months, respectively.

1984 The NRC revised 10 CFR 50.55a in 1984 to require that Section III be applied to Class 2 and 3 components for construction

permits docketed after May 14, 1984. Previously, the applicability of Section III had been limited to the reactor coolant pressure boundary (i.e., Class 1 components).

1992 NRC imposed a number of limitations on Section XI, including the expedited implementation of expanded reactor vessel examinations (shell weld) specified in the 1989 edition. In-service testing requirements were moved from 10 CFR 50.55a(g) to 10 CFR 50.55a(f).

1996 The NRC revised 10 CFR 50.55a to incorporate Subsections IWE (Requirements for Class MC and Metallic Liners of Class CC Components) and IWL (Requirements for Class CC Concrete Components) from the 1992 Edition and Addenda of Section XI. The revision included several limitations and required expedited implementation within five years.

1999 The NRC revised 10 CFR 50.55a to (1) incorporate the OM Code with limitations, (2) require expedited implementation of Section XI, Appendix VIII (Performance Demonstration for Ultrasonic Examination Systems) with limitations (consisting of over two entire pages of the Federal Register three column format), and (3) incorporate the 1989 Addenda through 1996 Addenda of Section III and Section XI with limitations.

2002 The NRC revised 10 CFR 50.55a to incorporate by reference the 1997 Addenda through the 2000 Addenda of Section III, Section XI, and the OM Code. The revision included several limitations.

2004 The NRC revised 10 CFR 50.55a to incorporate by reference the 2001 Edition through 2003 Addenda of Section III, Section XI, and the OM Code, with limitations.

The list of changes illustrates that 10 CFR 50.55a has expanded on a pace consistent with the expansion of the ASME Code. As the Code has expanded, the number of limitations imposed by the NRC has expanded. Typically, very few NRC limitations are identified during the ASME consensus development process, even though NRC representatives participate. This is a topic of ongoing NRC/ASME discussions directed toward reducing or eliminating regulatory limitations on the use of the Code.

3.3 Use of Regulatory Guides to Endorse ASME Code Cases

ASME publishes new editions of ASME Section III, Section XI, and the OM Code every three years. Code Addenda are published annually. Code Cases are published quarterly for Sections III and XI, and annually for the OM Code.

Code Cases clarify the intent of existing Code requirements, or they provide alternative requirements, particularly for new technology. Code Cases allow for trial pilot application of new technology before requirements are incorporated into the Code. The NRC reviews Code Cases and classifies them as acceptable, conditionally acceptable, or unacceptable for use by licensees. The results of NRC Code Case reviews, including limitations, are published periodically in a number of Regulatory Guides.

Until recently, three NRC regulatory guides that endorsed Code Cases suitable for use by licensees (Regulatory Guides 1.84, 1.85, and 1.147) were listed in a footnote to 10 CFR 50.55a (Footnote 6). The revision numbers of the regulatory guides were not specified in the footnote.

A revised list of regulatory guides (1.84, 1.147, and 1.192), including revision numbers, was incorporated into the text of 10 CFR 50.55a by a final rule published on July 8, 2003 *[reference 13]*. The rulemaking became necessary because NRC had concluded that a footnote without revision numbers did not satisfy the Administrative Procedure Act *[reference 14]*. The previous Regulatory Guides 1.84 and 1.85 on Section III Code Cases were merged into a new Regulatory Guide 1.84. A new Regulatory Guide 1.192 was created for OM Code Cases. The rulemaking did not include a regulatory analysis pursuant to 10 CFR 50.109 *[reference 15]*.

3.4 NRC Principles of Good Regulation

The NRC Principles of Good Regulation state, in part:

> *"Regulations should be coherent, logical, and practical. There should be a clear nexus between regulations and agency goals and objectives whether explicitly or implicitly stated. Agency positions should be readily understood and easily applied."*

The commercial nuclear industry does not believe that 10 CFR 50.55a satisfies the principle quoted above. Since its inception in 1971, this regulation has grown significantly in size and complexity, and it has become

difficult to understand and implement. There is a clear need to reform 10 CFR 50.55a consistent with the NRC Principles of Good Regulation.

4.0 EVAUATION

4.1 Administrative Terms and Definitions

1) Incorporation by reference

A federal agency may request that a publication be "incorporated by reference" into a final rule when the rule is published in the Federal Register. If the Director of the Federal Register approves the request, the incorporated publication becomes a requirement. Incorporation by reference of a publication is limited to the edition of the publication that is approved in the rule. Future amendments or revisions of the publication are not included.

The practice of incorporation by reference permits agencies to include published data, criteria, standards, specifications, techniques, illustrations, or similar material in a rule without having to publish the material in the Federal Register.

The NRC is obligated to comply with the requirements of 10 CFR 50.109 (backfitting) when incorporating documents by referencing them in a final rule.

2) NRC limitations

It is an NRC position that General Design Criterion 1 (Quality standards and records) states that, "Where generally recognized codes and standards are used, they shall be identified and evaluated to determine their applicability, adequacy, and sufficiency and shall be supplemented or modified as necessary to ensure a quality product in keeping with the required safety function".

NRC may limit the use of a Code Case if the staff determines that it must be supplemented to provide an acceptable level of quality and safety.

3) Code of Record

The ASME "Code of Record" is the particular edition and addenda that comprise the licensing basis of the plant. The

"licensing basis" is the set of information relied on by NRC reviewers when the agency grants or amends a plant-specific Operating License.

4) 10 CFR 50.55a Requests

10 CFR 50.55a contains provisions for licensees to submit "requests for alternatives" or "requests for relief." An alternative to a particular Code requirement may be requested if the licensee can show that the alternative provides an acceptable level of quality or safety, or compliance with the requirement would result in hardship or unusual difficulty without a compensating increase in quality or safety. Relief from a particular code requirement may be requested if the licensee can demonstrate that compliance is impractical. A standard format for licensees to use when preparing 10 CFR 50.55a requests was published in an NEI White Paper on June 7, 2004 *[reference 16]*.

4.2 Applicable Requirements and Guidance

1) 10 CFR 50.55a (Codes and standards)

This regulation describes the system of codes and standards that is used to design, fabricate, erect, construct, test, inspect, and operate the SSCs in a nuclear power plant to quality standards commensurate with the importance of the safety function to be performed.

2) Multiple ASME Code Editions and Addenda for Section III, Section XI, and the OM Code

ASME Code Section III contains rules for the construction, of Nuclear power plant components. Section XI rules address in service inspection. The OM Code addresses operation and maintenance.

3) Regulatory Guide 1.84, revision 33, August 2005

This regulatory guide is a complete listing of ASME Section III Code Cases that are acceptable or conditionally acceptable to the NRC.

4) Regulatory Guide 1.147, revision 14, August 2005

This regulatory guide is a complete listing of Section XI Code Cases for in-service inspection that is acceptable or conditionally acceptable to the NRC.

5) Regulatory Guide 1.192, revision 0, June 2003

This regulatory guide is a complete listing of Code Cases for in-service testing of pumps and valves that are acceptable or conditionally acceptable to the NRC.

6) Regulatory Guide 1.193, revision 1, August 2005

This Code Case is a listing of ASME Code Cases that have not been approved by the NRC.

4.3 Current Situation

4.3.1 Inefficient use of the ASME Code

Subparagraph 50.55a(b) comprises approximately 60% of 10 CFR 50.55a. It contains several exceptions, limitations, and additions to the ASME and OM codes referenced in the regulation. In addition, 10 CFR 50.55a(b) requires licensees to use certain articles and appendices of the ASME Code that may be different from the plant-specific "Code of Record." Thus, each plant's in-service inspection (ISI) program, in-service testing (IST) program, and repair/replacement program must develop some or all of the following:

1) 10 CFR 50.55a requests for alternatives,
2) 10 CFR 50.55a requests for relief,
3) 10 CFR 50.12 requests for exemption,
4) NRC approved Code Cases (which may also contain NRC limitations), and
5) Relaxations from NRC reactor head inspection related orders *[reference 17]*.

The fact that every detail of a Code or standard becomes a requirement if it is referenced in a regulation means that each licensee must create and administer a complex configuration control process to track the impact on the plant-specific Code of Record of:

1) Changes in the code or standard,
2) NRC limitations on the use of the code or standard,
3) ASME Code Cases,
4) NRC Regulatory Guides that establish NRC positions with respect to Code Cases,
5) NRC rulemakings to incorporate specific Regulatory Guide revisions into the regulation, and
6) NRC rulemakings to change the versions of the codes and standards that are incorporated by reference.

Incorporation of entire codes and standards by reference adversely affects the efficient and effective use of limited NRC and industry resources. It places a significant administrative burden on the licensee staff and authorized nuclear in-service inspectors (ANIIs) responsible for maintaining and implementing In-service Inspection (ISI), In-service Testing (IST), and repair/replacement programs. It places a significant administrative burden on the NRC reviewers responsible for approving the large number of licensing actions necessary to document compliance with an overly complex regulation. Finally, most of this effort has little significance with respect to plant safety.

4.3.2 The 1971 rulemaking objectives have been achieved

The basis for the 1969 - 1971 rulemaking that incorporated certain codes and standards into 10 CFR 50.55a was to address the AEC's concern that the nuclear industry did not have a process for timely incorporation of improvements to industry codes and standards into plant design and construction practices.

As stated in the proposed rule:

> "New industry codes and revisions to existing codes generally do not become effective for at least a year after publication for trial use and comment, and only then for contracts entered into after the effective date. Because of the time delays between the execution of the contract for and start of design or fabrication of some reactor components, 2 years may elapse between the

> effective dates of new or revised codes and the application of their requirements to the design and fabrication of components."

When the final rule was issued, the AEC concluded:

> "Because of the safety significance of uniform early compliance by the nuclear industry with the requirements of these ASME and IEEE codes and published code revisions, the Commission has adopted the following amendments to Parts 50 and 115, which require that certain components and systems ... comply with these codes and appropriate revisions to the codes at the earliest feasible time."

To achieve "uniform early compliance," the 1971 final rule required licensees to use the applicable Code Cases and Addenda "in effect" on the date that components were ordered. During the subsequent 35 years, the nuclear industry has standardized its use of ASME and IEEE standards and they have become a routine part of the industry's safety culture.

Currently,

1) A new Edition of the Code is issued every three years,
2) An Addenda to the Edition is issued annually,
3) ASME Code Cases are issued quarterly, and
4) OM Code Cases are issued annually

ASME Code Section III for construction and Section XI for in-service inspection and testing provide comprehensive requirements for all parties. The industry uses ANIIs and ANII Supervisors employed by an Authorized Nuclear Inspection Agency, to provide independent oversight of compliance with Code rules.

4.3.3 The ASME Code process addresses new safety issues

The treatment of new safety issues is an important part of the ASME process. A new Edition of the Code is issued every three years, a new Addendum is issued annually, and Code Cases are issued quarterly. These updates address improvements identified through use of the Code, introduce new technology, and respond to findings that may affect safety. Representatives from many stakeholders participate in the ASME Code consensus process.

The codes and standards process addresses issues that could affect the safety and reliability of nuclear power plants in a manner that has public visibility. Thus, the ASME plays a key role as an engineering society in supporting public confidence in the safety of nuclear power.

A licensee's Code of Record is part of the design basis and current licensing basis described in the UFSAR and other licensee-controlled documents. Any plant change that is proposed to address a safety issue must be evaluated in accordance with the change control requirements of 10 CFR 50.59. This is another control to assist the identification and resolution of safety issues.

In addition to the ASME Code process, the NRC has other processes in place to respond to emergent safety issues, such as NRC generic correspondence, NRC information requests, and licensee reports. For example, 10 CFR 50.71(e) requires that the UFSAR be periodically revised and submitted to the NRC, including the effects of "...all analyses of new safety issues performed by or on behalf of the licensee at Commission request."

4.3.4 10 CFR 50.55a is unnecessarily long and complex

Since 1971, 10 CFR 50.55a has grown from approximately two pages to over 19 pages. Instead of requiring that the applicable Code Cases and Addenda "in effect" be used, 10 CFR 50.55a requires that a specific Code Edition and Addenda be used, and that Code Cases be used in accordance with specific revisions of three Regulatory Guides.

This increase in size and the incorporation of specific Code Editions and Addenda, in addition to requirements to follow specific revisions of Regulatory Guides, has had the following adverse impact:

1) It impedes industry efforts to reduce the time between Code improvements and field implementation. The current process has too many steps, and it can take years before a new Code Edition, Addenda, or Code Case is available for use by the licensees. For example the current regulation cites the 2003 revision of Regulatory Guide 1.192 for OM Code Cases.

2) The complex format and syntax of 10 CFR 50.55a necessitates the use of an "expert" to achieve regulatory compliance because

it takes considerable time and experience to understand the regulation. The challenge of implementing 10 CFR 50.55a will increase as a result of turnover in the nuclear industry workforce and the NRC workforce.

3) The form and content of 10 CFR 50.55a necessitates many different types of licensing action, for example:

- 10 CFR 50.55a(a)(3)(i) request for alternative
- 10 CFR 50.55a(a)(3)(ii) request for relief due to hardship or unusual difficulty
- 10 CFR 50.55a(f)(4)(iv) request to use a later edition or addenda for in-service testing
- 10 CFR 50.55a(f)(5)(iii) request for relief from an impractical in-service testing requirement
- 10 CFR 50.55a(g)(4)(iv) request to use of later edition or addenda for in-service inspection
- 10 CFR 50.55a(g)(5)(iii) request for relief from an impractical in-service inspection requirement.

4.3.5 The change control process is unpredictable

Even though NRC representatives participate in the consensus process, the output from codes and standards committees is subject to additional NRC review, which frequently results in NRC imposing regulatory limitations on its use. The limitations are published in 10 CFR 50.55a(b) for Code editions and addenda and in Regulatory Guides 1.84 (Section III), 1.147 (Section XI), 1.192 (OM Code), and 1.193 (not approved) for Code Cases.

Regulatory Guides 1.84, 1.147, and 1.192 each contain some or all of the following types of information:

(1) Acceptable Code Cases,
(2) Conditionally acceptable Code Cases,
(3) Annulled unconditionally approved Code Cases,
(4) Annulled conditionally acceptable Code Cases, and
(5) Code Cases superseded by revised Code Cases.

Finally, the NRC reviews each licensee's 10-year ISI Program update and approves individual requests for alternatives, reliefs, exemptions, or use of a Code Case that has not been incorporated into one of the

Regulatory Guides. The uncertainty of this multi-step process is increased by NRC's reluctance to cite previous approvals for similar requests. Typically, each licensing action request from a licensee leads to a NRC Request for Additional Information (RAI) that contains questions similar to those addressed previously on other dockets.

4.3.6 Concerns associated with IEEE Standards

IEEE Standard 279-1971 *[reference 18]* and IEEE Std. 603-1991 *[reference 19]* are incorporated by reference into 10 CFR 50.55a. IEEE Std. 279 applies to existing plants and IEEE Std. 603 applies to new plants (unless voluntarily adopted by an existing plant). In 1998, IEEE Std. 603 was revised, but 10 CFR 50.55a has not been revised to reflect this more recent consensus standard. In addition, the next revision of IEEE Std. 603 is being prepared, which will increase the disconnect between the standard and 10 CFR 50.55a.

In addition, the unendorsed IEEE Std. 603-1998 *[reference 20]* forms the basis for other IEEE standards, for example, IEEE Std. 7-4.3.2-2003 *[reference 21]*, which is endorsed by NRC Regulatory Guide 1.152 [*reference 22*], is based on IEEE Std. 603-1998. This is a case where a consensus standard (IEEE Std. 7-4.3.2 – 2003) is endorsed by NRC, but is based on a version of another consensus standard (IEEE Std. 603-1998) that is not endorsed by NRC. This is confusing to new-plant design engineers because they are obligated under 10 CFR 50.55a to satisfy one version of IEEE Std. 603, while trying to satisfy a different version in accordance with the NRC Regulatory Guide.

While the regulatory situation for IEEE standards is somewhat different than that discussed with ASME code issues, the resolution of the ASME issues should be considered for application to IEEE standards referenced in 10 CFR 50.55a(h).

4.4 Process Improvement Options

The use of codes and standards contributes to the safe and efficient operation of nuclear power plants. However, as described above, their value is reduced significantly by the administrative complexity and prescription of 10 CFR 50.55a.

This section of the White Paper describes three options for retaining the benefits of industry codes and standards while eliminating some of the complexity and prescription from 10 CFR 50.55a.

4.4.1 Option 1

Revise 10 CFR 50.55a to require that licensees use the UFSAR and the 10 CFR 50.59 change process to manage industry codes and standards that are part of the plant's current licensing basis (CLB).

Tabulate in the UFSAR a listing of all codes and standards of record that are part of the plant-specific CLB. The tabulation would be kept up to date in accordance with 10 CFR 50.71(e). Industry guidance for updating the UFSAR is contained in NEI 98-03 *[reference 23]*, which is endorsed by NRC in Regulatory Guide 1.181 *[reference 24]*. Changes to the UFSAR would be managed in accordance with 10 CFR 50.59. Industry guidance on 10 CFR 50.59 is contained in NEI 96-07 *[reference 25]*, which is endorsed by NRC in Regulatory Guide 1.187 *[reference 26]*.

Option 1 retains the status quo with respect to each licensee's reliance on industry codes and standards, while simplifying the process used to evaluate and document deviations necessary to accommodate plant-specific design details. It provides for NRC oversight through UFSAR records and reports. It would eliminate several periodic rulemakings and hundreds of licensing action requests. It would result in a significant reduction in administrative burden, and would increase attention to matters of greater safety and regulatory significance.

4.4.2 Option 2

Option 2 is similar to Option 1. It would modify 10 CFR 50.55(a) to permit licensees to change codes and standards of record if a documented evaluation shows that compliance with a specific requirement (1) would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety, (2) could be satisfied by alternative means that provide an acceptable level of quality and safety, or (3) is impractical. The revised regulation would specify the criteria necessary to support the implementation of these changes without prior NRC approval. Records would be subject to NRC review and maintained for the life of the plant.

4.4.3 Option 3

Revise 10 CFR 50.55a to permit licensees that have adopted ASME risk-informed ISI, IST, and repair/replacement programs to make changes to the programs and to the codes and standards of record applicable to those programs, without prior NRC approval if the changes can be demonstrated to be consistent with the following principles of integrated risk-informed decision-making:

- maintain defense-in-depth
- maintain sufficient safety margin
- assure that proposed increases in risk are small and consistent with the Commission's Safety Goal Policy, and
- incorporate performance-measurement monitoring strategies.

The revised regulation would specify the evaluation criteria necessary to implement changes without prior NRC approval. Evaluation records would be subject to NRC review and maintained for the life of the plant.

This option can be evaluated in the context of the recently issued 10 CFR 50.69 *[reference 27]* and the advanced notice of proposed rulemaking for a new 10 CFR 53 *[reference 28]*.

5.0 CONCLUSION AND RECOMMENDATIONS

This White Paper articulates an industry position on 10 CFR 50.55a and explains why improving the rule's effectiveness is beneficial for all stakeholders. The paper describes how the objectives of the 1971 rulemaking have been satisfied. Several examples explore the administrative constraints and unnecessary regulatory burden imposed by the current regulation on both the NRC and industry workforces. NEI believes that the time has come for the NRC and industry to take action to make the codes and standards process that is codified in 10 CFR 50.55a more efficient and effective for all stakeholders. In addition to the process-improvement options described in preceding sections of the White Paper, NEI has developed the following list of specific recommendations for consideration by the NRC.

1) Schedule joint working group meetings between NRC and NEI to develop an action plan and deliverables.

2) Explore regulatory language in 10 CFR 50.55a that will permit the use of existing change processes to incorporate NRC limitations and exceptions to the ASME Code and ASME Code Cases into plant-specific programs.

3) Maintain the consensus process that is fundamental to the standards development process.

4) Assure continued evaluation by licensees of future Editions/Addenda of the ASME Code.

5) Implement a new hierarchy for 10 CFR 50.55a (Figure 1).

6) Examine the feasibility of using the Consolidated Line Item Improvement Process (CLIIP) discussed in NRC Regulatory Issue Summary 2000-06 in the context of 10 CFR 50.55a.

7) Explore changes to the administrative framework for updating the ASME Code (fewer administrative steps, faster change process, simplified language, lower implementation cost, fewer required reports, reduced burden on NRC staff, easier access to information, reduced implementation time, etc.).

8) Prepare a value-impact analysis of potential changes.

9) Revise the framework for NRC endorsement of the ASME Code. For example, consider a web-based interactive process.

10) Include a NRC regulatory analysis to support NRC limitations on the use of industry codes and standards.

11) Limit use of the compliance exception to the backfit rule (10 CFR 50.109) to establish limitations to industry codes and standards.

12) NEI submit a Petition for Rulemaking to initiate the rulemaking process to revise 10 CFR 50.55a.

6.0 REFERENCES

1. Federal Register, Final Rule, 36FR11423, "Codes and standards," June 12, 1971.

2. U.S. Congress, Public Law 104-113, "National Technology Transfer and Advancement Act of 1995," March 7, 1996.

3. U.S. NRC, SECY-97-3003, "The Role of Industry (DSI-13) and Use of Industry Initiatives," December 31, 1997.

4. U.S. Code of Federal Regulations, 10 CFR 50.59, "Changes, tests and experiments."

5. U.S. NRC, Regulatory Guide 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III."

6. U.S. NRC, Regulatory Guide 1.147, "In-service Inspection Code Case Acceptability, ASME Section XI, Division 1."

7. U.S, NRC, Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code."

8. U.S. Code of Federal Regulations, 10 CFR 50.12, "Specific exemptions."

9. Federal Register, Notice of Proposed Rulemaking, 34FR18822, "Codes and standards for nuclear power units," November 25, 1969.

10. American Society of Mechanical Engineers, Boiler and Pressure Vessel Code (B&PVC), Section XI, "Rules for In-service Inspection of Nuclear Power Plant Components."

11. American Society of Mechanical Engineers, Code on Operation and Maintenance of Nuclear Power Plants (OM Code).

12. American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section III, "Rules for Construction of Nuclear Facility Components."

13. Federal Register, Final Rule, 68FR40469, "Incorporation by Reference of ASME BPV and OM Code Cases," July 8, 2003.

14. U.S. Code, Title 5, Section 553, "Administrative Procedure Act."

15. U.S. Code of Federal Regulations, 10 CFR 50.109, "Backfitting."

16. Nuclear Energy Institute, White Paper, Revision 1, "Standard Format for Requests from Commercial Reactor Licensees Pursuant to 10 CFR 50.55a," June 2004.

17. U.S. NRC, EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurizer Water Reactors," February 11, 2003.

18. Institute of Electrical and Electronics Engineers (IEEE), Standard 279 – 1971, "Criteria for Protection Systems for Nuclear Power Generating Stations."

19. Institute of Electrical and Electronics Engineers (IEEE), Standard 603 – 1991, "Criteria for Safety Systems for Nuclear Power Generating Stations."

20. Institute of Electrical and Electronics Engineers (IEEE), Standard 603 – 1998, "Criteria for Safety Systems for Nuclear Power Generating Stations."

21. Institute of Electrical and Electronics Engineers (IEEE), Standard 7-4.3.2 – 2003, "Standard Criteria for Digital Computers in Safety Systems of Nuclear Power Generating Stations."

22. U.S. NRC, Regulatory Guide 1.152, Revision 2, "Criteria for Digital Computers in Safety Systems of Nuclear Power Plants," January 2006.

23. Nuclear Energy Institute, NEI 98-03, Revision 1, "Guidelines for Updating Final Safety Analysis Reports," June 1999.

24. U.S. NRC, Regulatory Guide 1.181, "Content of the Updated Final Safety Analysis Report in Accordance with 10 CFR 50.71(e), September 1999.

25. Nuclear Energy Institute, NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," November 2000.

26. U.S. NRC, Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59 Changes, Tests, and Experiments," November 2000.

27. U.S. Code of Federal Regulations, 10 CFR 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors."

28. Federal Register, Advanced Notice of Proposed Rulemaking, 71FR26267, 10 CFR Parts 50 and 53, "Approaches to Risk-Informed and Performance-Based Requirements for Nuclear Power Reactors," May 4, 2006.

TABLE 1

This Table is a timeline and summary of the regulatory endorsement of key requirements in ASME and IEEE codes and standards in 10 CFR 50.55a since 1971.

Timeline of Amendments to 10 CFR 50.55a (1971-2006)

FR Notice	Effective Date	Overview
36FR11423	7/12/1971	November 25, 1969: Atomic Energy Commission proposes amendments to 10 CFR Part 50 (Licensing of Production and Utilization Facilities) and 10 CFR Part 115 (Procedures of Reviewing Certain Nuclear Reactors Exempt from Licensing Requirements). The goal of the proposal is to establish the minimum quality standards for design, fabrication, erection, construction, testing, and inspection of certain systems and components of boiling and pressurized water nuclear power plants by requiring conformance with appropriate editions of industry codes and standards. The Commission incorporated by reference several codes published by ASME to be applied to the construction of components of the reactor coolant pressure boundary. Section III, applicable at that time only to nuclear vessels, was incorporated by reference to establish standards for vessels. Other ASME codes of more general application were incorporated by reference to establish standards for piping, pumps, and valves. Because of the safety significance of uniform early compliance by the nuclear industry with the requirements of ASME and IEEE codes and published code revisions, the Commission has adopted amendments ... which require that certain components and systems of water-cooled reactors important to safety comply with these codes and appropriate revisions to the codes at the earliest feasible time. The proposed rule was changed to make its provisions apply to future code revisions on the date they become effective unless the Commission has published a notice in the Federal Register that compliance with such requirements or any part thereof is unacceptable or unnecessary.

FR Notice	Effective Date	Overview
		The Commission considers that a significant improvement in the level of quality in design, fabrication, and testing of systems and components important to safety of water-cooled reactors will be afforded by compliance with the requirements of more recent versions of the codes than those specified in the amendments, or portions thereof, and encourages such compliance whenever practicable, regardless of the date of purchase of equipment or the provisions of these amendments.
37FR17021	8/24/1972	Incorporates by reference the Winter 1971 Addenda and provides that the referenced addenda whose requirements must be met include only those addenda through the Winter 1971 Addenda. The Commission indicated that it would review editions, addenda, and code cases as they are issued and amend the provisions in the rule, as appropriate. The Commission stated that these amendments were necessary to comply with the Administrative Procedure Act (5 U.S.C. §§ 552 and 553) and the Office of the Federal Register regulations pertaining to incorporation by reference (1 CFR Part 20).
38FR19012	8/16/1973	50.55a paragraph (i) is redesignated as paragraph (j), and a new paragraph (i) is added to invoke new Part 50 Appendices G and H for fracture toughness requirements for ferritic materials of components in the reactor coolant pressure boundary, and for reactor vessel material surveillance program requirements, respectively.
38FR19907	8/24/1973	Incorporates by reference the Winter 1972 Addenda and provides that the referenced addenda whose requirements must be met include only those addenda through the Winter 1972 Addenda.
39FR05773	3/18/1974	Incorporates by reference Summer 1973 Addenda and provides that the editions of referenced addenda whose requirements must be met include only those addenda through the Summer 1973 Addenda.
41FR06256	3/15/1976	October 11, 1974: Energy Reorganization Act abolishes Atomic Energy Commission and establishes the Nuclear Regulatory Commission, which assumes control of 10CFR Part 50 and 10CFR Part 115. The rule modifies in-service inspection requirements applicable to components of nuclear power plants throughout the service life of the facility. Examination and testing requirements that become effective in new editions and addenda of Section XI of ASME Boiler and Pressure Vessel Code and are incorporated by reference in Section 50.55a

FR Notice	Effective Date	Overview
		become applicable to all operating plants to degree practicable. The Commission will review such code changes with respect to impact on the existing operating facilities prior to incorporating by reference any new editions and addenda of Section XI. Provisions in the rule for continued updating of requirements for in-service inspection to achieve compliance with more recent editions of the referenced code have been simplified and permit examination and testing programs to be updated at intervals of 40 and 20 months, respectively. Establishes which revisions of referenced codes and standards are applicable to the construction and operation of certain components of water-cooled nuclear power plants. The amendment eliminated the misconception that the design of components needed to be continually modified by allowing that the design requirements for inspectability of a component would be to the construction code for the component. Because Section III had been expanded to apply to other nuclear power plant components (including piping, pumps, and valves) in addition to nuclear vessels, 50.55a was amended to make the expanded Section III the effective code for piping, pumps, and valves for the reactor coolant pressure boundary for water-cooled plants for which construction permits were issued on or after July 1, 1974. The amendment limited the use of more general ASME codes for standards for piping, pumps, and valves, to plants for which construction permits were issued before July 1, 1974. The amendment states that after July 1, 1974 the applicable Code and/or Standard revision is to be based on the docket date of the application for a construction permit rather than the date of issuance of the permit. Incorporates by reference addenda through the Winter 1973 Addenda, deletes obsolete references, and makes editorial changes to Appendix G of Part 50. Revises Section 50.55a(g) (In-service Inspection Requirements) to provide consistency in design requirements in order to minimize interference with established practices of the nuclear power industry. The Commission also added provisions such that it could exempt a licensee from certain impractical requirements (i.e., grant "relief") or require a licensee to follow augmented requirements.

FR Notice	Effective Date	Overview
41FR23931	6/14/1976	Clarifies the term "Utilization Facility" in Section 50.55a(g) to solely apply to boiling and pressurized water-cooled nuclear power plants.
41FR53333	1/5/1977	Incorporates by reference the 1974 Edition and addenda through the Summer 1975 Addenda for edition and addenda of referenced codes.
42FR63803	8/17/1977	Incorporates by reference the Winter 1976 Addenda to Section III, Division 1 (Rules for the Construction of Nuclear Power Plant Components).
43FR17337	5/24/1978	Incorporates by reference the 1977 Edition and Summer 1977 of Section III of the ASME Boiler and Pressure Vessel Code. The Winter 1975 Addenda through the Summer 1977 Addenda of Section XI were still being evaluated by the NRC staff and were not included in the rule change.
43FR56015	11/30/1978	Amends Section 50.55a to clarify certain ambiguities in order to avoid misinterpretations of provisions which deal with requirements for testing of pumps and valves and in-service inspection of nuclear power plants.
44FR57911	11/1/1979	Incorporates by reference the Winter 1977 Addenda and the Summer 1978 Addenda of Section III.
44FR57912	11/1/1979	Incorporates by reference the 1977 Edition and addenda through the Summer 1978 Addenda of Section XI. The following limitations and modifications to Section XI were included: (1) requires the application of the Summer 1978 Addenda to those in-service inspection programs that apply editions and addenda of Section XI from the Winter 1975 Addenda through the Winter 1977 Addenda; (2) provides alternatives to the Code requirements for determining the extent and frequency of in-service inspection of piping welds and requires the use of the Summer 1978 Addenda for establishing the piping welds to be examined in the Residual Heat Removal System, the Emergency Core Cooling System, and the Containment Heat Removal System; and (3) requires that where differences between the Code requirements in IWB-2000 and the Technical Specifications for a particular reactor exist, the in-service inspection program for steam generator tubing shall be governed by the Technical Specifications. The amendment also changed 50.55a(g) to change the time interval for revising programs for in-service examination of components and for testing of pumps and valves to make

FR Notice	Effective Date	Overview
		this interval consistent with the in-service interval in Section XI, and to "make the regulation more practical to implement and saves time and effort for both the NRC and the licensee." The interval for revising in-service inspection programs and in-service testing programs for operating plants was extended from 40 and 20 months, respectively, to 120 months.
46FR20153	5/4/1981	Incorporates by reference the Winter 1978 Addenda through Summer 1979 Addenda of Section III and Section XI of the ASME Boiler and Pressure Vessel Code. This amendment improves the methods for construction and inspection of nuclear power plants.
46FR63208	2/1/1982	Incorporates by reference the Winter 1979 Addenda, 1980 Edition, Summer 1980 Addenda, and Winter 1980 Addenda to Section III and the Winter 1979 Addenda, 1980 Edition, and Winter 1980 Addenda to Section XI of the ASME Boiler and Pressure Vessel Code. Until the Section XI adds current requirements for inspecting the residual heat removal and emergency core cooling systems, the regulation will continue supplementary requirements for inspecting the Residual Heat Removal and Emergency Core Cooling systems.
47FR30459	8/13/1982	Incorporates by reference the Summer 1981 Addenda of the ASME Boiler and Pressure Vessel Code Section III.
48FR5532	3/9/1983	Incorporates by reference the Winter 1981 Addenda of Section III and Section XI of the ASME BPV Code.
48FR50878	12/7/1983	Incorporates by reference the Summer 1982 Addenda of Section III of the ASME Boiler and Pressure Vessel Code.
49FR10657	3/22/1984	Three editorial corrections are made to 10CFR Part 50.

FR Notice	Effective Date	Overview
49FR09711	5/14/1984	The amendment constituted a general revision of 50.55a designed to update NRC requirements after 10 years of experience and make them more consistent with pertinent national standards. The amendment added specific references to parts of Section III of the ASME BPV Code, which apply to the construction of Class 2 and 3 components, deleted obsolete references and provisions and simplified the procedure for authorizing alternatives to certain NRC requirements. Proposed revisions that applied to the classification of components used for determining which part of the ASME Code should apply received numerous comments. To resolve the question of component classification, the NRC revised the final rule to eliminate detailed classification of components. Instead, general guidance was added for establishing the classifications. More detail on the inclusion of Class 2 and 3 components is as follows. Those parts of Section III, which pertain to the reactor coolant pressure boundary, are reviewed by the Commission staff and, if acceptable, are incorporated by reference in 50.55a. Although not specifically included in the regulations, the remaining parts of Section III that pertain to other systems have also been reviewed by the Commission staff and, if acceptable, are used in the evaluation of specific license applications. Several parts of Section III that apply to Class 2 and 3 components have been used as guidance in this manner for approximately 10 years and are referenced in Regulatory Guide 1.26. Now that experience has shown additional parts of Section III of the ASME Code to be adequate for use on a general basis, the Commission is adding specific references to these additional parts in 50.55a. These additions include the requirements for Class 2 components, which are found in Subsections NC and NCA of the Code, and the requirements for Class 3 components, which are found in Subsections NC and NCA of the Code. To clarify the requirements of 50.55a, the Commission is also deleting obsolete incorporations by reference of general codes, which are superseded by Section III of the ASME Code. However, any previous acceptance of general codes by the Commission for nuclear plants for which construction permits were issued prior to these deletions will continue to be in effect, and deletion of these Codes from 50.55a should not be construed otherwise. The amendment also deleted the obsolete provision that exempted the application of the ASME Code N-symbol stamp on components, which was initiated when there was no

FR Notice	Effective Date	Overview
		provision to allow for foreign suppliers to comply with the ASME Code.
50FR38970	10/28/1985	Incorporates by reference the Winter 1982 Addenda through the Summer 1984 Addenda of Section III and the Winter 1982 Addenda through the Summer 1983 Addenda of Section XI of the ASME Code.
53FR16051	5/5/1988	Incorporates by reference the Winter 1984 Addenda through the 1986 Edition of Section III, Division 1, and the Winter 1983 Addenda through the 1986 Edition of Section XI, Division 1, of the ASME Boiler and Pressure Vessel Code. A limitation is placed on the use of paragraph IWB-3640 as contained in the Winter 1983 Addenda and Winter 1984 Addenda of Section XI. This limitation requires that for certain types of welds, IWB-3640 when implemented shall be used as modified by the Winter 1985 Addenda. In addition, the existing modification in 50.55a(b)(2)(iv) pertaining to the in-service inspection of pressure retaining welds in ASME Class 2 piping has been revised to limit its applicability up to the 1983 Edition with addenda up through the Summer 1983 Addenda (because the Winter 1983 Addenda incorporates changes that satisfy NRC concerns associated with rules specified in earlier addenda for the examination of welds in Class 2 piping including residual heat removal systems, emergency core cooling systems, and containment heat removal systems). Footnote 6 of 50.55a provides reference to the NRC Regulatory Guides that denote which ASME Coded Cases have been determined to be acceptable to the NRC staff for implementation. Previously, this footnote provided reference to only Regulatory Guides 1.84 and 1.85, which denote acceptability of Section III Division 1, Code Cases on design and fabrication, and on materials, respectively. This amendment revises Footnote 6 to incorporate a reference to Regulatory Guide 1.147, which identifies the Section XI, Division 1, and Code Cases acceptable to the NRC to use for implementation in the ISI program of light-water-cooled nuclear power plants. At present, the Implementation section of Regulatory Guide 1.147 specifies that applicants should make a specific request to the NRC to use Code Cases endorsed in the regulatory guide. The next revision of RG 1.147 (i.e., Revision 6) will reflect the proposed change in Footnote 6 of the regulation. It will permit the use of Code Cases endorsed in the regulatory guide without a specific request to the NRC for approval. In the interim, it is the intent of the NRC that Code

FR Notice	Effective Date	Overview
		Cases listed in RG 1.147 be used without specific application to the NRC. Subsection IWE, "Requirements for Class MC Components of Light-Water-Cooled Power Plants," was added to Section XI, Division 1, in the Winter 1981 Addenda. However, 50.55a presently incorporates only those portions of Section XI that address the ISI requirements for Class 1, 2, and 3 components and their supports. The regulation does not currently address the ISI of containments. This amendment does not impose the requirements of Subsection IWE upon Commission licensees.
57FR34666	9/8/1992	Incorporates by reference the 1986 Addenda through the 1989 Edition of Section III, Division 1, and Section XI, Division 1, of the ASME Code. 50.55a(g)(6)(ii)(A) requires expedited augmented implementation of the expanded reactor vessel shell weld examinations specified in the 1989 Edition of Section XI. A specified modification for containment isolation valve testing is included in 50.55a(b)(2)(vii) when using the 1988 Addenda or later of Section XI. The modification substantially preserves the existing requirements for analysis of leakage rates and corrective actions that exist in Subsection IWV prior to the 1988 Addenda. To ensure that licensees are aware of the correct revision reference to the OM Standards, an additional modification, 50.55a(b)(2)(viii), was added to specify the applicable revision when using the noted Section XI edition and addenda. In order to emphasize the importance of in-service testing and to distinguish more clearly its requirements from those of in-service inspection, this final rule moves the requirements for in-service testing from 50.55a(g) to a separate section 50.55a(f).
61FR41303	9/9/1996	Incorporates by reference the 1992 Edition and the 1992 Addenda of Section XI, Division 1, Subsection IWE (Requirements for Class MC and Metallic Liners of Class CC Components of Light-Water Cooled Power Plants) and Subsection IWL (Requirements for Class CC Concrete Components of Light-Water Cooled Power Plants), with numerous specified modifications and limitations. IWE of the ASME Code provides rules for in-service inspection, repairs, and replacement

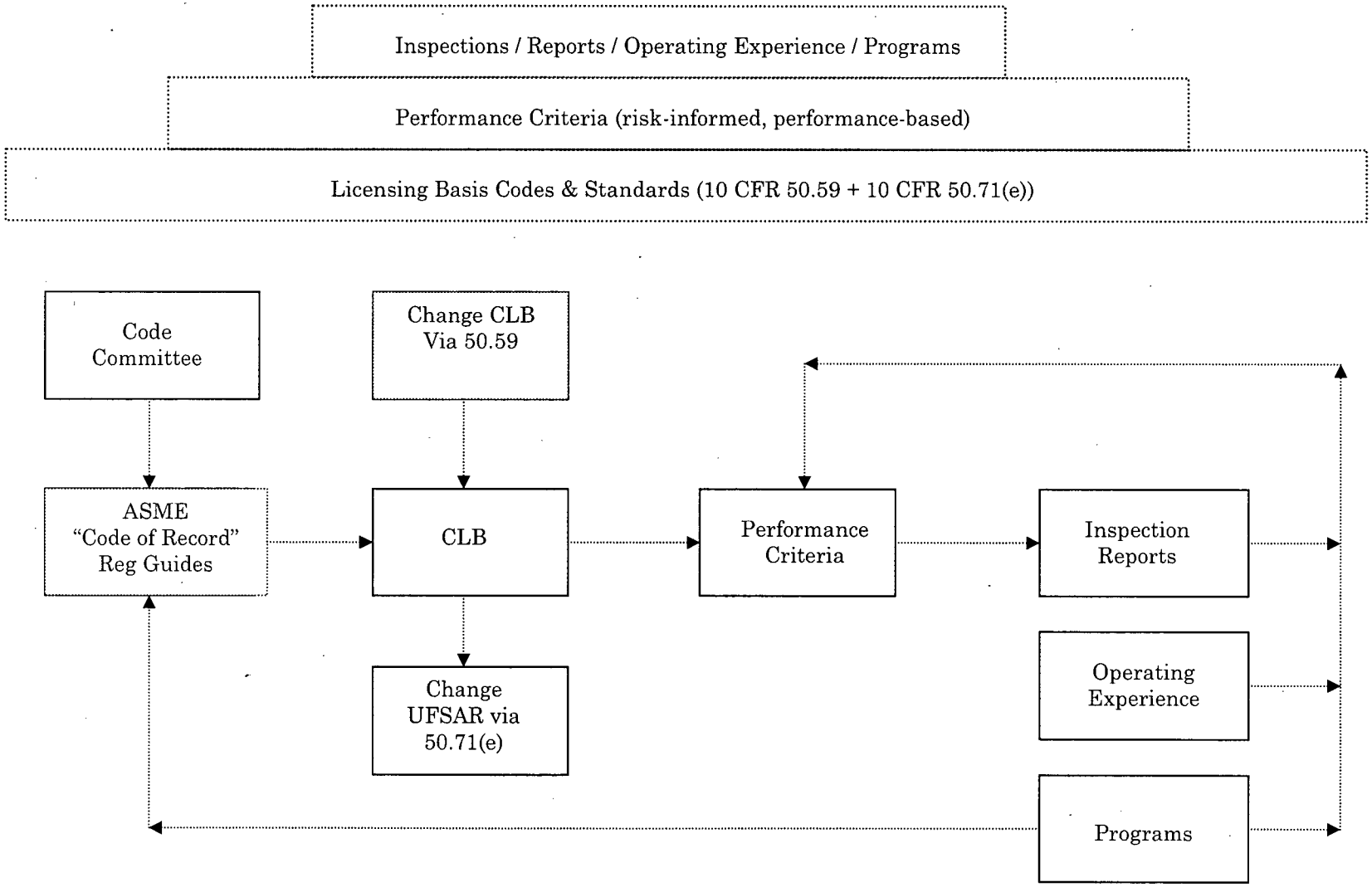
FR Notice	Effective Date	Overview
		of Class MC pressure retaining components and their integral attachments and of metallic shell and penetration liners of Class CC pressure retaining components and their integral attachments. IWL of the ASME Code provides rules for in-service inspection, repairs, and replacement of reinforced concrete and post-tension systems of Class CC components. Licensees were required by 50.55a(g)(6)(ii)(B) to expedite implementation of the containment examinations and to complete the expedited examinations in accordance with Subsections IWE and IWL within 5 years of the effective date of the rule.
62FR53932	1/1/1998	In a Direct Final Rule, 50.55a(h), was amended to incorporate by reference IEEE Standard 603-1991, which is a national consensus standard for power, instrumentation, and control portions of safety systems in plants. IEEE Standard 603-1991 supersedes IEEE Std 279 which was endorsed by NRC and has been withdrawn.
62FR66977	12/23/1997	Withdraws 62FR53932 due to adverse comments in response to an identical proposed rule in the Federal Register.
63FR1335	1/9/1998	Corrects erroneous Federal Register citation.
64FR17944	5/13/1999	Incorporates by reference IEEE Standard 603-1991. Standard is mandatory for new plants and designs but voluntary for existing plants and designs.
64FR32763	5/4/1999	Corrects erroneous reference in 64FR17944.
64FR51370	11/22/1999	Incorporates by reference 1989 Addenda through the 1996 Addenda of Section III of the ASME Boiler and Pressure Vessel Code with five limitations, the 1989 Addenda through the 1996 Addenda of Section XI of the ASME Boiler and Pressure Vessel Code with three limitations; and the 1995 Edition and 1996 Addenda of ASME Code for Operation and Maintenance of Nuclear Power Plants with one limitation and one modification. Imposes an expedited implementation of Appendix VIII (Performance Demonstration for Ultrasonic Examination Systems) to Section XI, Division 1.

FR Notice	Effective Date	Overview
		Permits the use of Code Case N-513 (Evaluation Criteria for Temporary Acceptance of Flaws in Class 3 Piping) to Section XI, Division 1, and Code Case N-523 (Mechanical Clamping Device for Class 2 and 3 Piping) to Section XI, Division 1. Permits the use of the 1992 Addenda of Subsections IWE and IWL of Section XI in lieu of updating to the 1996 Addenda Permits alternative rules for preservice and in-service testing of certain motor-operated valve assemblies in lieu of stroke-time testing; permits a check valve monitoring program in lieu of certain requirements in Subsection ISTC of the ASME OM Code; and permits guidance in Subsection ISTD of the OM Code as part of meeting the ISI requirements of Section XI for snubbers. Deletes a previous modification for in-service testing of containment isolation valves. The NRC announced in the *Federal Register* Notice for the final rule that its process for endorsing regulatory guides related to ASME Code Cases would be changed to include rulemaking to reflect a specific revision of the regulatory guides. The NRC also discussed the applicability of the National Technology Transfer and Advancement Act of 1995 to its regulations for codes and standards. Finally, in the initial proposed rule, the Staff considered whether to eliminate the 120-month update requirement, but the final rule did not include this proposal and it was later considered as a separate proposed rulemaking and ultimately withdrawn.
66FR16390	3/26/2001	Corrects 64FR51370 by specifying the criteria for flaw length sizing for reactor vessel qualification.
66FR40626	8/3/2001	The NRC withdrew a proposed rule (64FR22580; April 27, 1999) that would have eliminated the requirement for licensees to update their ISI and IST Programs every 120 months beyond a baseline edition and addenda of the ASME Code.
67FR60520	10/28/2002	Incorporates by reference 1997 Addenda to 2000 Addenda of Sections III and XI of the ASME BPV Code, and the OM Code. One new modification to the OM Code was added and fifteen new limitations and modifications to Section XI were added while extending the applicability of five existing

FR Notice	Effective Date	Overview
		regulation limitations and modifications to the 2000 Addenda of Section XI.
67FR64033	10/28/2002	Corrects two erroneous references to the NRC's regulations made in the supplementary information accompanying 67FR60520.
68FR40469	8/7/2003	Incorporates by reference specific revisions of three voluntary Regulatory Guides that address NRC review and approval of ASME published Code Cases. Footnote 6 in 50.55a, which previously referred to these Regulatory Guides, was deleted and replaced by language that specifies, where appropriate, that the optional ASME Code Cases that are incorporated by reference may be applied in lieu of corresponding requirements of the ASME Codes. 50.55a(b)(4), (b)(5), and (b)(6) were added to specify limitations upon the implementation of approved ASME Code Cases. The NRC explained that RG 1.85 would be deleted and all NRC-accepted Section III code cases would be listed in RG 1.84. RG 1.147 would list the NRC-accepted Section XI Codes Cases, and RG 1.192 would list the NRC-accepted OM Code Cases.
69FR58804	11/1/2004	Incorporates by reference the 2001 Edition through the 2003 Addenda of Sections III and XI of the ASME BPV Code, and the OM Code. One new modification to Section III was added while extending the applicability of two existing regulation modifications and limitations to the 2003 Addenda. Twelve new limitations and modifications to Section XI were added while extending the applicability of nine existing regulation limitations and modifications to the 2003 Addenda of Section XI and changing the modification to one existing regulation to limit its applicability to the 1998 Edition of Section XI. The NRC also added a footnote 10 to refer to reactor vessel pressure heads inspection requirements imposed by NRC Order EA-03-09 and to note that it will consider rule changes for inspection requirements.
70FR56809	10/31/2005	The NRC amended its regulations on September 29, 2005, to incorporate by reference NRC Regulatory Guides 1.84, Revision 33 and 1.147, Revision 14 listing Code Cases published by the ASME that the NRC has reviewed and found to be acceptable for use. Concurrent with this action, the NRC is publishing a notice of the issuance and availability of revised regulatory guides, RG 1.84 and RG 1.147 (reference to RG 1.192 was not revised by the rulemaking). Because of these related actions, the Code Cases listed in these regulatory guides are incorporated by reference into the regulations.

FIGURE 1

Proposal for a New Regulatory Hierarchy for 10 CFR 50.55a



Appendix A – Initial 10 CFR 50.55a Rulemaking (1969-1971) Statements of Consideration

Proposed Rule – 11/25/69 (34 FR 18822)

Final Rule – 6/12/71 (36 FR 11423)

of Frederick, Md., proposes the airspace action hereinafter set forth:

1. Amend § 71.181 of Part 71 of the Federal Aviation Regulations so as to delete the description of the Frederick, Md., transition area and substitute the following in lieu thereof:

That airspace extending upward from 700 feet above the surface within a 5-mile radius of the center 39°25'00" N., 77°22'00" W., of Frederick Municipal Airport, Frederick, Md.; within 3.5 miles each side of the Frederick VOR 032° radial, extending from the 5-mile radius area to 11.5 miles northeast of the VOR; within 2 miles each side of the Runway 19 centerline extended from the 5-mile radius area to 6 miles south of the end of the runway and within 2 miles each side of the Frederick VOR 075° radial, extending from the 5-mile radius area to 7 miles east of the VOR.

This amendment is proposed under section 307(a) of the Federal Aviation Act of 1958 (72 Stat. 749; 49 U.S.C. 1348, and section 6(c) of the DOT Act 49 U.S.C. 1655(c)).

Issued in Jamaica, N.Y., on November 12, 1969.

WAYNE HENDERSHOT,
Acting Director, Eastern Region.

[F.R. Doc. 69-13973; Filed, Nov. 24, 1969; 8:47 a.m.]

ATOMIC ENERGY COMMISSION

[10 CFR Parts 50, 115]

CODES AND STANDARDS FOR NUCLEAR POWER UNITS

Notice of Proposed Rule Making

The Atomic Energy Commission has under consideration amendments of its regulations in 10 CFR Part 50, "Licensing of Production and Utilization Facilities," and 10 CFR Part 115, "Procedures for Review of Certain Nuclear Reactors Exempted From Licensing Requirements," which would establish minimum quality standards for the design, fabrication, erection, construction, testing, and inspection of certain systems and components of boiling and pressurized water-cooled nuclear power reactor units by requiring conformance with appropriate editions of published industry codes and standards.

Criterion 1 of the "General Design Criteria for Nuclear Power Plant Construction Permits" (proposed Appendix A of Part 50) [1] states that systems and components of nuclear power plants which are essential to the prevention of accidents which could affect public health and safety or to mitigation of their consequences be designed, fabricated, and tested to quality standards that reflect the importance of the safety function to be performed. It has been generally recognized that for boiling and pressurized water-cooled reactors, pressure vessels, piping, valves and pumps which are part of the reactor coolant pressure boundary should, as a minimum, be designed, fabricated, inspected, and tested in accordance with the requirements of the applicable American Society of Mechanical Engineers (ASME) codes in effect at the time the equipment is purchased, and protection systems (electrical and mechanical sensors and associated circuitry) should, as a minimum, be designed to meet the criteria developed by the Institute of Electrical and Electronics Engineers (IEEE).

The ASME codes for pressure vessels, piping, pumps, and valves and the IEEE criteria for protection systems were developed and are revised periodically by industry code committees composed of representatives of utilities, reactor designers, architect-engineers, component manufacturers, insurance companies, the Commission, and others. New industry codes and revisions to existing codes generally do not become effective for at least a year after publication for trial use and comment, and only then for contracts entered into after the effective date. Because of the time delays between the execution of the contract for and start of design or fabrication of some reactor components, 2 years may elapse between the effective dates of new or revised codes and the application of their requirements to the design and fabrication of components. Even after components complying with these code requirements are fabricated, another 2 or 3 years may elapse before the reactor is operated. The effect of this traditional pattern is that the results of currently available improved codes will not be seen in operating reactors for many years hence.

Because of the safety significance of uniform early compliance by the nuclear industry with the requirements of these ASME and IEEE codes and published code revisions, the Commission is considering the adoption of amendments to Parts 50 and 115 to require that certain components of water-cooled reactors important to safety comply with these codes and appropriate revisions to the codes at the earliest feasible time. In such reactors for which construction permits have been issued but which have not been licensed for operation, such components would be required to comply with the codes in effect at the time the equipment was ordered. In reactors for which construction permits are issued on or after April 1, 1970, such components, regardless of order date, would be required to comply with the more recent revisions of the codes (excluding Code Cases) specified in the proposed amendments.

The various dates given in the proposed amendments for compliance with the new industry codes and standards have been selected to give approximately 3 months notice of the Commission's intent to require compliance, as a condition of licensing, with specified codes or addenda that now have been available to the industry for at least 6 months. In cases where the design or fabrication of some reactor components has proceeded to the point where compliance with the specified requirements, or portions thereof, would result in hardships or unusual difficulties without a compensating increase in the level of safety, the Commission would be authorized under § 50.55a(b)(1) to grant exceptions. It should also be noted that § 50.55a(b)(2) would permit the Commission to authorize deviations from the requirements of the specified codes and standards if it can be shown that an equivalent level of safety will be provided.

The Commission considers that a significant improvement in the level of quality in design, fabrication and testing of systems and components important to safety of each reactor will be afforded by compliance with the requirements of the more recent codes specified in the proposed amendments, or portions thereof, and encourages such compliance whenever practicable, regardless of the date of purchase of equipment or the provisions of these proposed amendments. Compliance with the provisions of the proposed amendments and the referenced codes is intended to insure a basic sound quality level. It may be that the special safety importance of a particular system or component will call for supplementary measures. If analysis of the system shows that such is the case, appropriate supplementary measures are expected to be adopted by applicants and licensees, or will be required by the Commission.

Pursuant to the Atomic Energy Act of 1954, as amended, and section 553 of title 5 of the United States Code, notice is hereby given that adoption of the following amendments to 10 CFR Parts 50 and 115 is contemplated. All interested persons who desire to submit written comments or suggestions for consideration in connection with the proposed amendments should send them to the Secretary, U.S. Atomic Energy Commission, Washington, D.C. 20545, Attention: Chief, Public Proceedings Branch, within 60 days after publication of the notice in the FEDERAL REGISTER. Comments received after that period will be considered if it is practicable to do so, but assurance of consideration cannot be given except as to comments filed within the period specified. Copies of comments received may be examined at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C.

1. Paragraph (c) of § 50.55 is amended to read as follows:

§ 50.55 Conditions of construction permits.

Each construction permit shall be subject to the following terms and conditions:

* * * * *

(c) Except as modified by this section and § 50.55a, the construction permit shall be subject to the same conditions to which a license is subject.

* * * * *

2. A new § 50.55a is added to 10 CFR Part 50 to read as follows:

§ 50.55a Codes and standards.

Each construction permit for a utilization facility shall be subject to the following conditions, in addition to those specified in § 50.55:

[1] The General Design Criteria were published for public comment in the FEDERAL REGISTER on July 11, 1967 (32 F.R. 10213).

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(a) Structures, systems, and components shall be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed.

(b) As a minimum, the systems and components of boiling and pressurized water-cooled nuclear power reactors specified in paragraphs (c), (d), (e), and (f) of this section shall meet the requirements described in those paragraphs and the protection systems of nuclear power reactors of all types shall meet the requirements described in paragraph (g) of this section, except as authorized by the Commission upon demonstration by the applicant for or holder of a construction permit that:

(1) Design, fabrication, erection, testing, or inspection of the specified system or component is, to the maximum extent practical, in accordance with generally recognized codes and standards and has proceeded to a point prior to_____ _____* such that compliance with the described requirements or portions thereof would result in hardships or unusual difficulties without a compensating increase in the level of safety; or

(2) Proposed deviations from the described requirements or portions thereof will be compensated for by factors or design features which provide at least an equivalent level of safety.

(c) *Pressure vessels.* For construction permits issued before April 1, 1970, for reactors not licensed for operation, pressure vessels which are part of the reactor coolant pressure boundary shall meet the requirements set forth in Section III of the American Society of Mechanical Engineers (hereinafter referred to as ASME) Boiler and Pressure Vessel Code, Applicable Code Cases, and Addenda[1] in effect at the time the vessel was ordered. For construction permits issued on or after April 1, 1970, pressure vessels which are part of the reactor coolant pressure boundary shall meet the requirements for Class A vessels set forth in the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code (excluding Code Cases), the Summer 1968 Addenda and the Winter 1968 Addenda dated June 30, and December 31, 1968, respectively, and the Summer 1969 Addenda dated June 30, 1969.[1]

(d) *Piping.* For construction permits issued before April 1, 1970, for reactors not licensed for operation, piping, and fittings which are part of the reactor coolant pressure boundary shall, if ordered before July 26, 1967, meet the requirements set forth in the American Standard Code for Pressure Piping (ASA B31.1—1955), applicable Code Cases and Addenda in effect at the time the piping or fitting was ordered, and the requirements set forth in ASA B31 Code Cases N7, N9, and N10[1] or if ordered after July 26, 1967, meet the requirements set forth in the Power Piping Section of the USA Standard Code for Pressure Piping (USAS B31.1.0—1967) applicable Code Cases, and Addenda in effect at the time the piping or fitting was ordered, and the requirements set forth in ASA B31 Code Cases N7, N9, and N10.[1] For construction permits issued on or after April 1, 1970, piping and fittings which are part of the reactor coolant pressure boundary shall meet the requirements for Class I piping set forth in the draft Nuclear Power Piping Section of the USA Standard Code for Pressure Piping (USAS B31.7), dated February 1968 (excluding Code Cases), and Errata dated June 1968, the requirements set forth in Appendix IX—Quality Control and Nondestructive Examination Methods, of the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code, and the requirements set forth in paragraph N-153 in the Summer 1969 Addenda dated June 30, 1969, to the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code.[1]

(e) *Pumps and valves.* For construction permits issued before April 1, 1970, for reactors not licensed for operation, pumps which are part of the reactor coolant pressure boundary shall meet the nondestructive testing requirements set forth in ASA B31 Code Cases N7, N9, and N10.[1] Valves which are part of the reactor coolant pressure boundary shall if ordered before July 26, 1967, meet the requirements set forth in the American Standard Code for Pressure Piping (ASA B31.1—1955), applicable Code Cases and Addenda in effect at the time the valve was ordered, and the requirements set forth in ASA B31 Code Cases N2, N7, N9, and N10[1] or if ordered after July 26, 1967, meet the requirements set forth in the Power Piping Section of the USA Standard Code for Pressure Piping (USAS B31.1.0—1967), applicable Code Cases, and Addenda in effect at the time the valve was ordered, and the requirements set forth in the ASA B31 Code Cases N2, N7, N9, and N10.[1] For construction permits issued on or after April 1, 1970, pumps and valves which are part of the reactor coolant pressure boundary shall meet the requirements for Class I pumps and valves set forth in the draft ASME Standard Code for Pumps and Valves for Nuclear Power, dated November 1968 (excluding Code Cases), the requirements set forth in Appendix IX—Quality Control and Nondestructive Examination Methods, of the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code, and the requirements set forth in paragraph N-153 in the Summer 1969 Addenda dated June 30, 1969 to the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code.[1]

(f) *Inservice inspection requirements.* For construction permits issued on or after April 1, 1970, pressure vessels, piping, fitting, pumps, and valves which are part of the reactor coolant pressure boundary shall meet the requirements set forth in the draft ASME Code for Inservice Inspection of Nuclear Reactor Coolant Systems, dated October 1968 (excluding Code Cases). The requirements of this paragraph need not be met by pressure-containing components whose rupture would not result in a loss of reactor coolant in excess of the replenishment capability and capacity of the normal makeup systems for the interval of time necessary to permit a reactor shutdown and orderly cooldown.

(g) *Protection systems.* For construction permits issued after April 1, 1970, protection systems shall meet the requirements set forth in the 1968 Edition of the Proposed Institute of Electrical and Electronics Engineers Criteria for Nuclear Power Plant Protection Systems (IEEE No. 279), dated August 1968.[2]

(h) *Reactor coolant pressure boundary.* As used in paragraphs (c), (d), (e), and (f) of this section, "reactor coolant pressure boundary" means all those pressure-containing components, such as pressure vessels, piping, pumps, and valves, within the following systems or portions of systems of boiling and pressurized water-cooled nuclear power reactors:

(1) The reactor coolant system. For a nuclear power reactor of the direct cycle boiling water type, the reactor coolant system extends to and includes the outermost containment isolation valves capable of external actuation* in the main steam and feedwater piping, and the reactor coolant system safety and relief valves.

(2) Portions of associated auxiliary systems connected to the reactor coolant system. For piping of these systems which penetrates primary reactor containment, the boundary extends to and includes the first containment isolation valve outside the containment capable of external actuation.* For piping of these systems which contains two valves, both of which are normally closed during normal reactor operation, the boundary extends to and includes the second of these valves (the second of which must be capable of external actuation*), whether or not the system piping penetrates primary reactor containment.

(3) Portions of the emergency core cooling system connected to the reactor coolant system. For piping of this system which penetrates primary reactor containment, the boundary extends to and includes the first containment isolation valve outside containment capable of external actuation.* For piping of this system which does not penetrate primary reactor containment, the boundary extends to and includes the second of two valves normally closed during normal reactor operation.

3. Paragraph (a) of § 115.43 is amended to read as follows:

* Effective date of these amendments.

[1] Copies may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017. Copies are available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C.

[2] A copy may be obtained from the Institute of Electrical and Electronics Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017. A copy is available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C.

* Simple check valves are not acceptable for this purpose.

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§ 115.43 Conditions of construction authorizations.

Each construction authorization shall be subject to the following terms and conditions.

(a) Except as modified by this section and § 115.43a, the construction authorization shall be subject to the same conditions to which an operating authorization is subject.

* * * * *

4. A new § 115.43a is added to 10 CFR Part 115 to read as follows:

§ 115.43a Codes and standards.

Each construction authorization shall be subject to the following conditions, in addition to those specified in § 115.43:

(a) Structures, systems, and components of nuclear reactors shall be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance to the safety function to be performed.

(b) As a minimum, the systems and components of boiling and pressurized water-cooled nuclear power reactors specified in paragraphs (c), (d), (e), and (f) of this section shall meet the requirements described in those paragraphs and the protection systems of nuclear power reactors of all types shall meet the requirements described in paragraph (g) of this section, except as authorized by the Commission upon demonstration by the applicant for or holder of a construction authorization that:

(1) Design, fabrication, erection, testing, or inspection of the specified system or component is, to the maximum extent practical, in accordance with generally recognized codes and standards and has proceeded to a point prior to _____* such that compliance with the described requirements or portions thereof would result in hardships or unusual difficulties without a compensating increase in the level of safety; or

(2) Proposed deviations from the described requirements or portions thereof will be compensated for by factors or design features which provide at least an equivalent level of safety.

(c) *Pressure vessels.* For construction authorizations issued before April 1, 1970, for reactors not authorized for operation, pressure vessels which are part of the reactor coolant pressure boundary shall meet the requirements set forth in Section III of the American Society of Mechanical Engineers (hereinafter referred to as ASME) Boiler and Pressure Vessel Code, applicable Code Cases, and Addenda[1] in effect at the time the vessel was ordered. For construction authorizations issued on or after April 1, 1970, pressure vessels which are part of the reactor coolant pressure boundary shall meet the requirements for Class A vessels set forth in the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code (excluding Code Cases), the Summer 1968 Addenda and the Winter 1968 Addenda dated June 30, 1968, and December 31, 1968, respectively, and the Summer 1969 Addenda dated June 30, 1969.[1]

(d) *Piping.* For construction authorizations issued before April 1, 1970, piping and fittings which are part of the reactor coolant pressure boundary shall if ordered before July 26, 1967, meet the requirements set forth in the American Standard Code for Pressure Piping (ASA B31.1—1955), applicable Code Cases and Addenda in effect at the time the piping or fitting was ordered, and the requirements set forth in ASA B31 Code Cases N7, N9, and N10[1] or if ordered after July 26, 1967, meet the requirements set forth in the Power Piping Section of the USA Standard Code for Pressure Piping (USAS B31.1.0—1967), applicable Code Cases and Addenda in effect at the time the piping or fitting was ordered, and the requirements set forth in ASA B31 Code Cases N7, N9, and N10.[1] For construction authorizations issued on or after April 1, 1970, piping and fittings which are part of the reactor coolant pressure boundary shall meet the requirements for Class I piping set forth in the draft Nuclear Power Piping Section of the USA Standard Code for Pressure Piping (USAS B31.7), dated February 1968 (excluding Code Cases) and Errata dated June 1968, the requirements set forth in Appendix IX—Quality Control and Non-destructive Examination Methods, of the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code, and the requirements set forth in paragraphs N-153 in the Summer 1969 Addenda dated June 30, 1969, to the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code.[1]

(e) *Pumps and valves.* For construction authorizations issued before April 1, 1970, for reactors not authorized for operation, pumps which are part of the reactor coolant pressure boundary shall meet the nondestructive testing requirements set forth in ASA B31 Code Cases N7, N9, and N10.[1] Valves which are part of the reactor coolant pressure boundary shall if ordered before July 26, 1967, meet the requirements set forth in the American Standard Code for Pressure Piping (ASA B31.1—1955), applicable Code Cases and Addenda in effect at the time the valve was ordered, and the requirements set forth in ASA B31 Code Cases N2, N7, N9, and N10[1] or if ordered after July 26, 1967, meet the requirements set forth in the Power Piping Section of the USAS Standard Code for Pressure Piping (USAS B31.1.0—1967, applicable Code Cases, and Addenda in effect at the time the valve was ordered, and the requirements set forth in ASA B31 Code Cases N2, N7, N9, and N10.[1] For construction authorizations issued on or after April 1, 1970, pumps and valves which are part of the reactor coolant pressure boundary shall meet the requirements for Class I pumps and valves set forth in the draft ASME Standard Code for Pumps and Valves for Nuclear Power, dated November 1968 (excluding Code Cases), the requirements set forth in Appendix IX—Quality Control and Nondestructive Examination Methods, of the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code, and the requirements set forth in paragraph N-153 in the Summer 1969 Addenda dated June 30, 1969, to the 1968 Edition of Section III of the ASME Boiler and Pressure Vessel Code.[1]

(f) *Inservice inspection requirements.* For construction authorizations issued on or after April 1, 1970, pressure vessels, piping, fittings, pumps, and valves which are part of the reactor coolant pressure boundary shall meet the requirements set forth in the draft ASME Code for Inservice Inspection of Nuclear Reactor Coolant Systems, dated October 1968[1] (excluding Code Cases). The requirements of this paragraph need not be met by pressure-containing components whose rupture would not result in a loss of reactor coolant in excess of the replenishment capability and capacity of the normal makeup systems for the interval of time necessary to permit a reactor shutdown and orderly cooldown.

(g) *Protection systems.* For construction authorizations issued after April 1, 1970, protection systems shall meet the requirements set forth in the 1968 Edition of the Proposed Institute of Electrical and Electronics Engineers Criteria for Nuclear Power Plant Protection Systems (IEEE No. 279), dated August 1968.[2]

(h) *Reactor coolant pressure boundary.* As used in paragraphs (c), (d), (e), and (f) of this section "reactor coolant pressure boundary" means all those pressure-containing components, such as pressure vessels, piping, pumps, and valves, within the following systems or portions of systems of boiling and pressurized water-cooled nuclear power reactors:

(1) The reactor coolant system. For a nuclear power reactor of the direct cycle boiling water type, the reactor coolant system extends to and includes the outermost containment isolation valves capable of external actuation,* in the main steam and feedwater piping, and the reactor coolant system safety and relief valves.

(2) Portions of associated auxiliary systems connected to the reactor coolant system. For piping of these systems which penetrates primary reactor containment, the boundary extends to and includes the first containment isolation valve outside the containment capable of external actuation.* For piping of these

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*Effective date of these amendments.

[1] Copies may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, N.Y. 10017. Copies are available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C.

[2] A copy may be obtained from the Institute of Electrical and Electronics Engineers, United Engineering Center, 345 47th Street, New York, N.Y. 10017. A copy is available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, D.C.

*Simple check valves are not acceptable for this purpose.

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systems which contains two valves, both of which are normally closed during normal reactor operation, the boundary extends to and includes the second of these valves (the second of which must be capable of external actuation*), whether or not the system piping penetrates primary reactor containment.

(2) Portions of the emergency core cooling system connected to the reactor coolant system. For piping of this system which penetrates primary reactor containment, the boundary extends to and includes the first containment isolation valve outside containment capable of external actuation.* For piping of this system which does not penetrate primary reactor containment, the boundary extends to and includes the second of two valves normally closed during normal reactor operation.

(Sec. 161, 68 Stat. 948; 42 U.S.C. 2201)

Dated at Washington, D.C., this 17th day of November, 1969.

For the Atomic Energy Commission.

W. B. McCool,
Secretary.

[F.R. Doc. 69-14004; Filed, Nov. 21, 1969; 9:34 a.m.]

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and the south bank of the Canadian River; thence, following the south bank of the Canadian River in a generally northeasterly direction to the south bank of Lake Meredith; thence, following the south bank of Lake Meredith, in a generally northeasterly direction the Potter-Moore County line; thence, following the Potter-Moore County line in an easterly direction to the junction of the Potter-Moore-Carson County lines; thence, following the Potter-Carson County line in a southerly direction to the junction of the Potter-Carson-Armstrong-Randall County lines; thence, following the Potter-Randall County line in a westerly direction to the junction of the Potter-Randall-Oldham County lines; thence, following the Potter-Oldham County line in a northerly direction to its junction with the south bank of the Canadian River.

(Secs. 4-7, 23 Stat. 32, as amended, secs. 1 and 2, 32 Stat. 791-792, as amended, secs. 1-4, 33 Stat. 1264-1265, as amended, sec. 1, 75 Stat. 481, secs. 3 and 11, 76 Stat. 130, 132; 21 U.S.C. 111-113, 114g, 115, 117, 120, 121, 123-126, 134b, 134f; 29 F.R. 16210, as amended)

Effective date. The foregoing amendments shall become effective upon issuance.

The amendments quarantine a portion of Guilford County, North Carolina because of the existence of hog cholera. The restrictions pertaining to the interstate movement of swine and swine products from or through quarantined areas as contained in 9 CFR Part 76, as amended, will apply to the quarantined portion of such county.

The amendments also exclude a portion of Worcester County, Mass.; a portion of Bertie County, N.C.; all of Collin, Comanche, Erath, Hood, and Somervell Counties and portions of Tarrant, Brown, Hamilton, Limestone, Mills, Navarro, and Stephens Counties in Texas, from the areas quarantined because of hog cholera. Therefore, the restrictions pertaining to the interstate movement of swine and swine products from or through quarantined areas as contained in 9 CFR Part 76, as amended, will not apply to the excluded areas, but will continue to apply to the quarantined areas described in § 76.2(e). Further, the restrictions pertaining to the interstate movement of swine and swine products from nonquarantined areas contained in said Part 76 will apply to the areas excluded from quarantine. No areas in Bertie County, N.C.; Collin, Comanche, Erath, Hood, Somervell, Brown, Hamilton, Limestone, Mills, Navarro, and Stephens Counties in Texas, or in Massachusetts remain under the quarantine.

Insofar as the amendments impose certain further restrictions necessary to prevent the interstate spread of hog cholera, they must be made effective immediately to accomplish their purpose in the public interest. Insofar as they relieve restrictions, they should be made effectively promptly in order to be of maximum benefit to affected persons. It does not appear that public participation in this rule making proceeding would make additional relevant information available to this Department.

Accordingly, under the administrative procedure provisions in 5 U.S.C. 553, it is found upon good cause that notice and other public procedure with respect to the amendments are impracticable, unnecessary, and contrary to the public interest, and good cause is found for making them effective less than 30 days after publication in the FEDERAL REGISTER.

Done at Washington, D.C., this 9th day of June 1971.

F. J. MULHERN,
Acting Administrator,
Agricultural Research Service.

[FR Doc.71-8325 Filed 6-11-71;8:55 am]

Title 10—ATOMIC ENERGY

Chapter I—Atomic Energy Commission

PART 50—LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

PART 115—PROCEDURES FOR REVIEW OF CERTAIN NUCLEAR REACTORS EXEMPTED FROM LICENSING REQUIREMENTS

Codes and Standards for Nuclear Power Plants

On November 25, 1969, the Atomic Energy Commission published in the FEDERAL REGISTER (34 F.R. 18822) proposed amendments of its regulations in 10 CFR Part 50, "Licensing of Production and Utilization Facilities," and 10 CFR Part 115, "Procedures for Review of Certain Nuclear Reactors Exempted from Licensing Requirements," which would establish minimum quality standards for the design, fabrication, erection, construction, testing, and inspection of certain systems and components of boiling and pressurized water-cooled nuclear power reactor plants by requiring conformance with appropriate editions of published industry codes and standards.

All interested persons were invited to submit written comments and suggestions for consideration in connection with the proposed amendments within 60 days after publication of the notice of proposed rule making in the FEDERAL REGISTER. Upon consideration of the comments received and other factors involved, the Commission has adopted the amendments set out below. These amendments have been changed substantially to reflect consideration of the comments received and to minimize interference with the established equipment procurement practices of the nuclear power industry. Some of the more significant changes from the proposed rule are:

a. The rule as rewritten requires that the determination of which code revisions are applicable be based on component order date rather than construction permit date. To prevent abuse of this provision and to minimize the use of outdated codes, the revised rule requires compliance with more recent codes than those in effect on the order date if the components are ordered more than a specified number of months before issuance of the construction permit.

b. The rule has been changed to make its provisions apply to future code revisions on the date they become effective unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary.

c. The definition of reactor coolant pressure boundary has been revised.

d. The date for compliance with the more recent industry codes has been changed from April 1, 1970, to January 1, 1971.

The Commission believes these changes adopted will eliminate most of the concerns expressed, will help to simplify and stabilize the facility licensing process, and will provide an equivalent increase in protection of the health and safety of the public to that which would be provided in the proposed rule.

Criterion 1 of the "General Design Criteria for Nuclear Power Plants" (Appendix A of Part 50) requires that structures, systems, and components of nuclear powerplants which are important to safety be designed, fabricated, erected, and tested to quality standards that reflect the importance of the safety functions to be performed. It has been generally recognized that, for boiling and pressurized water-cooled reactors, pressure vessels, piping, pumps, and valves which are part of the reactor coolant pressure boundary should, as a minimum, be designed, fabricated, inspected, and tested in accordance with the requirements of the applicable American Society of Mechanical Engineers (ASME) codes in effect at the time the equipment is purchased, and that protection systems (electrical and mechanical sensors and associated circuitry) should, as a minimum, be designed to meet the criteria developed by the Institute of Electrical and Electronics Engineers (IEEE).

Because of the safety significance of uniform early compliance by the nuclear industry with the requirements of these ASME and IEEE codes and published code revisions, the Commission has adopted the following amendments to Parts 50 and 115, which require that certain components and systems of water-cooled reactors important to safety comply with these codes and appropriate revisions to the codes at the earliest feasible time. However, use of the ASME Code N-symbol is not required and inspection and survey systems other than those specified by ASME may be used if they provide an acceptable level of quality and safety. AEC quality assurance requirements are set forth in Appendix B to Part 50. The inspection and survey systems required by the amendments

which follow may be used in partial fulfillment of these requirements to the extent that they are shown by the description of the quality assurance program required by § 50.34(a)(7) to satisfy the applicable requirements of Appendix B.

In cases where compliance with specified code requirements, or portions thereof, would result in hardships or unusual difficulties without a compensating increase in the level of safety, the Commission may grant exemptions under § 50.55a(b)(1). Section 50.55a(b)(2) provides a basis for the authorization of alternatives to the requirements of the specified codes and standards if it can be shown that an acceptable level of safety and quality will be provided.

The Commission considers that a significant improvement in the level of quality in design, fabrication, and testing of systems and components important to safety of water-cooled reactors will be afforded by compliance with the requirements of more recent versions of the codes than those specified in the amendments, or portions thereof, and encourages such compliance whenever practicable, regardless of the date of purchase of equipment or the provisions of these amendments.

Compliance with the provisions of the amendments and the referenced codes is intended to insure a basic, sound quality level. It may be that the special safety significance of a particular system or component will call for supplementary measures. If analysis of the system shows that such is the case, appropriate supplementary measures are expected to be adopted by applicants and licensees, or will be required by the Commission.

Pursuant to the Atomic Energy Act of 1954, as amended, and sections 552 and 553 of title 5 of the United States Code, the following amendments to Title 10, Chapter I, Code of Federal Regulations, Parts 50 and 115 are published as a document subject to codification to be effective 30 days after publication in the FEDERAL REGISTER.

1. A new paragraph (v) is added to § 50.2 to read as follows:

§ 50.2 Definitions.

As used in this part:

* * * * *

(v) "Reactor coolant pressure boundary" means all those pressure-containing components of boiling and pressurized water-cooled nuclear power reactors, such as pressure vessels, piping, pumps, and valves, which are:

(1) Part of the reactor coolant system, or

(2) Connected to the reactor coolant system, up to and including any and all of the following:

(i) The outermost containment isolation valve in system piping which penetrates primary reactor containment,

(ii) The second of two valves normally closed during normal reactor operation in system piping which does not penetrate primary reactor containment,

(iii) The reactor coolant system safety and relief valves.

For nuclear power reactors of the direct cycle boiling water type, the reactor coolant system extends to and includes the outermost containment isolation valve in the main steam and feedwater piping.

2. Paragraph (c) of § 50.55 is amended to read as follows:

§ 50.55 Conditions of construction permits.

Each construction permit shall be subject to the following terms and conditions:

* * * * *

(c) Except as modified by this section and § 50.55a, the construction permit shall be subject to the same conditions to which a license is subject.

3. A new § 50.55a is added to 10 CFR Part 50 to read as follows:

§ 50.55a Codes and standards.

Each construction permit for a utilization facility shall be subject to the following conditions, in addition to those specified in § 50.55:

(a) Structures, systems, and components shall be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed.

(b) As a minimum, the systems and components of boiling and pressurized water-cooled nuclear power reactors specified in paragraphs (c), (d), (e), (f), and (g) of this section shall meet the requirements described in those paragraphs, except that the American Society of Mechanical Engineers (hereinafter referred to as ASME) Code N-symbol need not be applied, and the protection systems of nuclear power reactors of all types shall meet the requirements described in paragraph (h) of this section, except as authorized by the Commission upon demonstration by the applicant for or holder of a construction permit that:

(1) Design, fabrication, installation, testing, or inspection of the specified system or component is, to the maximum extent practical, in accordance with generally recognized codes and standards, and compliance with the requirements described in paragraphs (c) through (h) of this section or portions thereof would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety; or

(2) Proposed alternatives to the described requirements or portions thereof will provide an acceptable level of quality and safety. For example, the use of inspection or survey systems other than those required by the specified ASME Codes and Addenda may be authorized under this subparagraph provided that an acceptable level of quality and safety in design, fabrication, installation, and testing is achieved.

(c) Pressure vessels:

(1) For construction permits issued before January 1, 1971, for reactors not licensed for operation, pressure vessels which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class A vessels set forth in section III of the ASME Boiler and Pressure Vessel Code, applicable Code Cases, and Addenda[2] in effect[3] on the date of order[4] of the vessel. The pressure vessels may meet the requirements set forth in editions of this Code, applicable Code Cases, and Addenda which have become effective after the date of vessel order, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pressure vessels.

(2) For construction permits issued on or after January 1, 1971, pressure vessels which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class A vessels set forth in section III of the ASME Boiler and Pressure Vessel Code and Addenda[5] in effect[3] on the date of order[4] of the pressure vessel, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such pressure vessels: *Provided, however,* That if the pressure vessel is ordered more than 18 months prior to the date of issuance of the construction permit, compliance with the requirements for Class A vessels set forth in section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect 18 months prior to the date of issuance of the construction permit is required. The pressure vessels may meet the requirements set forth in editions of

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[1] Components which are connected to the reactor coolant system and are part of the reactor coolant pressure boundary defined in § 50.2(v) need not meet these requirements, provided:

(a) In the event of postulated failure of the component during normal reactor operation, the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only, or

(b) the component is or can be isolated from the reactor coolant system by two valves (both closed, both open, or one closed and the other open). Each open valve must be capable of automatic actuation and, assuming the other valve is open, its closure time must be such that, in the event of postulated failure of the component during normal reactor operation, each valve remains operable and the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only.

[2] Copies may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017. Copies are available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, DC.

[3] ASME and United States of America Standard Code Addenda are considered "in effect" 6 months after their date of issuance.

[4] The Code issue applicable to a component is governed by the order or contract date for the component, not the contract date for the nuclear energy system.

[5] The use of specific Code Cases may be authorized by the Commission upon request pursuant to § 50.55a(b)(2).

this Code and Addenda which have become effective after the date of vessel order or after 18 months prior to the date of issuance of the construction permit unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pressure vessels.

(d) *Piping:*

(1) For construction permits issued before January 1, 1971, for reactors not licensed for operation, piping which is part of the reactor coolant pressure boundary[1] shall meet the requirements set forth in:

(i) The American Standard Code for Pressure Piping (ASA B31.1), Addenda, and applicable Code Cases[2] or the USA Standard Code for Pressure Piping (USAS B31.1.0), Addenda, and applicable Code Cases[2] or the Class I Section of the USA Standard Code for Pressure Piping (USAS B31.7)[2] in effect[3] on the date of order[4] of the piping and

(ii) The nondestructive examination and acceptance standards of ASA B31.1 Code Cases N7, N9, and N10, except that the acceptance standards of Class I piping of the USA Standard Code for Pressure Piping (USAS B31.7) may be applied.

The piping may meet the requirements set forth in editions of ASA B31.1, USAS B31.1.0, and USAS B31.7, Addenda, and Code Cases which became effective after the date of order of the piping unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such piping.

(2) For construction permits issued on or after January 1, 1971, piping which is part of the reactor coolant pressure boundary[1] shall meet the requirements for Class I piping set forth in the USA Standard Code for Pressure Piping (USAS B31.7) and Addenda[5] in effect[3] on the date of order[4] of the piping and the requirements applicable to piping of articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda[5] in effect on the date of order of the piping unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such piping: *Provided, however,* That if the piping is ordered more than 6 months prior to the date of issuance of the construction permit, compliance with the requirements for Class I piping set forth in USAS B31.7 and Addenda[5] in effect 6 months prior to the date of issuance of the construction permit is required. The piping may meet the requirements set forth in editions of these Codes and Addenda[5] which have become effective after the date of piping order or after 6 months prior to the date of issuance of the construction permit, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such piping.

(e) Pumps:

(1) For construction permits issued before January 1, 1971, for reactors not licensed for operation, pumps which are part of the reactor coolant pressure boundary[1] shall meet—

(i) The requirements for Class I pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power, Addenda, and Code Cases[2] in effect[3] on the date of order[4] of the pumps, or

(ii) The nondestructive examination and acceptance standards set forth in ASA B31.1 Code Cases N7, N9, and N10, except that the acceptance standards for Class I pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda in effect on the date of order of the pumps may be applied.

The pumps may meet the requirements set forth in editions of the Draft ASME Code for Pumps and Valves for Nuclear Power, Addenda, and Code Cases which became effective after the date of order of the pumps, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pumps.

(2) For construction permits issued on or after January 1, 1971, pumps which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class I pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] in effect[3] on the date of order[4] of the pumps and the requirements applicable to pumps set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect on the date of order of the pumps, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such pumps: *Provided, however,* That if the pumps are ordered more than 12 months prior to the date of issuance of the construction permit, compliance with the requirements for Class I pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] and the requirements applicable to pumps set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect 12 months prior to the date of issuance of the construction permit is required. The pumps may meet the requirements set forth in editions of these Codes or Addenda which have become effective after the date of pump order or after 12 months prior to the date of issuance of the construction permit, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pumps.

(f) Valves:

(1) For construction permits issued before January 1, 1971, for reactors not licensed for operation, valves which are part of the reactor coolant pressure boundary[1] shall meet the requirements set forth in

(i) The American Standard Code for Pressure Piping (ASA B31.1), Addenda, and applicable Code Cases, or the USA Standard Code for Pressure Piping (USAS B31.1.0), Addenda, and applicable Code Cases, in effect[3] on the date of order[4] of the valves or the Class I section of the Draft ASME Code for Pumps and Valves for Nuclear Power,[2] Addenda, and Code Cases in effect on the date of order of the valves or

(ii) The nondestructive examination and acceptance standards of ASA B31.1 Code Cases N2, N7, N9, and N10, except that the acceptance standards for Class I valves set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda in effect on the date of order of the valves may be applied.

The valves may meet the requirements set forth in editions of ASA B31.1, USAS B31.1.0, and the Draft ASME Code for Pumps and Valves for Nuclear Power, Addenda, and Code Cases, which became effective after the date of order of the valves, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such valves.

(2) For construction permits issued on or after January 1, 1971, valves which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class I valves set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] in effect[3] on the date of order[4] of the valves and the requirements applicable to valves set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda[5] in effect on the date of order of the valves, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such valves: *Provided, however,* That if the valves are ordered more than 12 months prior to the date of issuance of the construction permit, compliance with the requirements for Class I valves set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] and the requirements applicable to valves set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect 12 months prior to the date of issuance of the construction permit is required. The valves may meet the requirements set forth in editions of these Codes or Addenda which have become effective after the date of valve order or after 12 months prior to the date of issuance of the construction permit, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such valves.

(g) Inservice inspection requirements: For construction permits issued on or after January 1, 1971, systems and components shall meet the requirements set

forth in section XI of the ASME Boiler and Pressure Vessel Code and Addenda[2] in effect 6 months prior to the date of issuance of the construction permit, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such systems and components. Systems and components may meet the requirements set forth in editions of this Code and Addenda which have become effective after 6 months prior to the date of issuance of the construction permit, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such systems and components.

(h) Protection systems: For construction permits issued after January 1, 1971, protection systems shall meet the requirements set forth in the Institute of Electrical and Electronics Engineers Criteria for Nuclear Power Plant Protection Systems (IEEE 279) in effect[6] 12 months prior to the date of issuance of the construction permit, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such protection systems. Protection systems may meet the requirements set forth in later editions or revisions of IEEE 279 which have become effective after 12 months prior to the date of issuance of the construction permit, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such protection systems.

(i) Power reactors for which a notice of hearing on an application for a provisional construction permit or a construction permit has been published on or before December 31, 1970, may meet the requirements of paragraphs (c)(1), (d)(1), (e)(1), and (f)(1) of this section instead of paragraphs (c)(2), (d)(2), (e)(2), and (f)(2) of this section, respectively.

4. A new paragraph (n) is added to § 115.3 to read as follows:

§ 115.3 Definitions.

As used in this part:

* * * * *

(n) "Reactor coolant pressure boundary" means all those pressure-containing components of boiling and pressurized water-cooled nuclear power reactors, such as pressure vessels, piping, pumps, and valves, which are:

(1) Part of the reactor coolant system, or

(2) Connected to the reactor coolant system, up to and including any and all of the following:

(i) The outermost containment isolation valve in system piping which penetrates primary reactor containment,

(ii) The second of two valves normally closed during normal reactor operation in system piping which does not penetrate primary reactor containment,

(iii) The reactor coolant system safety and relief valves.

For nuclear power reactors of the direct cycle boiling water type, the reactor coolant system extends to and includes the outermost containment isolation valve in the main steam and feedwater piping.

5. Paragraph (a) of § 115.43 is amended to read as follows:

§ 115.43 Conditions of construction authorizations.

Each construction authorization shall be subject to the following terms and conditions:

(a) Except as modified by this section and § 115.43a, the construction authorization shall be subject to the same conditions to which an operating authorization is subject.

* * * * *

6. A new § 115.43a is added to 10 CFR Part 115 to read as follows:

§ 115.43a Codes and standards.

Each construction authorization shall be subject to the following conditions, in addition to those specified in § 115.43:

(a) Structures, systems, and components shall be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed.

(b) As a minimum, the systems and components of boiling and pressurized water-cooled nuclear power reactors specified in paragraphs (c), (d), (e), (f), and (g) of this section shall meet the requirements described in those paragraphs, except that the American Society of Mechanical Engineers (hereinafter referred to as ASME) Code N-symbol need not be applied, and the protection systems of nuclear power reactors of all types shall meet the requirements described in paragraph (h) of this section, except as authorized by the Commission upon demonstration by the applicant for or holder of a construction authorization that:

(1) Design, fabrication, installation, testing, or inspection of the specified system or component is, to the maximum extent practical, in accordance with generally recognized codes and standards, and compliance with the requirements described in paragraphs (c) through (h) of this section or portions thereof would result in hardships or unusual difficulties without a compensating increase in the level of quality and safety; or

(2) Proposed alternatives to the described requirements or portions thereof will provide an acceptable level of quality and safety. For example, the use of inspection and survey systems other than those required by the specified ASME Codes and Addenda may be authorized under this subparagraph provided that an acceptable level of quality and safety in design, fabrication, installation, and testing is achieved.

(c) Pressure vessels:

(1) For construction authorizations issued before January 1, 1971, for reactors not authorized for operation, pressure vessels which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class A vessels set forth in section III of the ASME Boiler and Pressure Vessel Code, applicable Code Cases, and Addenda[2] in effect[3] on the date of order[4] of the vessel. The pressure vessels may meet the requirements set forth in editions of this Code, applicable Code Cases and Addenda which have become effective after the date of vessel order, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pressure vessels.

(2) For construction authorizations issued on or after January 1, 1971, pressure vessels which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class A vessels set forth in section III of the ASME

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[6] For purposes of this regulation, the proposed IEEE 279 became "in effect" on Aug. 30, 1968, and future IEEE 279 editions or revisions will become "in effect" on the effective date printed on the document. Copies may be obtained from the Institute of Electrical and Electronics Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017. A copy is available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, DC.

[1] Components which are connected to the reactor coolant system and are part of the reactor coolant pressure boundary defined in § 115.3(n) need not meet these requirements, provided;

(a) In the event of postulated failure of the component during normal reactor operation, the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only, or

(b) the component is or can be isolated from the reactor coolant system by two valves (both closed, both open, or one closed and the other open). Each open valve must be capable of automatic actuation and, assuming the other valve is open, its closure time must be such that, in the event of postulated failure of the component during normal reactor operation, each valve remains operable and the reactor can be shut down and cooled down in an orderly manner, assuming makeup is provided by the reactor coolant makeup system only.

[2] Copies may be obtained from the American Society of Mechanical Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017. Copies are available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, DC.

[3] ASME and United States of America Standard Code Addenda are considered "in effect" 6 months after their date of issuance.

[4] The Code issue applicable to a component is governed by the order or contract date for the component, not the contract date for the nuclear energy system.

Boiler and Pressure Vessel Code and Addenda[5] in effect[3] on the date of order[4] of the pressure vessel, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such pressure vessels: *Provided, however,* That if the pressure vessel is ordered more than 18 months prior to the date of issuance of the construction authorization, compliance with the requirements for Class A vessels set forth in section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect 18 months prior to the date of issuance of the construction authorization is required. The pressure vessels may meet the requirements set forth in editions of this Code and Addenda which have become effective after the date of vessel order or after 18 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pressure vessels.

(d) Piping:

(1) For construction authorizations issued before January 1, 1971, for reactors not authorized for operation, piping which is part of the reactor coolant pressure boundary[1] shall meet the requirements set forth in

(i) The American Standard Code for Pressure Piping (ASA B31.1), Addenda, and applicable Code Cases,[2] or the USA Standard Code for Pressure Piping (USAS B31.1.0), Addenda, and applicable Code Cases[2] or the Class I Section of the USA Standard Code for Pressure Piping (USAS B31.7)[2] in effect[3] on the date of order[4] of the piping and

(ii) The nondestructive examination and acceptance standards of ASA B31.1 Code Cases N7, N9, and N10, except that the acceptance standards of Class I piping of the USA Standard Code for Pressure Piping (USAS B31.7) may be applied.

The piping may meet the requirements set forth in editions of ASA B31.1, USAS B31.1.0, and USAS B31.7, Addenda, and Code Cases which became effective after the date of order of the piping, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such piping.

(2) For construction authorizations issued on or after January 1, 1971, piping which is part of the reactor coolant pressure boundary[1] shall meet the requirements for Class I piping set forth in the USA Standard Code for Pressure Piping (USAS B31.7) and Addenda[5] in effect[3] on the date of order[4] of the piping and the requirements applicable to piping of articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda[5] in effect on the date of order of the piping, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such piping: *Provided, however,* That if the piping is ordered more than 6 months prior to the date of issuance of the construction authorization, compliance with the requirements for Class I piping set forth USAS B31.7 and Addenda[5] in effect 6 months prior to the date of issuance of the construction authorization is required. The piping may meet the requirements set forth in editions of these Codes and Addenda[5] which have become effective after the date of piping order or after 6 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such piping.

(e) Pumps:

(1) For construction authorizations issued before January 1, 1971, for reactors not authorized for operation, pumps which are part of the reactor coolant pressure boundary[1] shall meet

(i) The requirements for Class I pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power, Addenda, and Code Cases in effect on the date of order of the pumps, or

(ii) The nondestructive examination and acceptance standards set forth in ASA B31.1 Code Cases N7, N9, and N10, except that the acceptance standards for Class I Pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5], in effect[3] on the date of order[4] of the pumps may be applied.

The pumps may meet the requirements set forth in editions of the Draft ASME Code for Pumps and Valves for Nuclear Power, Addenda, and Code Cases which became effective after the date of order of the pumps, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pumps.

(2) For construction authorizations issued on or after January 1, 1971, pumps which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class I pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] in effect[3] on the date of order[4] of the pumps and the requirements applicable to pumps set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect on the date of order of the pumps, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such pumps: *Provided, however,* That if the pumps are ordered more than 12 months prior to the date of issuance of the construction authorization, compliance with the requirements for Class I pumps set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] and the requirements applicable to pumps set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect 12 months prior to the date of issuance of the construction authorization is required. The pumps may meet the requirements set forth in editions of these Codes or Addenda which have become effective after the date of pump order or after 12 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such pumps.

(f) Valves:

(1) For construction authorizations issued before January 1, 1971, for reactors not authorized for operation, valves which are part of the reactor coolant pressure boundary[1] shall meet the requirements set forth in

(i) The American Standard Code for Pressure Piping (ASA B31.1), Addenda, and applicable Code Cases, or the USA Standard Code for Pressure Piping (USAS B31.1.0), Addenda, and applicable Code Cases in effect[3] on the date of order[4] of the valves or the Class I Section of the Draft ASME Code for Pumps and Valves for Nuclear Power,[2] Addenda, and Code Cases in effect on the date of order of the valves or

(ii) The nondestructive examination and acceptance standards of ASA B31.1 Code Cases N2, N7, N9, and N10, except that the acceptance standards for Class I valves set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda in effect on the date of order of the valves may be applied.

The valves may meet the requirements set forth in editions of ASA B31.1, USAS B31.1.0, and the Draft ASME Code for Pumps and Valves for Nuclear Power, Addenda, and Code Cases, which became effective after the date of order of the valves, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such valves.

(2) For construction authorizations issued on or after January 1, 1971, valves which are part of the reactor coolant pressure boundary[1] shall meet the requirements for Class I valves set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] in effect[3] on the date of order[4] of the valves and the requirements applicable to valves set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda[5] in effect on the date of order of the valves, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such valves: *Provided, however,* That if the valves are ordered more than 12 months prior to the date of issuance of the construction authorization, compliance with the requirements

[5] The use of specific Code Cases may be authorized by the Commission upon request pursuant to § 115.43a(b)(2).

for Class I valves set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda* and the requirements applicable to valves set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect 12 months prior to the date of issuance of the construction authorization is required. The valves may meet the requirements set forth in editions of these Codes or Addenda which have become effective after the date of valve order or after 12 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such valves.

(g) Inservice inspection requirements: For construction authorizations issued on or after January 1, 1971, systems and components shall meet the requirements set forth in section XI of the ASME Boiler and Pressure Vessel Code and Addenda* in effect 6 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such systems and components. Systems and components may meet the requirements set forth in editions of this Code and Addenda which have become effective after 6 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such systems and components.

(h) Protection systems: For construction authorizations issued after January 1, 1971, protection systems shall meet the requirements set forth in the Institute of Electrical and Electronics Engineers Criteria for Nuclear Power Plant Protection Systems (IEEE 279) in effect* 12 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such protection systems. Protection systems may meet the requirements set forth in later editions or revisions of IEEE 279 which have become effective after 12 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such protection systems.

(Secs. 103, 104, 161i, 183, 68 Stat. 936, 937, 948, 954, as amended; 42 U.S.C. 2133, 2134, 2201(i), 2233)

Dated at Washington, D.C., this 2d day of June 1971.

For the Atomic Energy Commission.

W. B. McCOOL,
Secretary of the Commission.

[FR Doc.71-8254 Filed 6-11-71;8:49 am]

* For purposes of this regulation, the proposed IEEE 279 became "in effect" on August 30, 1968, and future IEEE 279 editions or revisions will become "in effect" on the effective date printed on the document. Copies may be obtained from the Institute of Electrical and Electronics Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017. A copy is available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, DC.

Title 12—BANKS AND BANKING

Chapter V—Federal Home Loan Bank Board

SUBCHAPTER D—FEDERAL SAVINGS AND LOAN INSURANCE CORPORATION

[No. 71-461]

PART 563—OPERATIONS

Participation Loan Transactions

Correction

In F.R. 71-7628 appearing at page 10724 in the issue for Wednesday, June 2, 1971, in amendatory paragraph 2 the reference to "§ 2563.9-2" should read "§ 563.9-2".

Chapter VI—Farm Credit Administration

SUBCHAPTER F—BANKS FOR COOPERATIVES

PART 672—CENTRAL BANK FOR COOPERATIVES DEBENTURES

PART 673—BANKS FOR COOPERATIVES CONSOLIDATED DEBENTURES

Miscellaneous Amendments

Part 672 is deleted from Chapter VI of Title 12 of the Code of Federal Regulations, and Part 673 thereof is amended by revising §§ 673.2 and 673.3 to read as follows:

§ 673.2 Custodian and Acting Custodian.

(a) The Collateral Officer, Accounting, Budget and Data Management Division, Farm Credit Administration, shall serve, ex officio, as Custodian of collateral pledged by the Central Bank for Cooperatives for consolidated debentures. Any Assistant Collateral Officer of said Division shall serve, ex officio, as Acting Custodian of collateral pledged by the Central Bank for Cooperatives for consolidated debentures, in the event the said Custodian is unable to serve for any reason.

(b) The Farm Loan Registrar in each farm credit district shall serve, ex officio, as Custodian of collateral pledged by the bank for cooperatives of the district for consolidated debentures; and the Deputy Registrar and any Acting Deputy Registrar in each farm credit district shall serve, ex officio, as Acting Custodian of collateral pledged by the bank for cooperatives of the district for consolidated debentures, in the event the said Custodian is unable to serve for any reason. The operating title of the Farm Loan Registrar when so serving shall be Custodian. The operating title of the Deputy Registrar and any Acting Deputy Registrar when so serving shall be Acting Custodian.

§ 673.3 Bonding of Custodian and Acting Custodian.

Each Custodian shall be covered under a fidelity bond with a corporate surety on the approved list of the Treasury Department in the amount of $50,000 to insure the faithful performance of his duties and provide against financial loss. Each Acting Custodian of collateral for the Central Bank for Cooperatives shall likewise be covered in the amount of $50,000, but like coverage for Acting Custodians of collateral for district banks for cooperatives shall be in the amount of $25,000.

(Sec. 37, 48 Stat. 263, as amended; 12 U.S.C. 1134m)

E. A. JAENKE,
Governor,
Farm Credit Administration.

[FR Doc.71-8294 Filed 6-11-71;8:52 am]

Title 14—AERONAUTICS AND SPACE

Chapter I—Federal Aviation Administration, Department of Transportation

[Airworthiness Docket No. 68-WE-20-AD; Amdt. 39-1228]

PART 39—AIRWORTHINESS DIRECTIVES

Boeing Model 727 Series Airplanes

Amendment 39-635 (33 F.R. 11714), AD-68-17-1, provides for inspection and replacement of the main landing gear actuator beam support link in accordance with the manufacturer's Service Bulletin 32-90. The repetitive inspections required in Amendment 39-635 were no longer required when the links were replaced with 65-19657-11 or -13 links. After issuing Amendment 39-635, due to service experience, the Agency has determined that the 65-19657-13 link requires repeat inspections. Therefore, the AD is being amended to provide a repeat inspection for the 65-19657-13 link when installed, and to delete the -13 link as a terminating action.

Since a situation exists that requires immediate adoption of this regulation, it is found that notice and public procedure hereon are impracticable and good cause exists for making this amendment effective in less than 30 days.

In consideration of the foregoing, and pursuant to the authority delegated to me by the Administrator (31 F.R. 13697), § 39.13 of Part 39 of the Federal Aviation Regulations, Amendment 39-635 (33 F.R. 11714), AD 68-17-1, is amended as follows:

for Class I valves set forth in the Draft ASME Code for Pumps and Valves for Nuclear Power and Addenda[5] and the requirements applicable to valves set forth in articles 1 and 8 of section III of the ASME Boiler and Pressure Vessel Code and Addenda in effect 12 months prior to the date of issuance of the construction authorization is required. The valves may meet the requirements set forth in editions of these Codes or Addenda which have become effective after the date of valve order or after 12 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such valves.

(g) Inservice inspection requirements: For construction authorizations issued on or after January 1, 1971, systems and components shall meet the requirements set forth in section XI of the ASME Boiler and Pressure Vessel Code and Addenda[5,6] in effect 6 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such systems and components. Systems and components may meet the requirements set forth in editions of this Code and Addenda which have become effective after 6 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such systems and components.

(h) Protection systems: For construction authorizations issued after January 1, 1971, protection systems shall meet the requirements set forth in the Institute of Electrical and Electronics Engineers Criteria for Nuclear Power Plant Protection Systems (IEEE 279) in effect[6] 12 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable or unnecessary for such protection systems. Protection systems may meet the requirements set forth in later editions or revisions of IEEE 279 which have become effective after 12 months prior to the date of issuance of the construction authorization, unless the Commission has published a notice in the FEDERAL REGISTER that compliance with such requirements or any part thereof is unacceptable for such protection systems.

(Secs. 103, 104, 1611, 183, 68 Stat. 936, 937, 948, 954, as amended; 42 U.S.C. 2133, 2134, 2201(i), 2233)

Dated at Washington, D.C., this 2d day of June 1971.

For the Atomic Energy Commission.

W. B. McCOOL,
Secretary of the Commission.

[FR Doc.71-8254 Filed 6-11-71;8:49 am]

[6] For purposes of this regulation, the proposed IEEE 279 became "in effect" on August 30, 1968, and future IEEE 279 editions or revisions will become "in effect" on the effective date printed on the document. Copies may be obtained from the Institute of Electrical and Electronics Engineers, United Engineering Center, 345 East 47th Street, New York, NY 10017. A copy is available for inspection at the Commission's Public Document Room, 1717 H Street NW., Washington, DC.

Title 12—BANKS AND BANKING

Chapter V—Federal Home Loan Bank Board

SUBCHAPTER D—FEDERAL SAVINGS AND LOAN INSURANCE CORPORATION

[No. 71-461]

PART 563—OPERATIONS

Participation Loan Transactions

Correction

In F.R. 71-7628 appearing at page 10724 in the issue for Wednesday, June 2, 1971, in amendatory paragraph 2 the reference to "§ 2563.9-2" should read "§ 563.9-2".

Chapter VI—Farm Credit Administration

SUBCHAPTER F—BANKS FOR COOPERATIVES

PART 672—CENTRAL BANK FOR COOPERATIVES DEBENTURES

PART 673—BANKS FOR COOPERATIVES CONSOLIDATED DEBENTURES

Miscellaneous Amendments

Part 672 is deleted from Chapter VI of Title 12 of the Code of Federal Regulations, and Part 673 thereof is amended by revising §§ 673.2 and 673.3 to read as follows:

§ 673.2 Custodian and Acting Custodian.

(a) The Collateral Officer, Accounting, Budget and Data Management Division, Farm Credit Administration, shall serve, ex officio, as Custodian of collateral pledged by the Central Bank for Cooperatives for consolidated debentures. Any Assistant Collateral Officer of said Division shall serve, ex officio, as Acting Custodian of collateral pledged by the Central Bank for Cooperatives for consolidated debentures, in the event the said Custodian is unable to serve for any reason.

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E. A. JAENKE,
Governor,
Farm Credit Administration.

[FR Doc.71-8294 Filed 6-11-71;8:52 am]

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Chapter I—Federal Aviation Administration, Department of Transportation

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