[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[NRC-2012-0059]

RIN 3150-AJ13

Approval of American Society of Mechanical Engineers' Code Cases

AGENCY: Nuclear Regulatory Commission.

ACTION: Proposed rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is proposing to amend its regulations to incorporate by reference proposed revisions of three regulatory guides (RGs) which would approve new, revised, and reaffirmed Code Cases published by the American Society of Mechanical Engineers (ASME). This proposed action would allow nuclear power plant licensees, and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals and manufacturing licenses, to use the Code Cases listed in these draft RGs as alternatives to engineering standards for the construction, inservice inspection, and inservice testing of nuclear power plant components. These engineering standards are set forth in ASME Boiler and Pressure Vessel Codes and ASME Operations and Maintenance Codes, which are currently incorporated by reference into the NRC's regulations. The NRC is requesting comments on this proposed rule and on the draft versions of the three RGs proposed to be incorporated by reference. The NRC is also making available a related draft RG that lists Code Cases that the NRC has not approved for use. This draft RG will not be incorporated by reference into the NRC's regulations.

DATES: Submit comments on the proposed rule and related guidance by May 16, 2016. Submit comments specific to the information collections aspects of this rule by April 1, 2016. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only of comments received on or before this date.

ADDRESSES: You may submit comments by any of the following methods (unless this document describes a different method for submitting comments on a specific subject):

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2012-0059**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **E-mail comments to:** Rulemaking.Comments@nrc.gov. If you do not receive an automatic e-mail reply confirming receipt, then contact us at 301-415-1677.

- **Fax comments to:** Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.

- **Mail comments to:** Secretary, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.

- **Hand deliver comments to:** 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. (Eastern Time) Federal workdays; telephone: 301-415-1677.

For additional direction on obtaining information and submitting comments, see "Obtaining Information and Submitting Comments" in the SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: Jennifer Tobin, Office of Nuclear Reactor Regulation, telephone: 301-415-2328, e-mail: Jennifer.Tobin@nrc.gov; and Anthony Cinson, Office of Nuclear Regulatory Research, telephone: 301-415-2393; e-mail: Anthony.Cinson@nrc.gov. Both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

EXECUTIVE SUMMARY:

The purpose of this regulatory action is to incorporate by reference into the NRC regulations the latest revisions of three RGs (currently in draft form for comment). The three draft RGs identify new, revised, and reaffirmed Code Cases published by the ASME, which the NRC has determined are acceptable for use as alternatives to compliance with certain provisions of the ASME Boiler and Pressure Vessel Codes and ASME Operations and Maintenance Codes currently incorporated by reference into the NRC's regulations. The three draft RGs that the NRC proposes to incorporate by reference are RG 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," Revision 37 (Draft Regulatory Guide (DG)-1295); RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 18 (DG-1296); and RG 1.192, "Operation and Maintenance [OM] Code Case Acceptability, ASME OM Code," Revision 2 (DG-1297). This proposed action would allow nuclear power plant licensees and applicants for construction permits (CPs), operating licenses (OLs), combined licenses (COLs), standard design certifications, standard design approvals,

and manufacturing licenses, to use the Code Cases newly listed in these revised RGs as alternatives to engineering standards for the construction, inservice inspection (ISI), and inservice testing (IST) of nuclear power plant components. The NRC also notes the availability of a proposed version of RG 1.193, "ASME Code Cases Not Approved for Use," Revision 5 (DG-1298). This document lists Code Cases that the NRC has not approved for generic use, and will not be incorporated by reference into the NRC's regulations. The NRC is not requesting comment on RG 1.193.

The NRC prepared a draft regulatory analysis to determine the expected quantitative costs and benefits of the proposed rule, as well as qualitative factors to be considered in the NRC's rulemaking decision. The analysis concluded that the proposed rule would result in net savings to the industry and the NRC. As shown in the following table, the estimated total net benefit relative to the regulatory baseline, the quantitative benefits outweigh the costs by a range from approximately $5,504,000 (7-percent NPV) to $6,520,000 (3-percent NPV).

	Total Averted Costs (Costs)		
Attribute	Undiscounted	7% NPV	3% NPV
Industry Implementation	($1,933,000)	($1,933,000)	($1,933,000)
Industry Operation	$7,771,000	$6,375,000	$7,124,000
Total Industry Costs	$4,517,000	$3,353,000	$3,978,000
NRC Implementation	($294,000)	($294,000)	($294,000)
NRC Operation	$3,190,000	$2,444,000	$2,836,000
Total NRC Cost	$2,896,000	$2,151,000	$2,543,000
Net	$7,413,000	$5,504,000	$6,520,000

The regulatory analysis also considered the following nonquantifiable benefits for industry and the NRC: 1) would provide licensees with flexibility and would decrease licensee's uncertainty when making modifications or preparing to perform ISI or IST; 2) consistency with the provisions of the National Technology Transfer and Advancement Act of 1995 (NTTAA), which encourages Federal regulatory agencies to consider adopting voluntary consensus standards as an alternative to *de novo* agency development of standards affecting an industry; 3) consistency with the NRC's policy of evaluating the latest versions of consensus standards in terms of their suitability for endorsement by regulations and regulatory guides; and 4) consistency with the NRC's goal to harmonize with international standards to improve regulatory efficiency for both the NRC and international standards groups.

The draft regulatory analysis concludes that the proposed rule should be adopted because it is justified when integrating the cost-beneficial quantitative results and the positive and supporting nonquantitative considerations in the decision. For more information, please see the regulatory analysis (ADAMS Accession No. ML15041A816).

SUPPLEMENTARY INFORMATION:

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I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID **NRC-2012-0059** when contacting the NRC about the availability of information for this action. You may obtain publicly-available information related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2012-0059**.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public

Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

B. Submitting Comments

Please include Docket ID **NRC-2012-0059** in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at http://www.regulations.gov as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

II. Background

The ASME develops and publishes the ASME Boiler and Pressure Vessel Code (BPV Code), which contains requirements for the design, construction, and ISI and examination of nuclear power plant components, and the ASME Code for Operation and Maintenance of Nuclear Power Plants (OM Code)[1], which contains requirements for IST of nuclear power plant components. In response to BPV and OM Code user requests, the ASME develops Code Cases that provide alternatives to BPV and OM Code requirements under special circumstances.

The NRC approves and can mandate the use of the ASME BPV and OM Codes in § 50.55a, "Codes and standards," of title 10 of the *Code of Federal Regulations* (10 CFR) through the process of incorporation by reference. As such, each provision of the ASME Codes incorporated by reference into, and mandated by § 50.55a constitutes a legally-binding NRC requirement imposed by rule. As noted previously, ASME Code Cases, for the most part, represent alternative approaches for complying with provisions of the ASME BPV and OM Codes. Accordingly, the NRC periodically amends § 50.55a to incorporate by reference NRC RGs listing approved ASME Code Cases that may be used as alternatives to the BPV and OM Codes.[2]

This rulemaking is the latest in a series of rulemakings that incorporate by reference new versions of several RGs identifying new, revised, and reaffirmed,[3] and unconditionally or

[1] The editions and addenda of the ASME Code for Operation and Maintenance of Nuclear Power Plants have had different titles from 2005 to 2012, and are referred to collectively in this rule as the "OM Code."
[2] See *Federal Register* notice (FRN), "Incorporation by Reference of ASME BPV and OM Code Cases" (68 FR 40469; July 8, 2003).
[3] Code Cases are categorized by ASME as one of three types: new, revised, or reaffirmed. A new Code Case provides for a new alternative to specific ASME Code provisions or addresses a new need. The ASME defines a revised Code Case to be a revision (modification) to an existing Code Case to address, for example, technological advancements in examination techniques or to address NRC conditions imposed in one of the RGs that have been incorporated by reference into § 50.55a. The ASME defines "reaffirmed" as an OM Code Case to be one that does not have any change to technical content, but includes editorial changes.

conditionally acceptable ASME Code Cases that the NRC approves for use. In developing these RGs, the NRC staff reviews ASME BPV and OM Code Cases, determines the acceptability of each Code Case, and publishes its findings in the RGs. The RGs are revised periodically as new Code Cases are published by the ASME. The NRC incorporates by reference the RGs listing acceptable and conditionally acceptable ASME Code Cases into § 50.55a. Currently, NRC RG 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," Revision 36; RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 17; and RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," Revision 1, are incorporated into the NRC's regulations in § 50.55a.

III. Discussion

This proposed rule would incorporate by reference the latest revisions of the NRC RGs that list ASME BPV and OM Code Cases that the NRC finds to be acceptable, or acceptable with NRC-specified conditions ("conditionally acceptable"). Regulatory Guide 1.84 (DG-1295, Revision 37) would supersede Revision 36; RG 1.147 (DG-1296, Revision 18) would supersede Revision 17; and RG 1.192 (DG-1297, Revision 2) would supersede Revision 1. The NRC also publishes a document (RG 1.193, "ASME Code Cases Not Approved for Use") that lists Code Cases that the NRC has not approved for generic use.

RG 1.193 is not incorporated by reference into the NRC's regulations; however, NRC notes the availability of a proposed version of RG 1.193, Revision 5 (DG-1298). The NRC is not requesting comment on DG-1298.

The ASME Code Cases that are the subject of this rulemaking are the new, revised, and reaffirmed Section III and Section XI Code Cases listed in Supplement 11 to the 2007 BPV

Code through Supplement 10 to the 2010 BPV Code, and the OM Code Cases published with the 2009 Edition through the 2012 Edition.

The latest editions and addenda of the ASME BPV and OM Codes that the NRC has approved for use are referenced in § 50.55a. The ASME also publishes Code Cases that provide alternatives to existing Code requirements that the ASME developed and approved. The proposed rule would incorporate by reference RGs 1.84, 1.147, and 1.192, allowing nuclear power plant licensees, and applicants for CPs, OLs, COLs, standard design certifications, standard design approvals, and manufacturing licenses under the regulations that govern license certifications to use the Code Cases listed in these RGs as suitable alternatives to the ASME BPV and OM Codes for the construction, ISI, and IST of nuclear power plant components. This action would be consistent with the provisions of the National Technology Transfer and Advancement Act of 1995 (NTTAA), Pub. L. 104-113, which encourages Federal regulatory agencies to consider adopting industry consensus standards as an alternative to *de novo* agency development of standards affecting an industry. This action would also be consistent with the NRC policy of evaluating the latest versions of consensus standards in terms of their suitability for endorsement by regulations or regulatory guides.

The NRC follows a three-step process to determine acceptability of new, revised, and reaffirmed Code Cases, and the need for regulatory positions on the uses of these Code Cases. This process was employed in the review of the Code Cases in Supplement 11 to the 2007 Edition through Supplement 10 to the 2010 Edition of the BPV Code and the 2009 Edition through the 2012 Edition of the OM Code. The Code Cases in these supplements and OM Editions and Addenda are the subject of this proposed rule. First, the ASME develops Code Cases through a consensus development process, as administered by the American National Standards Institute (ANSI), which ensures that the various technical interests (e.g., utility, manufacturing, insurance, regulatory) are represented on standards development committees and that their view points are addressed fairly. The NRC staff actively participates through full

involvement in discussions and technical debates of the task groups, working groups, subgroups, and standards committee regarding the development of new and revised standards. The Code Case process includes development of a technical justification in support of each new or revised Code Case. The ASME committee meetings are open to the public and attendees are encouraged to participate. Task groups, working groups, and subgroups report to a standards committee. The standards committee is the decisive consensus committee in that it ensures that the development process fully complies with the ANSI consensus process.

Second, the standards committee transmits a first consideration letter ballot to every member of the standards committee requesting comment or approval of new and revised Code Cases. Code Cases are approved by the standards committee from the first consideration letter ballot when at least two thirds of the eligible consensus committee membership vote approved, there are no disapprovals from the standards committee, and no substantive comments are received from the ASME oversight committees such as the Technical Oversight Management Committee (TOMC). The TOMC's duties, in part, are to oversee various standards committees to ensure technical adequacy and to provide recommendations in the development of codes and standards, as required. Code Cases that were disapproved or received substantive comments from the first consideration ballot are reviewed by the working level group(s) responsible for their development to consider the comments received. These Code Cases are approved by the standards committee on second consideration when at least two thirds of the eligible consensus committee membership vote approved, and there are no more than three disapprovals from the consensus committee.

Third, the NRC reviews new, revised, and reaffirmed Code Cases to determine their acceptability for incorporation by reference in § 50.55a through the subject RGs. This rulemaking process, when considered together with the ANSI process for developing and approving the ASME codes and standards, and Code Cases, constitutes the NRC's basis that the Code Cases (with conditions as necessary) provide reasonable assurance of adequate

protection to public health and safety.

The NRC reviewed the new, revised, and reaffirmed Code Cases identified in the three draft regulatory guides proposed to be incorporated by reference into § 50.55a in this rulemaking. The NRC proposes to conclude, in accordance with the process described, that the Code Cases are technically adequate (with conditions as necessary) and consistent with current NRC regulations, and referencing these Code Cases in the applicable RGs, thereby approving them for use subject to the specified conditions.

A. Code Cases Proposed to be Approved for Unconditional Use

The Code Cases that are discussed in TABLE I are new, revised or reaffirmed Code Cases in which the NRC is not proposing any conditions. The NRC concludes, in accordance with the process described for review of ASME Code Cases, that each of the ASME Code Cases listed in TABLE I are acceptable for use without conditions. Therefore, the NRC proposes to approve for unconditional use the Code Cases listed in TABLE I. This table identifies the draft regulatory guide listing the applicable Code Case that the NRC proposes to approve for use.

TABLE I: Code Cases Proposed for Unconditional Use

Boiler and Pressure Vessel Code Section III (addressed in DG-1295, Table 1)		
Code Case No.	**Supplement**	**Title**
N-284-3	7 (10 Edition)	Metal Containment Shell Buckling Design Methods, Class MC, TC, and SC Construction, Section III, Divisions 1 and 3
N-500-4	8 (10 Edition)	Alternative Rules for Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1
N-520-5	10 (10 Edition)	Alternative Rules for Renewal of Active or Expired N-type Certificates for Plants Not in Active Construction, Section III, Division 1
N-594-1	8 (10 Edition)	Repairs to P-4 and P-5A Castings without Postweld Heat Treatment Class 1, 2, and 3 Construction, Section III, Division 1

N-637-1	3 (10 Edition)	Use of 44Fe-25Ni-21Cr-Mo (Alloy UNS N08904) Plate, Bar, Fittings, Welded Pipe, and Welded Tube, Classes 2 and 3, Section III, Division 1
N-655-2	4 (10 Edition)	Use of SA-738, Grade B, for Metal Containment Vessels, Class MC, Section III, Division 1
N-763	2 (10 Edition)	ASTM A 709-06, Grade HPS 70W (HPS 485W) Plate Material Without Postweld Heat Treatment as Containment Liner Material or Structural Attachments to the Containment Liner, Section III, Division 2
N-777	4 (10 Edition)	Calibration of C_v Impact Test Machines, Section III, Divisions 1, 2, and 3
N-785	11 (07 Edition)	Use of SA-479/SA-479M, UNS S41500 for Class 1 Welded Construction, Section III, Division 1
N-811	7 (10 Edition)	Alternative Qualification Requirements for Concrete Level III Inspection Personnel, Section III, Division 2
N-815	8 (10 Edition)	Use of SA-358/SA-358M Grades Fabricated as Class 3 or Class 4 Welded Pipe, Class CS Core Support Construction, Section III, Division 1
N-816	8 (10 Edition)	Use of Temper Bead Weld Repair Rules Adopted in 2010 Edition and Earlier Editions, Section III, Division 1
N-817	8 (10 Edition)	Use of Die Forgings, SB-247, UNS A96061 Class T6, With Thickness ≤ 4.000 in. Material, Class 2 Construction (1992 Edition or Later), Section III, Division 1
N-819	8 (10 Edition)	Use of Die Forgings, SB-247, UNS A96061 Class T6, With Thickness ≤ 4.000 in. Material, Class 2 Construction (1989 Edition with the 1991 Addenda or Earlier), Section III, Division 1
N-822	8 (10 Edition)	Application of the ASME Certification Mark, Section III, Divisions 1, 2, 3, and 5
Boiler and Pressure Vessel Code Section XI (addressed in DG-1296, Table 1)		
Code Case No.	**Supplement**	**Title**
N-609-1	3 (10 Edition)	Alternative Requirements to Stress-Based Selection Criteria for Category B-J Welds, Section XI, Division 1
N-613-2	4 (10 Edition)	Ultrasonic Examination of Full Penetration Nozzles in Vessels, Examination Category B-D, Reactor Nozzle-To-Vessel Welds, and Nozzle Inside Radius Section Figs. IWB-2500-7(a), (b), (c), and (d), Section XI, Division 1
N-652-2	9 (10 Edition)	Alternative Requirements to Categorize B-G-1, B-G-2, and C-D Bolting Examination Methods and Selection Criteria, Section XI, Division 1
N-653-1	9 (10 Edition)	Qualification Requirements for Full Structural Overlaid Wrought Austenitic Piping Welds, Section XI, Division 1
N-694-2[4]	1 (13 Edition)	Evaluation Procedure and Acceptance Criteria for [pressurized water reactors] (PWR) Reactor Vessel Head Penetration Nozzles, Section XI, Division 1
N-730-1	10 (10 Edition)	Roll Expansion of Class 1 Control Rod Drive Bottom Head

[4] Code Case published in Supplement 1 to the 2013 Edition; included at the request of ASME.

		Penetrations in [boiling water reactors] BWRs, Section XI, Division 1
N-769-2	10 (10 Edition)	Roll Expansion of Class 1 In-Core Housing Bottom Head Penetrations in BWRs, Section XI, Division 1
N-771	7 (10 Edition)	Alternative Requirements for Additional Examinations of Class 2 or 3 Items, Section XI, Division 1
N-775	2 (10 Edition)	Alternative Requirements for Bolting Affected by Borated Water Leakage, Section XI, Division 1
N-776	1 (10 Edition)	Alternative to IWA-5244 Requirements for Buried Piping, Section XI, Division 1
N-786	5 (10 Edition)	Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping, Section XI, Division 1
N-798	4 (10 Edition)	Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Vent, Drain, and Test Isolation Devices, Section XI, Division 1
N-800	4 (10 Edition)	Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Injection Valves, Section XI, Division 1
N-803	5 (10 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Automatic or Machine Dry Underwater Laser Beam Welding (ULBW) Temper Bead Technique, Section XI, Division 1
N-805	6 (10 Edition)	Alternative to Class 1 Extended Boundary End of Interval or Class 2 System Leakage Testing of the Reactor Vessel Head Flange O-Ring Leak-Detection System, Section XI, Division 1
N-823	9 (10 Edition)	Visual Examination, Section XI, Division 1
N-825[5]	3 (13 Edition)	Alternative Requirements for Examination of Control Rod Drive Housing Welds, Section XI, Division 1
N-845[6]	6 (13 Edition)	Qualification Requirements for Bolts and Studs, Section XI, Division 1
Code for Operations and Maintenance (OM) (addressed in DG-1297, Table 1)		
Code Case No.	**Edition**	**Title**
OMN-2	2012 Edition	Thermal Relief Valve Code Case, OM Code-1995, Appendix I
OMN-5	2012 Edition	Testing of Liquid Service Relief Valves without Insulation
OMN-6	2012 Edition	Alternative Rules for Digital Instruments
OMN-7	2012 Edition	Alternative Requirements for Pump Testing
OMN-8	2012 Edition	Alternative Rules for Preservice and Inservice Testing of Power-Operated Valves That Are Used for System Control and Have a Safety Function per OM-10, ISTC-1.1, or ISTA-1100
OMN-13, Revision 2	2012 Edition	Performance-Based Requirements for Extending Snubber Inservice Visual Examination Interval at [light water reactor]

[5] Code Case published in Supplement 3 to the 2013 Edition; included at the request of ASME.
[6] Code Case published in Supplement 6 to the 2013 Edition; included at the request of ASME.

		(LWR) Power Plants
OMN-14	2012 Edition	Alternative Rules for Valve Testing Operations and Maintenance, Appendix I: BWR [control rod drive] CRD Rupture Disk Exclusion
OMN-15, Revision 2	2012 Edition	Performance-Based Requirements for Extending the Snubber Operational Readiness Testing Interval at LWR Power Plants
OMN-17	2012 Edition	Alternative Rules for Testing ASME Class 1 Pressure Relief/Safety Valves
OMN-20	2012 Edition	Inservice Test Frequency

B. Code Cases Proposed to be Approved for Use with Conditions

The Code Cases that are discussed in TABLE II are new, revised or reaffirmed Code Cases in which the NRC is proposing conditions. The NRC has determined that certain Code Cases, as issued by the ASME, are generally acceptable for use, but that the alternative requirements specified in those Code Cases must be supplemented in order to provide an acceptable level of quality and safety. Accordingly, the NRC proposes to impose conditions on the use of these Code Cases to modify, limit or clarify their requirements. The conditions would specify, for each applicable Code Case, the additional activities that must be performed, the limits on the activities specified in the Code Case, and/or the supplemental information needed to provide clarity. These ASME Code Cases with conditions are included in Table 2 of DG-1295 (RG 1.84), DG-1296 (RG 1.147), and DG-1297 (RG 1.192). No new ASME Code Cases with conditions are proposed to be listed in Table 2 of DG-1295 (RG 1.84).

TABLE II: Code Cases Proposed for Conditional Use

Boiler and Pressure Vessel Code Section III (addressed in DG-1295, Table 2)		
Code Case No.	**Supplement**	**Title**
No ASME Section III Code Cases are proposed for Conditional Approval in this Rulemaking		
Boiler and Pressure Vessel Code Section XI (addressed in DG-1296, Table 2)		
Code Case No.	**Supplement**	**Title**
N-552-1	10 (10 Edition)	Alternative Methods – Qualification for Nozzle Inside Radius Section from the Outside Surface, Section XI, Division 1
N-576-2	9 (10 Edition)	Repair of Class 1 and 2 SB-163, UNS N06600 Steam Generator Tubing, Section XI, Division 1
N-593-2	8 (10 Edition)	Examination Requirements for Steam Generator Nozzle-to-Vessel Welds, Section XI, Division 1
N-638-6	6 (10 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1
N-662-1	6 (10 Edition)	Alternative Repair/Replacement Requirements for Items Classified in Accordance with Risk-Informed Processes, Section XI, Division 1
N-666-1	9 (10 Edition)	Weld Overlay of Classes 1, 2, and 3 Socket Welded Connections, Section XI, Division 1
N-749	9 (10 Edition)	Alternative Acceptance Criteria for Flaws in Ferritic Steel Components Operating in the Upper Shelf Temperature Range, Section XI, Division 1
N-754	6 (10 Edition)	Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1
N-778	6 (10 Edition)	Alternative Requirements for Preparation and Submittal of Inservice Inspection Plans, Schedules, and Preservice and Inservice Summary Reports, Section XI, Division 1
N-789	6 (10 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping for Raw Water Service, Section XI, Division 1
N-795	3 (10 Edition)	Alternative Requirements for BWR Class 1 System Leakage Test Pressure Following Repair/Replacement Activities, Section XI, Division 1
N-799	4 (10 Edition)	Dissimilar Metal Welds Joining Vessel Nozzles to Components, Section XI, Division 1
Code for Operations and Maintenance (OM) (addressed in DG-1297, Table 2)		
Code Case No.	**Edition**	**Title**
OMN-1 Revision 1	2012 Edition	Alternative Rules for Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants
OMN-3	2012 Edition	Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR Power Plants

OMN-4	2012 Edition	Requirements for Risk Insights for Inservice Testing of Check Valves at LWR Power Plants
OMN-9	2012 Edition	Use of a Pump Curve for Testing
OMN-12	2012 Edition	Alternative Requirements for Inservice Testing Using Risk Insights for Pneumatically and Hydraulically Operated Valve Assemblies in Light-Water Reactor Power Plants (OM-Code 1998, Subsection ISTC)
OMN-16	2012 Edition	Use of a Pump Curve for Testing
OMN-18	2012 Edition	Alternate Testing Requirements for Pumps Tested Quarterly Within ±20% of Design Flow
OMN-19	2012 Edition	Alternative Upper Limit for the Comprehensive Pump Test

The NRC's evaluation of the Code Cases and the reasons for the NRC's proposed conditions are discussed in the following paragraphs. The NRC requests public comment on these Code Cases and the proposed conditions. Notations have been made to indicate the conditions duplicated from previous versions of the RG.

ASME BPV Code, Section III Code Cases (DG-1295/RG 1.84)

There are no new or revised Section III Code Cases in Supplement 11 to the 2007 Edition through Supplement 10 to the 2010 Edition that the NRC proposes to conditionally approve in draft Revision 37 of RG 1.84.

ASME BPV Code, Section XI Code Cases (DG-1296/RG 1.147)

Code Case N-552-1 [Supplement 10, 2010 Edition]

Type: Revised

Title: *Alternative Methods – Qualification for Nozzle Inside Radius Section from the Outside Surface, Section XI, Division 1*

The proposed conditions on Code Case N-552-1 are identical to the conditions on N-552 that were approved by the NRC in Revision 16 of RG 1.147 in October 2010.

The reasons for imposing these conditions are not addressed by Code Case N-552-1 and, therefore, these conditions would be retained in proposed Revision 18 of RG 1.147 (DG-1296).

Code Case N-576-2 [Supplement 9, 2010 Edition]

Type: Revised

Title: *Repair of Class 1 and 2 SB-163, UNS N06600 Steam Generator Tubing, Section XI, Division 1*

The proposed conditions on Code Case N-576-2 are identical to the conditions on N-576-1 that were approved by the NRC in Revision 17 of RG 1.147 in October 2014. The reasons for imposing these conditions are not addressed by Code Case N-552-2 and, therefore, these conditions would be retained in proposed Revision 18 of RG 1.147 (DG-1296).

Code Case N-593-2 [Supplement 8, 2010 Edition]

Type: Revised

Title: *Examination Requirements for Steam Generator Nozzle-to-Vessel Welds, Section XI, Division 1*

The first condition on Code Case N-593-2 is identical to the condition on Code Case N-593 that was first approved by the NRC in Revision 13 of RG 1.147 in June 2003. The condition stated that, "Essentially 100 percent (not less than 90 percent) of the examination volume A-B-C-D-E-F-G-H [in Figure 1 of the Code Case] must be examined." The reasons for imposing this condition in Code Case N-593 continue to apply to Code Case N-593-2. Therefore, this condition would be retained for this Code Case in Revision 18 of RG 1.147.

The second condition on Code Case N-593-2 is new. Revision 2 of the Code Case reduces the weld examination volume by reducing the width examined on either side of the weld from $t_s/2$ to ½ in. The basis for this change in inspection volume is to make the examination volume for steam generator nozzle-to-vessel welds (under Code Case N-593-2) consistent with that specified in Code Case N-613-1 for similar vessel nozzles.

The NRC identified an issue with respect to Code Case N-593-2 with respect to its inconsistency with Code Case N-613-1. Code Case N-593-2 and Code Case N-613-1 address certain types of nozzle-to-vessel welds. Code Case N-613-1 states that "…Category B-D nozzle-to-vessel welds previously ultrasonically examined using the examination volumes of Figs. IWB-2500-7(a), (b), and (c) may be examined using the reduced examination volume (A-B-C-D-E-F-G-H) of Figs. 1, 2, and 3." The keywords are "previously examined." Code Case N-613-1 requires the larger volume to have been previously examined before examinations using the reduced volume can be performed. This ensures that there are no detrimental flaws in the component adjacent to the weld that would be missed if the inspection was performed only on the reduced volume. However, Code Case N-593-2 allows a licensee to immediately implement the reduced volume. Accordingly, the NRC is proposing to condition Code Case N-593-2 to require that the examination volume specified in Section XI, Table IWB-2500-1, Examination Category B-D, be used for the examination of steam generator nozzle-to-vessel welds at least once prior to use of the reduced volume allowed by the Code Case.

Code Case N-638-6 [Supplement 6, 2010 Edition]

Type: Revised

Title: *Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1*

Code Case N-638-6 allows the use of the automatic or machine gas-tungsten arc welding (GTAW) temper bead technique. The GTAW is a proven method that can produce high-quality welds because it affords greater control over the weld area than many other welding processes.

The NRC first approved Code Case N-638 (Revision 0) in 2003 (Revision 13 of Regulatory Guide 1.147). Code Case N-638-4 was approved by the NRC in Revision 16 of RG 1.147 with two conditions. Code Case N-638-5 was not approved in RG 1.147 for generic use but has been approved through requests for an alternative to § 50.55a. Code Case N-638-6 address one of the NRC's concerns that were raised when Code Case N-638-4 was considered for approval and, therefore, the NRC is proposing to delete that condition from RG 1.147.

Many of the provisions for developing and qualifying welding procedure specifications for the temper bead technique that were contained in earlier versions of the Code Case have been incorporated into ASME Section IX, "Welding and Brazing Qualifications," QW-290, "Temper Bead Welding." Code Case N-638-6 retains the provisions not addressed by QW-290 and references QW-290 in lieu of specifying them directly in the Code Case.

In addition to retaining one of the two conditions on Code Case N-638-4, the NRC is proposing to add a new condition to address technical issues raised by certain provisions of Code Case N-638-6.

The retained condition on Code Case N-638-6 pertains to the qualification of NDE and is identical to the condition on N-638-4 that was approved by the NRC in

Revision 17 of RG 1.147 in October 2014. The reasons for imposing this condition is not addressed by Code Case N-638-6 and, therefore, this condition would be retained in proposed Revision 18 of RG 1.147 (DG-1296).

The new proposed condition is that section 1(b)(1) of the Code Case shall not be used. Section 1(b)(1) would allow through-wall circumferential repair welds to be made using the temper bead technique without heat treatment. Revisions 1 through 5 of N-638 limited the depth of the weld to one-half of the ferritic base metal thickness and the previously stated condition will limit repairs to this previously approved value. Repairs exceeding one-half of the ferritic base metal thickness may represent significant repairs (e.g., replacement of an entire portion of the reactor coolant loop). Until the NRC has more experience with such repairs, the NRC is imposing this condition so that prior NRC approval is necessary. Once significant experience is obtained demonstrating such major repairs can be performed safely, the NRC will consider relaxing this condition.

Code Case N-662-1 [Supplement 6, 2010 Edition]

Type: Revised

Title: *Alternative Repair/Replacement Requirements for Items Classified in Accordance with Risk-Informed Processes, Section XI, Division 1*

The proposed condition on Code Case N-662-1 is identical to the condition on N-662 that was approved by the NRC in Revision 16 of RG 1.147 in October 2010. The reasons for imposing this condition are not addressed by Code Case N-662-1 and, therefore, this condition would be retained in DG-1296/proposed Revision 18 of RG 1.147.

Code Case N-666-1 [Supplement 9, 2010 Edition]

Type: Revised

Title: *Weld Overlay of Classes 1, 2, and 3 Socket Welded Connections, Section XI, Division 1*

Code Case N-666 was unconditionally approved in Revision 17 of RG 1.147. The NRC proposes to approve Code Case N-666-1 with two conditions.

The first proposed condition is that a surface examination must be performed on the completed weld overlay for Class 1 and Class 2 piping socket welds. Code Case N-666-1 contains provisions for the design, installation, evaluation, pressure testing, and examination of the weld overlays on Class 1, 2, and 3 socket welds. Section 5(a)(1) of the Code Case requires nondestructive examination (NDE) of the completed weld overlay in accordance with the Construction Code. However, various Construction Codes have been used in the design and fabrication of the nuclear power plant fleet. The requirements for NDE have changed over the years as more effective and reliable methods and techniques have been developed. In addition, Construction Code practices have evolved based on design and construction experience. The NRC is concerned that some of the Construction Codes would not require a surface examination of the weld overlay and would therefore be inadequate for NDE of the completed weld overlay. The NRC believes that a VT-1 examination alone would not be adequate and that a surface or volumetric examination must be performed on the completed weld overlay for Class 1 and Class 2 piping socket welds. Fabrication defects, must be dispositioned using the surface or volumetric examination criteria of the Construction Code identified in the Repair/Replacement Plan.

The second proposed condition would require that a surface or volumetric examination be performed if required by the plant-specific Construction Code, or that a VT-1 examination be performed after completion of the weld overlay. Paragraph 5(a) of

the Code Case requires “visual and nondestructive examination of the final structural overlay weld.” In accordance with the requirement in paragraph 5(a), a surface or volumetric examination of the completed Class 3 piping socket weld overlay shall be performed if required by the plant-specific Construction Code. However, where the plant-specific Construction Code does not require a surface or volumetric examination of the Class 3 piping socket weld, it would be acceptable to only perform a VT-1 examination of the completed weld overlay.

Code Case N-749 [Supplement 9, 2010 Edition]

Type: New

Title: *Alternative Acceptance Criteria for Flaws in Ferritic Steel Components Operating in the Upper Shelf Temperature Range, Section XI, Division 1*

The NRC proposes that instead of the upper shelf transition temperature, T_c, as defined in the Code Case, the following shall be used:

$T_c = 154.8\ °F + 0.82 \times RT_{NDT}$ (in U.S Customary Units), and

$T_c = 82.8\ °C + 0.82 \times RT_{NDT}$ (in International System (SI) Units).

T_c is the temperature above which the elastic plastic fracture mechanics (EPFM) method must be applied. Additionally, the NRC defines temperature T_{c1} below which the linear elastic fracture mechanics (LEFM) method must be applied:

$T_{c1} = 95.36\ °F + 0.703 \times RT_{NDT}$ (in U.S Customary Units), and

$T_{c1} = 47.7\ °C + 0.703 \times RT_{NDT}$ (in International System (SI) Units).

Between T_{c1} and T_c, while the fracture mode is in transition from LEFM to EPFM, users should consider whether or not it is appropriate to apply the EPFM method. Alternatively, the licensee may use a different T_c value if it can be justified by plant-specific Charpy Curves.

Code Case N-749 provides acceptance criteria for flaws in ferritic components for conditions when the material fracture resistance will be controlled by upper-shelf toughness behavior. These procedures may be used to accept a flaw in lieu of the requirements in Section XI, paragraphs IWB-3610 and IWB-3620 (which use LEFM to evaluate flaws that exceed limits of Section XI, paragraph IWB-3500). Code Case N-749 employs EPFM methods (J-integral) and is patterned after the fracture methodology and acceptance criteria that currently exist in Section XI, paragraph IWB-3730(b), and Section XI, Nonmandatory Appendix K, "Assessment of Reactor Vessels with Upper Shelf Charpy Impact Energy Levels." The Code Case states that the proposed methodology is applicable if the metal temperature of the component exceeds the upper shelf transition temperature, T_c, which is defined as nil-ductility reference temperature (RT_{NDT}) plus 105°F. The justification for this, as documented in the underlying White Paper, PVP2012-78190, "Alternative Acceptance Criteria for Flaws in Ferritic Steel Components Operating in the Upper Shelf Temperature Range," is that the ASME Code, Section XI, K_{1c} curve will give a (T- RT_{NDT}) value of 105 °F at K_{1c} of 200 ksi√inch.

Defining an upper shelf transition temperature purely based on LEFM data is not convincing because it ignores EPFM data and Charpy data and their relationship to the LEFM data. The NRC staff performed calculations on several randomly selected reactor pressure vessel surveillance materials with high upper-shelf energy values and low RT_{NDT} values from three plants and found that using T_c, as defined in the Code case, is nonconservative because at the temperature of RT_{NDT} + 105 °F, the Charpy curves show that most of the materials will not reach their respective upper-shelf levels. The NRC staff's condition is based on a 2015 ASME Pressure Vessels and Piping Conference paper (PVP2015-45307) by Mark Kirk, Gary Stevens, Marjorie Erickson, William Server, and Hal Gustin entitled "Options for Defining the Upper Shelf Transition Temperature

(Tc) for Ferritic Pressure Vessel Steels," where T_c and T_{c1} are defined as the intersections of specific toughness curves of LEFM data and EPFM data as shown in that paper. Using the model in the 2015 PVP paper is justified because, in addition to its theoretically motivated approach applying the temperature-dependent flow behavior of body-centered cubic materials, the model is also supported by numerous LEFM data and 809 EPFM data in the upper shelf region.

While the T_c proposed in Code Case N-749 is conservative based on the intersection of the mean curves of the two sets of data, the NRC believes that actual or bounding properties (on the conservative side) should be used instead of mean material properties for evaluating flaws detected in a ferritic component using the EPFM approach. Further, the NRC's approach considers the temperature range for fracture mode transition between LEFM and EPFM. Based on the previous discussion, the NRC proposes to impose a condition on the use of Code Case N-749 that (1) the two equations for T_c be used instead of T_c as proposed in the Code Case for requiring EPFM application when temperature is above T_c, and (2) the two equations for T_{c1} be used for requiring LEFM application when temperature is below T_{c1}. Between T_{c1} and T_c, while the fracture mode is in transition between LEFM and EPFM, users should consider whether or not it is appropriate to apply the EPFM method.

Alternatively, the licensee may use a different T_c value if it can be justified by plant-specific Charpy Curves.

Code Case N-754 [Supplement 6, 2010 Edition]

Type: New

Title: *Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1*

The NRC proposes to approve Code Case N-754 with three conditions. Code Case N-754 provides requirements for installing optimized structural weld overlays (OWOL) on the outside surface of ASME Class 1 heavy-wall, large-diameter piping composed of ferritic, austenitic stainless steel, and nickel base alloy materials in PWRs as a mitigation measure where no known defect exists or the defect depth is limited to 50 percent through wall. The upper 25 percent of the original pipe wall thickness is credited as a part of the OWOL design in the analyses performed in support of these repairs. The technical basis supporting the use of OWOLs is provided in the Electric Power Research Institute (EPRI) Materials Reliability Project (MRP) Report MRP-169, Revision 1-A entitled, "Technical Basis for Preemptive Weld Overlays for Alloy 82/182 Butt Welds in PWRs." By letter dated August 9, 2010 (ADAMS Accession No. ML101620010), the NRC advised the Nuclear Energy Institute (NEI) that the NRC staff found that MRP-169, Revision 1, as revised by letter dated February 3, 2010, adequately described: methods for the weld overlay design; the supporting analyses of the design; the experiments that verified the analyses; and the inspection requirements of the dissimilar metal welds to be overlaid.

The first proposed condition would require that the conditions imposed on the use of OWOLs contained in the NRC final safety evaluation for MRP-169, Revision 1-A, must be satisfied. Eighteen limitations and conditions are described in the final safety evaluation addressing issues such as fatigue crack growth rates, piping loads, design life of the weld overlay, and reexamination frequencies. The imposition of the conditions in

the safety evaluation will provide reasonable assurance that the structural integrity of pipes repaired through the use of weld overlays will be maintained.

Code Case N-754 references Code Case N-770-2, "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated With UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities, Section XI, Division 1," in order to provide ASME requirements for the performance of the preservice and inservice examinations of OWOLs, with additional requirements if the ultrasonic examination is qualified for axial flaws. The NRC has not yet approved Code Case N-770-2 in the regulations. However, the NRC has approved Code Case N-770-1 with conditions in § 50.55a(g)(6)(ii)(F). Accordingly, the second proposed condition on the use of Code Case N-754 is that the preservice and inservice inspections of OWOLs must satisfy § 50.55a(g)(6)(ii)(F), i.e., meet the provisions of Code Case N-770-1.

The third proposed condition addresses a potential implementation issue in Code Case N-754 with respect to the deposition of the first layer of weld metal. The second sentence in paragraph 1.2(f)(2) states that "The first layer of weld metal deposited may not be credited toward the required thickness, but the presence of this layer shall be considered in the design analysis requirements in 2(b)." The NRC has found that among licensees there can be various interpretations of the words used in the ASME Code and Code Cases. In this instance, the NRC felt the word "may" needed to be changed to "shall" in the second sentence in paragraph 1.2(f)(2) as a condition for use of this Code Case. Accordingly, the NRC is proposing a third condition to clarify that the first layer shall not be credited toward the required OWOL thickness unless the chromium content of the first layer is at least 24 percent.

Code Case N-778 [Supplement 0, 2010 Edition]

Type: New

Title: *Alternative Requirements for Preparation and Submittal of Inservice Inspection Plans, Schedules, and Preservice and Inservice Summary Reports, Section XI, Division 1*

The NRC is proposing to approve Code Case N-778 with two conditions. Section XI, paragraph IWA-1400(d), in the editions and addenda currently used by the operating fleet, require licensees to submit plans, schedules, and preservice and ISI summary reports to the enforcement and regulatory authorities having jurisdiction at the plant site. In licensees' pursuit to decrease burden, they have alluded to the resources associated with the requirement to submit the items previously listed. Code Case N-778 was developed to provide an alternative to the requirements in the BPV Code in that the items previously listed would only have to be submitted if specifically required by the regulatory and enforcement authorities.

The NRC reviewed its needs with respect to the submittal of the subject plans, schedules, and reports, and determined that it is not necessary to require the submittal of plans and schedules as the latest up-to-date plans and schedules are available at the plant site and can be requested by the NRC at any time. However, the NRC determined that summary reports still need to be submitted. Summary reports provide valuable information regarding examinations that have been performed, conditions noted during the examinations, the corrective actions performed, and the status of the implementation of the ISI program. Accordingly, the NRC is proposing to conditionally approve Code Case N-778 to require that licensees continue to submit summary reports in accordance with paragraph IWA-6240 of the 2009 Addenda of ASME Section XI.

The two conditions proposed are modeled on the requirements currently in paragraph IWA-6240 of the 2009 Addenda, Section XI. The requirements in Section XI

do not specify when the reports are to be submitted to the regulatory authority; rather, the requirements state only that the reports shall be completed. The first proposed condition would require that the preservice inspection summary report be submitted before the date of placement of the unit into commercial service. The second proposed condition would require that the inservice inspection summary report be submitted within 90 calendar days of the completion of each refueling outage. The proposed conditions rely on the date of commercial service and the completion of a refueling outage to determine when the reports needed to be submitted to the regulatory authority.

Code Case N-789 [Supplement 6, 2010 Edition]

Type: New

Title: *Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping for Raw Water Service, Section XI, Division 1*

The NRC is proposing to approve Code Case N-789 with two conditions. For certain types of degradation, the Code Case provides requirements for the temporary repair of degraded moderate energy Class 2 and Class 3 piping systems by external application of welded reinforcement pads. The Code Case does not require inservice monitoring for the pressure pad. However, the NRC believes that it is unacceptable not to monitor the pressure pad because there may be instances where an unexpected corrosion rate may cause the degraded area in the pipe to expand beyond the area that is covered by the pressure pad. This could lead to the pipe leaking and may challenge the structural integrity of the repaired pipe. Therefore, the NRC is proposing to approve Code Case N-789 with a condition to require a monthly visual examination of the installed pressure pad for evidence of leakage.

The NRC is concerned that the corrosion rate specified in paragraph 3.1(1) of the Code Case may not address certain scenarios. That paragraph would allow either a corrosion rate of two times the actual measured corrosion rate at the reinforcement pad installation location or four times the estimated maximum corrosion rate for the system. To ensure that a conservative corrosion rate is used to provide sufficient margin, the NRC is proposing a second condition that would require that the design of the pressure pad use the higher of the two corrosion rates calculated based on the same degradation mechanism as the degraded location.

Code Case N-795 [Supplement 3, 2010 Edition]

Type: New

Title: *Alternative Requirements for BWR Class 1 System Leakage Test Pressure Following Repair/Replacement Activities, Section XI, Division 1*

The NRC is proposing to approve Code Case N-795 with two conditions. The first condition addresses a prohibition against the production of heat through the use of a critical reactor core to raise the temperature of the reactor coolant and pressurize the reactor coolant pressure boundary (RCPB) (sometimes referred to as nuclear heat). The second condition addresses the duration of the hold time when testing non-insulated components to allow potential leakage to manifest itself during the performance of system leakage tests.

Code Case N-795 was intended to address concerns that the ASME-required pressure test for boiling water reactors (BWRs) that places the unit in a position of significantly reduced margin, approaching the fracture toughness limits defined in the Technical Specification Pressure-Temperature (P-T) curves, and does not allow the setpoint to approach the 100-percent pressure value. The alternative test provided by Code Case N-795 would be performed at slightly reduced pressures and normal plant

conditions, which the NRC believes will constitute an adequate leak examination and would reduce the risk associated with abnormal plant conditions and alignments.

However, the NRC has a long-standing prohibition against the production of heat through the use of a critical reactor core to raise the temperature of the reactor coolant and pressurize the RCPB. A letter dated February 2, 1990, from James M. Taylor, Executive Director for Operations, NRC, to Messrs. Nicholas S. Reynolds and Daniel F. Stenger, Nuclear Utility Backfitting and Reform Group (ADAMS Accession No. ML14273A002), established the NRC position with respect to use of a critical reactor core to raise the temperature of the reactor coolant and pressurize the RCPB. In summary, the NRC's position is that testing under these conditions involves serious impediments to careful and complete inspections, and therefore, inherent uncertainty with regard to assuring the integrity of the reactor coolant pressure boundary. Further, the practice is not consistent with basic defense-in-depth safety principles.

The NRC's position established in 1990 was reaffirmed in Information Notice No. 98-13, "Post-Refueling Outage Reactor Pressure Vessel Leakage Testing Before Core Criticality," dated April 20, 1998. The Information Notice was issued in response to a licensee that had conducted an ASME Code, Section XI, leakage test of the reactor pressure vessel and subsequently discovered that it had violated 10 CFR part 50, appendix G, that pressure and leak testing before the core is taken critical. The Information Notice references NRC Inspection Report 50-254/97-27, (ADAMS Accession No. ML15216A276) which documents that licensee personnel performing VT-2 examinations of drywell at one BWR plant covered 50 examination areas in 12 minutes, calling into question the adequacy of the VT-2 examinations.

The bases for the NRC's position on the first condition are as follows:

1. Nuclear operation of a plant should not commence before completion of system hydrostatic and leakage testing to verify the basic integrity of the RCPB, a

principal defense-in-depth barrier to the accidental release of fission products. In accordance with the defense-in-depth safety precept, nuclear power plant design provides multiple barriers to the accidental release of fission products from the reactor. The RCPB is one of the principal fission product barriers. Consistent with this conservative approach to the protection of public health and safety, and the critical importance of the RCPB in preventing accidental release of fission products, the NRC has always maintained the view that verification of the integrity of the RCPB is a necessary prerequisite to any nuclear operation of the reactor.

2. Hydrotesting must be done essentially water solid so that stored energy in the reactor coolant is minimized during a hydrotest or leaktest.

3. The elevated reactor coolant temperatures associated with critical operation result in a severely uncomfortable and difficult working environment in plant spaces where the system leakage inspections must be conducted. The greatly increased stored energy in the reactor coolant when the reactor is critical increases the hazard to personnel and equipment in the event of a leak, and the elevated temperatures contribute to increased concerns for personnel safety due to burn hazards, even if there is no leakage. As a result, the ability for plant workers to perform a comprehensive and careful inspection becomes greatly diminished.

With respect to the second condition and adequate pressure test hold time, the technical analysis supporting Code Case N-795 indicates that the lower test pressure provides more than 90 percent of the flow that would result from the pressure corresponding to 100 percent power. However, a reduced pressure means a lower leakage rate so additional time is required in order for there to be sufficient leakage to be observed by inspection personnel. Section XI, paragraph IWA-5213, “Test Condition Holding Time,” does not require a holding time for Class 1 components once test pressure is obtained. To account for the reduced pressure, Code Case N-795 would

require a 15-minute hold time for non-insulated components. The NRC is proposing a one-hour hold time for non-insulated components. The NRC does not believe that 15 minutes allows for an adequate examination.

The NRC is interested in receiving stakeholder feedback on the first condition of Code Case N-795. What are the impacts of this proposed condition on the regulated community? Should the condition be modified and, if so, please provide the basis for such modifications.

Code Case N-799 [Supplement 4, 2010 Edition]

Type: New

Title: *Dissimilar Metal Welds Joining Vessel Nozzles to Components, Section XI, Division 1*

The NRC proposes to approve Code Case N-799 with six conditions. Code Case N-799 is a new Code Case developed to provide examination requirements for the steam generator primary nozzle to pump casing attachment weld for AP-1000 plants and dissimilar metal welds joining vessel nozzles to pumps used in recent reactor designs (e.g., AP-1000, Advanced BWR). Nuclear power plant pump casings are typically manufactured from cast austenitic stainless steel (CASS) materials. The NRC is proposing to condition the Code Case to address the shortcomings in the Code Case with respect to requirements for ultrasonic examination.

The CASS is an anisotropic and inhomogeneous material. The manufacturing process can result in varied and mixed structures. The large size of the anisotropic grains affects the propagation of ultrasound by causing severe attenuation, changes in velocity, and scattering of ultrasonic energy. Refraction and reflection of the sound beam occurs at the grain boundaries which can result in specific volumes of material not being examined, or defects being missed or mischaracterized. The grain structure of the

associated weldments also impacts the effectiveness and reliability of the examinations. Accordingly, it is paramount that robust examination techniques be used.

Research has been conducted by several domestic and international organizations attempting to address the shortcomings associated with the use of conventional methods for the inspection of CASS materials. The results of a study at Pacific Northwest National Laboratory (PNNL) were published in NUREG/CR-6933, "Assessment of Crack Detection in Heavy-Walled Cast Stainless Steel Piping Welds Using Advanced Low-Frequency Ultrasonic Methods" (ADAMS Accession No. ML071020409). The study demonstrated that additional measures were required to reliably detect and characterize flaws in CASS materials and their associated weldments.

Performance demonstration requirements for CASS components and associated weldments have not yet been developed by the industry. To ensure that effective and reliable examinations are performed, the NRC is proposing the following six conditions on the Code Case.

The first proposed condition addresses the gap between the probe and component surface. Industry experience shows that effective ultrasonic examinations depend to a great extent on limiting the gap between the probe and component surface to less than 0.032-inch. The BPV Code does not have any requirements with respect to surface smoothness and waviness. It has been demonstrated that reduced coupling and probe lift-off on "rough" surfaces have the potential to present a scattering effect at an interface where an acoustic beam impinges, to redirect and mode convert some energy which when returned to the probe can be the source of spurious signals, or cause flaws to be mis-characterized or missed altogether. Accordingly, the first proposed condition would require that the scanning surfaces have a gap less than 0.032-inch beneath the ultrasonic testing probe. Gaps greater than 0.032-inch must be considered to be

unexamined unless it can be demonstrated on representative mockups that a Section XI, Appendix VIII, Supplement 10, demonstration can be passed.

The second proposed condition (No. 2a in the draft RG) is that the examination requirements of Section XI, Mandatory Appendix I, paragraph I-3200(c) must be applied. Code Case N-799 does not contain specific requirements regarding examination techniques. Paragraph I-3200(c) contains specific requirements that can be applied.

The third proposed condition (No. 2b in the draft RG) is that the examination of the dissimilar metal welds between reactor vessel nozzles and components, and between steam generator nozzles and pumps must be full volume. As described, the examination of coarse-grained materials is problematic due to effects such as sound beam redirection and scattering, and therefore robust techniques must be used on the full volume to ensure that flaws are detected.

The fourth proposed condition (No. 2c in the draft RG) is that ultrasonic depth and sizing qualifications for CASS components must use the ASME Code requirements in Section XI, Appendix VIII, Supplement 10. Supplement 10 contains qualification requirements for dissimilar metal welds, and the use of these requirements will ensure that robust techniques are applied.

The fifth proposed condition (No. 2d in the draft RG) addresses the examination of thick-walled components with wall thicknesses beyond the crack detection and sizing capabilities of a through-wall ultrasonic performance-based qualification. As previously indicated, ASME Code rules have not yet been developed for the performance demonstration for CASS components and associated weldments. Accordingly, the fifth proposed condition will require the examination's acceptability to be based on an ultrasonic examination of the qualified volume and a flaw evaluation of the largest hypothetical crack that could exist in the volume not qualified for ultrasonic examination.

The sixth proposed condition (No. 2e in the draft RG) is that cracks that are detected but cannot be depth-sized with performance-based procedures, equipment, and personnel qualifications consistent with Section XI, Appendix VIII, shall be repaired or removed.

OM Code Cases (DG-1297/RG 1.192)

Code Case OMN-1, Revision 1 [2012 Edition]

Type: Revised

Title: *Alternative Rules for Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants*

The proposed conditions on Code Case OMN-1, Revision 1 [2012 Edition] are identical to the conditions on OMN-1 [2006 Addenda] that were approved by the NRC in Revision 1 of RG 1.192 in October 2014. The reasons for imposing these conditions are not addressed by Code Case OMN-1, Revision 1 [2012 Edition] and, therefore, these conditions would be retained in DG-1297/proposed Revision 2 of RG 1.192.

Code Case OMN-3 [2012 Edition]

Type: Reaffirmed

Title: *Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR Power Plants*

The proposed conditions on Code Case OMN-3 [2012 Edition] are identical to the conditions on OMN-3 [2004 Edition] that were approved by the NRC in Revision 1 of RG 1.192 in October 2014. The reasons for imposing these conditions are not addressed by Code Case OMN-3 [2012 Edition] and, therefore, these conditions would be retained in DG-1297/proposed Revision 2 of RG 1.192.

Code Case OMN-4 [2012 Edition]

Type: Reaffirmed

Title: *Requirements for Risk Insights for Inservice Testing of Check Valves at LWR Power Plants*

The proposed conditions on Code Case OMN-4 [2012 Edition] are identical to the conditions on OMN-4 [2004 Edition] that were approved by the NRC in Revision 1 of RG 1.192 in October 2014. The reasons for imposing these conditions are not addressed by Code Case OMN-4 [2012 Edition] and, therefore, these conditions would be retained in DG-1297/proposed Revision 2 of RG 1.192.

Code Case OMN-9 [2012 Edition]

Type: Reaffirmed

Title: *Use of a Pump Curve for Testing*

The proposed conditions on Code Case OMN-9 [2012 Edition] are identical to the conditions on OMN-9 [2004 Edition] that were approved by the NRC in Revision 1 of RG 1.192 in October 2014. The reasons for imposing these conditions are not addressed by Code Case OMN-9 [2012 Edition] and, therefore, these conditions would be retained in DG-1297/proposed Revision 2 of RG 1.192.

Code Case OMN-12 [2012 Edition]

Type: Reaffirmed

Title: *Alternative Requirements for Inservice Testing Using Risk Insights for Pneumatically and Hydraulically Operated Valve Assemblies in Light-Water Reactor Power Plants (OM-Code 1998, Subsection ISTC)*

The proposed conditions on Code Case OMN-12 [2012 Edition] are identical to the conditions on OMN-12 [2004 Edition] that were approved by the NRC in Revision 1

of RG 1.192 in October 2014. The reasons for imposing these conditions are not addressed by Code Case OMN-12 [2012 Edition] and, therefore, these conditions would be retained in DG-1297/proposed Revision 2 of RG 1.192.

Code Case OMN-16, Revision 1 [2012 Edition]

Type: Revised

Title: *Use of a Pump Curve for Testing*

Code Case OMN-16, 2006 Addenda, was approved by the NRC in Regulatory Guide 1.192, Revision 1. With respect to Code Case OMN-16, Revision 1, 2012 Edition, there was an editorial error in the publishing of this Code Case and Figure 1 from the original Code Case (i.e., Rev. 0, 2006 Addenda) was omitted. Accordingly, the NRC proposes to conditionally approve OMN-16, Revision 1, to require that Figure 1 from the original Code Case be used when implementing OMN-16, Revision 1.

Code Case OMN-18 [2012 Edition]

Type: Reaffirmed

Title: *Alternate Testing Requirements for Pumps Tested Quarterly Within ±20% of Design Flow*

The ASME OM Code defines Group A pumps as those pumps that are operated continuously or routinely during normal operation, cold shutdown, or refueling operations. The OM Code specifies that each Group A pump undergo a Group A test quarterly and comprehensive test biennially. The OM Code requires that the reference value for a comprehensive test to be within 20 percent of pump design flow, while the reference value for a Group A test needs to be within 20 percent of the pump design flow if practicable. The biennial comprehensive test was developed (first appeared in the 1995 Edition of the OM Code) because pump performance concerns demonstrated that

more stringent periodic testing was needed at a flow rate within a more reasonable range of the pump design flow rate than typically performed during pump inservice testing in the past.

Currently when performing either the quarterly Group A test or the biennial comprehensive pump test, licensees must comply with certain limits for the flow Acceptable Range, the flow Required Action Range, the differential pressure (or discharge pressure) Acceptable Range, and the differential pressure (or discharge pressure) Required Action Range. The limits for the quarterly Group A test are obtained by using a factor of 1.10 times the flow reference value (Q_r) or the differential or discharge pressure reference value (ΔP_r or P_r) as applicable to the pump type. The limits for the biennial comprehensive pump test are obtained by using the factor of 1.03 times Q_r or ΔP_r (or P_r) as applicable to the pump type, providing more restrictive test ranges and higher quality data.

Code Case OMN-18, 2012 Edition, would remove the Code requirement to perform biennial comprehensive pump where the quarterly Group A pump test is performed within ±20 percent of the pump design flow rate with instruments having the ability to obtain the accuracies required for the comprehensive pump test. The NRC considers the performance of a quarterly Group A pump test at flow within ±20 percent of the pump design flow rate to satisfy the intent of the biennial comprehensive pump test with the exception that the test acceptable ranges and required action ranges are less precise than required for the comprehensive test. Therefore, the NRC is proposing to conditionally approve Code Case OMN-18, 2012 Edition, to specify the use of a factor of 1.06 for the Group A test parameters. The NRC considers that the factor of 1.06 will provide a reasonable test range when applying Code Case OMN-18 to Group A pumps tested quarterly within ±20 percent of the pump design flow rate that is not as restrictive as the test ranges specified in the ASME OM Code for the comprehensive test. The

NRC believes that the quarterly Group A test for pumps within ±20 percent of the pump design flow rate combined with the provisions in the Code Case OMN-18 for the pump instrumentation and the conditions in RG 1.192 for the test ranges will provide reasonable assurance of the operational readiness of these pumps as an acceptable alternative to the comprehensive pump test provisions in the ASME OM Code.

Code Case OMN-19 [2012 Edition]

Type: Reaffirmed

Title: *Alternative Upper Limit for the Comprehensive Pump Test*

A requirement for a periodic pump verification test was added in Mandatory Appendix V, "Pump Periodic Verification Test Program," to the 2012 Edition of the OM Code. The mandatory appendix is based on the determination by the ASME that a pump periodic verification test is needed to verify that a pump can meet the required (differential or discharge) pressure as applicable, at its highest design basis accident flow rate. Code Case OMN-19, 2012 Edition, would allow an applicant or licensee to use a multiplier of 1.06 times the reference value in lieu of the 1.03 multiplier for the comprehensive pump test's upper "Acceptable Range" criteria and "Required Action Range, High" criteria reference in the ISTB test acceptance criteria tables. The NRC is concerned that Code Case OMN-19 does not address the periodic pump verification test. Therefore, the NRC proposes to approve Code Case OMN-19, 2012 Edition, with the condition that the provisions in paragraph ISTB-1400 and Mandatory Appendix V be applied when implementing the Code Case.

C. ASME Code Cases not Approved for Use (DG-1298/RG 1.193)

The ASME Code Cases that are currently issued by the ASME but not approved for generic use by the NRC are listed in RG 1.193, "ASME Code Cases not Approved for Use." In addition to ASME Code Cases that the NRC has found to be technically or programmatically unacceptable, RG 1.193 includes Code Cases on reactor designs for high-temperature gas-cooled reactors and liquid metal reactors, reactor designs not currently licensed by the NRC, and certain requirements in Section III, Division 2, for submerged spent fuel waste casks, that are not endorsed by the NRC. Regulatory Guide 1.193 complements RGs 1.84, 1.147, and 1.192. It should be noted that the NRC is not proposing to adopt any of the Code Cases listed in RG 1.193. Comments have been submitted in the past, however, on certain Code Cases listed in RG 1.193 where the commenter believed that additional technical information was available that might not have been considered by the NRC in its determination not to approve the use of these Code Cases. While the NRC will consider those comments, NRC is not requesting comment on RG 1.193 at this time. Any changes in the NRC's non-approval of such Code Cases will be the subject of an additional opportunity for public comment.

IV. Section-by-Section Analysis

The following paragraphs in § 50.55a, which list the three RGs that would be incorporated by reference, would be revised as follows:

Paragraphs (a)(3)(i): The reference to "*NRC Regulatory Guide 1.84, Revision 36*," would be amended to remove "Revision 36" and add in its place "Revision 37."

Paragraphs (a)(3)(ii): The reference to "*NRC Regulatory Guide 1.147, Revision 17*," would be amended to remove "Revision 17" and add in its place "Revision 18."

Paragraphs (a)(3)(iii): The reference to "*NRC Regulatory Guide 1.192, Revision 1*," would be amended to remove "Revision 1" and add in its place "Revision 2."

Cross-references to the aforementioned Regulatory Guides, which are listed within § 50.55a, are being revised in a proposed rule entitled, “Incorporation by Reference of American Society of Mechanical Engineers Codes and Code Cases” (RIN 3150-AI97; NRC-2011-0088); anticipated to become effective before this rule, if enacted.

This proposed administrative change would simplify cross-referencing the Regulatory Guides incorporated by reference in § 50.55a.

Overall Considerations on the Use of ASME Code Cases

This rulemaking would amend § 50.55a to incorporate by reference RG 1.84, Revision 37, which would supersede Revision 36; RG 1.147, Revision 18, which would supersede Revision 17; and RG 1.192, Revision 2, which would supersede Revision 1. The following general guidance applies to the use of the ASME Code Cases approved in the latest versions of the RGs that are incorporated by reference into § 50.55a as part of this rulemaking.

The approval of a Code Case in the NRC RGs constitutes acceptance of its technical position for applications that are not precluded by regulatory or other requirements or by the recommendations in these or other RGs. The applicant and/or licensee are responsible for ensuring that use of the Code Case does not conflict with regulatory requirements or licensee commitments. The Code Cases listed in the RGs are acceptable for use within the limits specified in the Code Cases. If the RG states an NRC condition on the use of a Code Case, then the NRC condition supplements and does not supersede any condition(s) specified in the Code Case, unless otherwise stated in the NRC condition.

The ASME Code Cases may be revised for many reasons (e.g., to incorporate operational examination and testing experience and to update material requirements based on research results). On occasion, an inaccuracy in an equation is discovered or an examination, as practiced, is found not to be adequate to detect a newly discovered degradation mechanism.

Hence, when an applicant or a licensee initially implements a Code Case, § 50.55a requires that the applicant or the licensee implement the most recent version of that Code Case as listed in the RGs incorporated by reference. Code Cases superseded by revision are no longer acceptable for new applications unless otherwise indicated.

Section III of the ASME BPV Code applies only to new construction (i.e., the edition and addenda to be used in the construction of a plant are selected based on the date of the construction permit and are not changed thereafter, except voluntarily by the applicant or the licensee). Hence, if a Section III Code Case is implemented by an applicant or a licensee and a later version of the Code Case is incorporated by reference into § 50.55a and listed in the RGs, the applicant or the licensee may use either version of the Code Case (subject, however, to whatever change requirements apply to its licensing basis (e.g., § 50.59)).

A licensee's ISI and IST programs must be updated every 10 years to the latest edition and addenda of Section XI and the OM Code, respectively, that were incorporated by reference into § 50.55a and in effect 12 months prior to the start of the next inspection and testing interval. Licensees who were using a Code Case prior to the effective date of its revision may continue to use the previous version for the remainder of the 120-month ISI or IST interval. This relieves licensees of the burden of having to update their ISI or IST program each time a Code Case is revised by the ASME and approved for use by the NRC. Code Cases apply to specific editions and addenda, and Code Cases may be revised if they are no longer accurate or adequate, so licensees choosing to continue using a Code Case during the subsequent ISI or IST interval must implement the latest version incorporated by reference into § 50.55a and listed in the RGs.

The ASME may annul Code Cases that are no longer required, are determined to be inaccurate or inadequate, or have been incorporated into the BPV or OM Codes. If an applicant or a licensee applied a Code Case before it was listed as annulled, the applicant or the licensee may continue to use the Code Case until the applicant or the licensee updates its construction Code of Record (in the case of an applicant, updates its application) or until the licensee's

120-month ISI or IST update interval expires, after which the continued use of the Code Case is prohibited unless NRC authorization is given under § 50.55a(z). If a Code Case is incorporated by reference into § 50.55a and later annulled by the ASME because experience has shown that the design analysis, construction method, examination method, or testing method is inadequate, the NRC will amend § 50.55a and the relevant RG to remove the approval of the annulled Code Case. Applicants and licensees should not begin to implement such annulled Code Cases in advance of the rulemaking.

A Code Case may be revised, for example, to incorporate user experience. The older or superseded version of the Code Case cannot be applied by the licensee or applicant for the first time.

If an applicant or a licensee applied a Code Case before it was listed as superseded, the applicant or the licensee may continue to use the Code Case until the applicant or the licensee updates its construction Code of Record (in the case of an applicant, updates its application) or until the licensee's 120-month ISI or IST update interval expires, after which the continued use of the Code Case is prohibited unless NRC authorization is given under § 50.55a(z). If a Code Case is incorporated by reference into § 50.55a and later a revised version is issued by the ASME because experience has shown that the design analysis, construction method, examination method, or testing method is inadequate; the NRC will amend § 50.55a and the relevant RG to remove the approval of the superseded Code Case. Applicants and licensees should not begin to implement such superseded Code Cases in advance of the rulemaking.

V. Regulatory Flexibility Certification

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule, if adopted, will not have a significant economic impact on a substantial number of small entities. This proposed rule affects only the licensing and operation of nuclear

power plants. The companies that own these plants do not fall within the scope of the definition of “small entities” set forth in the Regulatory Flexibility Act or the size standards established by the NRC (10 CFR 2.810).

VI. Regulatory Analysis

The ASME Code Cases listed in the RGs to be incorporated by reference provide voluntary alternatives to the provisions in the ASME BPV and OM Codes for design, construction, ISI, and IST of specific structures, systems, and components used in nuclear power plants. Implementation of these Code Cases is not required. Licensees and applicants use NRC-approved ASME Code Cases to reduce unnecessary regulatory burden or gain additional operational flexibility. It would be difficult for the NRC to provide these advantages independently of the ASME Code Case publication process without expending considerable additional resources.

The NRC has prepared a draft regulatory analysis addressing the quantitative and qualitative benefits of the alternatives considered in this proposed rulemaking and comparing the costs associated with each alternative. The draft regulatory analysis can be found in ADAMS under accession No. ML15041A816 and at www.regulations.gov under Docket ID NRC-2012-0059. The NRC invites public comment on this draft regulatory analysis.

In addition to the general opportunity to submit comments on the proposed rule, the NRC also requests comments on the NRC’s cost and benefit estimates as shown in the draft regulatory analysis.

VII. Backfitting and Issue Finality

The provisions in this proposed rule would allow licensees and applicants to voluntarily apply NRC-approved Code Cases, sometimes with NRC-specified conditions. The approved Code Cases are listed in three RGs that are proposed to be incorporated by reference into § 50.55a.

An applicant's or a licensee's voluntary application of an approved Code Case does not constitute backfitting, inasmuch as there is no imposition of a new requirement or new position. Similarly, voluntary application of an approved Code Case by a 10 CFR part 52 applicant or licensee does not represent NRC imposition of a requirement or action, which is inconsistent with any issue finality provision in 10 CFR part 52. For these reasons, the NRC finds that this proposed rule does not involve any provisions requiring the preparation of a backfit analysis or documentation demonstrating that one or more of the issue finality criteria in 10 CFR part 52 are met.

VIII. Plain Writing

The Plain Writing Act of 2010 (Pub. L. 111-274) requires Federal agencies to write documents in a clear, concise, and well-organized manner. The NRC has written this document to be consistent with the Plain Writing Act as well as the Presidential Memorandum, "Plain Language in Government Writing," published June 10, 1998 (63 FR 31883). The NRC requests comment on this document with respect to the clarity and effectiveness of the language used.

IX. Incorporation by Reference—Reasonable Availability to Interested Parties

The NRC proposes to incorporate by reference three NRC Regulatory Guides that list new and revised ASME Code Cases that NRC has approved as alternatives to certain provisions of NRC-required Editions and Addenda of the ASME BPV Code and the ASME OM Code. The draft regulatory guides DG-1295, DG-1296, and DG-1297 will correspond to final Regulatory Guide (RG) 1.84, Revision 37; RG 1.147, Revision 18; and RG 1.192, Revision 2, respectively.

The NRC is required by law to obtain approval for incorporation by reference from the Office of the Federal Register (OFR). The OFR's requirements for incorporation by reference are set forth in 1 CFR part 51. On November 7, 2014, the OFR adopted changes to its regulations governing incorporation by reference (79 FR 66267). The OFR regulations require an agency to include in a proposed rule a discussion of the ways that the materials the agency proposes to incorporate by reference are reasonably available to interested parties or how it worked to make those materials reasonably available to interested parties. The discussion in this section complies with the requirement for proposed rules as set forth in 1 CFR 51.5(a)(1).

The NRC considers "interested parties" to include all potential NRC stakeholders, not only the individuals and entities regulated or otherwise subject to the NRC's regulatory oversight. These NRC stakeholders are not a homogenous group, so the considerations for determining "reasonable availability" vary by class of interested parties. The NRC identifies six classes of interested parties with regard to the material to be incorporated by reference in an NRC rule:

- Individuals and small entities regulated or otherwise subject to the NRC's regulatory oversight. This class includes applicants and potential applicants for licenses and other NRC regulatory approvals, and who are subject to the material to be incorporated by reference. In this context, "small entities" has the same meaning as set out in § 2.810.

• Large entities otherwise subject to the NRC's regulatory oversight. This class includes applicants and potential applicants for licenses and other NRC regulatory approvals, and who are subject to the material to be incorporated by reference. In this context, a "large entity" is one which does not qualify as a "small entity" under § 2.810.

• Non-governmental organizations with institutional interests in the matters regulated by the NRC.

• Other Federal agencies, states, local governmental bodies (within the meaning of § 2.315(c)).

• Federally-recognized and State-recognized Indian tribes.

• Members of the general public (i.e., individual, unaffiliated members of the public who are not regulated or otherwise subject to the NRC's regulatory oversight) and who need access to the materials that the NRC proposes to incorporate by reference in order to participate in the rulemaking.

The three draft regulatory guides that the NRC proposes to incorporate by reference in this proposed rule, are available without cost and can be read online, downloaded, or viewed, by appointment, at the NRC Technical Library, which is located at Two White Flint North, 11545 Rockville Pike, Rockville, Maryland 20852; telephone: 301-415-7000; e-mail: Library.Resource@nrc.gov. The final regulatory guides, if approved by the OFR for incorporation by reference, will also be available for inspection at the OFR, as described in § 50.55a(a).

Because access to the three draft regulatory guides, and eventually, the final regulatory guides, are available in various forms and no cost, the NRC determines that the three draft regulatory guides, DG-1295, DG-1296, and DG-1297, and final regulatory guides 1.84, Revision 37; RG 1.147, Revision 18; and RG 1.192, Revision 2, once approved by the OFR for incorporation by reference, are reasonably available to all interested parties.

X. Environmental Assessment and Proposed Finding of No Significant Environmental Impact

The Commission has determined under the National Environmental Policy Act (NEPA) of 1969, as amended, and the Commission's regulations in subpart A of 10 CFR part 51, that this rule, if adopted, would not be a major Federal action significantly affecting the quality of the human environment; therefore, an environmental impact statement is not required.

The determination of this environmental assessment is that there will be no significant effect on the quality of the human environment from this action. Interested parties should note, however, that comments on any aspect of this environmental assessment may be submitted to the NRC as indicated under the ADDRESSES section.

As alternatives to the ASME Code, NRC-approved Code Cases provide an equivalent level of safety. Therefore, the probability or consequences of accidents is not changed. There are also no significant, non-radiological impacts associated with this action because no changes would be made affecting non-radiological plant effluents and because no changes would be made in activities that would adversely affect the environment. The determination of this environmental assessment is that there will be no significant offsite impact to the public from this action.

XI. Paperwork Reduction Act Statement

This proposed rule contains new or amended information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). This rule has been submitted to the Office of Management and Budget (OMB) for approval of the information collection requirements.

Type of submission, new or revision: Revision.

The title of the information collection: Domestic Licensing of Production and Utilization. Facilities: Updates to Incorporation by Reference and Regulatory Guides.

The form number if applicable: Not applicable.

How often the collection is required: On occasion.

Who will be required or asked to report: Operating power reactor licensees and applicants for power reactors under construction.

An estimate of the number of annual responses: -38.

The estimated number of annual respondents: 38.

An estimate of the total number of hours needed annually to complete the requirement or request: -14,440 hours (reduction of reporting hours.)

Abstract: This proposed rule is the latest in a series of rulemakings that incorporate by reference the latest versions of several Regulatory Guides identifying new and revised unconditionally or conditionally acceptable ASME Code Cases that are approved for use. The incorporation by reference of these Code Cases will reduce the number of alternative requests submitted by licensees under § 50.55a(z) by an estimated 38 requests annually.

The NRC is seeking public comment on the potential impact of the information collections contained in this proposed rule and on the following issues:

1. Is the proposed information collection necessary for the proper performance of the functions of the NRC, including whether the information will have practical utility?

2. Is the estimate of the burden of the proposed information collection accurate?

3. Is there a way to enhance the quality, utility, and clarity of the information to be collected?

4. How can the burden of the proposed information collection on respondents be minimized, including the use of automated collection techniques or other forms of information technology?

A copy of the OMB clearance package and proposed rule is available in ADAMS under Accession No. ML15041A817 or may be viewed free of charge at the NRC's PDR, One White Flint North, 11555 Rockville Pike, Room O-1 F21, Rockville, MD 20852. You may obtain information and comment submissions related to the OMB clearance package by searching on http://www.regulations.gov under Docket ID NRC-2012-0059.

You may submit comments on any aspect of these proposed information collections, including suggestions for reducing the burden and on the four issues, by the following methods:

- **Federal rulemaking Web site:** Go to http://www.regulations.gov and search for Docket ID NRC-2012-0059.

- **Mail comments to:** FOIA, Privacy, and Information Collections Branch, Office of Information Services, Mail Stop: T-5 F53, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001 or to Vlad Dorjets, Desk Officer, Office of Information and Regulatory Affairs (3150-0011), NEOB-10202, Office of Management and Budget, Washington, DC 20503; telephone: 202-395-7315, e-mail: oira_submission@omb.eop.gov.

Submit comments by **[INSERT DATE 30 DAYS AFTER THE DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. Comments received after this date will be considered if it is practical to do so, but the NRC staff is able to ensure consideration only for comments received on or before this date.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

XII. Voluntary Consensus Standards

The National Technology Transfer and Advancement Act of 1995, Pub. L. 104-113, requires that Federal agencies use technical standards that are developed or adopted by voluntary consensus standards bodies unless using such a standard is inconsistent with applicable law or is otherwise impractical. In this proposed rule, the NRC is continuing to use ASME BPV and OM Code Cases, which are ASME-approved alternatives to compliance with various provisions of the ASME BPV and OM Codes. The NRC's approval of the ASME Code Cases is accomplished by amending the NRC's regulations to incorporate by reference the latest revisions of the following, which are the subject of this rulemaking, into § 50.55a: RG 1.84, , Revision 37; RG 1.147, Revision 18; and RG 1.192, Revision 2. These RGs list the ASME Code Cases that the NRC has approved for use. The ASME Code Cases are national consensus standards as defined in the National Technology Transfer and Advancement Act of 1995 and OMB Circular A-119. The ASME Code Cases constitute voluntary consensus standards, in which all interested parties (including the NRC and licensees of nuclear power plants) participate. The NRC invites comment on the applicability and use of other standards.

XIII. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the following methods, as indicated.

TABLE III: Rulemaking Related Documents

Document Title	ADAMS Accession No./*Federal Register* Citation/Web Link
Federal Register Notice— "Incorporation by Reference of American Society of Mechanical Engineers Codes and Code Cases," September 18, 2015.	80 FR 56820
Federal Register Notice—"Incorporation by Reference of ASME BPV and OM Code Cases," July 8, 2003.	68 FR 40469
Federal Register Notice—"Fracture Toughness Requirements for Light Water Reactor Pressure Vessels," December 19, 1995.	60 FR 65456
Information Notice No. 98-13, "Post-Refueling Outage Reactor Pressure Vessel Leakage Testing Before Core Criticality, April 20, 1998.	ML031050237
Inspection Report 50-254/97-27.	ML15216A276
Letter from James M. Taylor, Executive Director for Operations, NRC, to Messrs. Nicholas S. Reynolds and Daniel F. Stenger, Nuclear Utility Backfitting and Reform Group, February 2, 1990.	ML14273A002
Materials Reliability Project Report MRP-169 Technical Basis for Preemptive Weld Overlays for Alloy 82/182 Butt Welds in PWRs, EPRI, Palo Alto, CA: 2012. 1025295.	ML101620010
NUREG/CR-6933, "Assessment of Crack Detection in Heavy-Walled Cast Stainless Steel Piping Welds Using Advanced Low-Frequency Ultrasonic Methods."	ML071020409
Proposed Rule-*Federal Register* Notice.	ML15041A813
Proposed Rule-Regulatory Analysis.	ML15041A816
RG 1.193, "ASME Code Cases Not Approved for Use," Revision 5. (DG-1298)	ML15028A003

White Paper, PVP2012-78190, "Alternative Acceptance Criteria for Flaws in Ferritic Steel Components Operating in the Upper Shelf Temperature Range," 2012.	http://proceedings.asmedigitalcollection.asme.org/proceeding.aspx?articleid=1723450
White Paper PVP 2015-45307, "Options for Defining the Upper Shelf Transition Temperature (Tc) for Ferritic Pressure Vessel Steels," 2015.	http://proceedings.asmedigitalcollection.asme.org/solr/searchresults.aspx?q=Options%20for%20Defining%20the%20Upper%20Shelf%20Transition%20Temperature%20(Tc)%20for%20Ferritic%20Pressure%20Vessel%

Documents Proposed To Be Incorporated by Reference

You may submit comments on the draft regulatory guidance by the methods described in the ADDRESSES section of this document.

TABLE IV: Draft Regulatory Guides Proposed to be Incorporated by Reference in 10 CFR 50.55a

Document Title	ADAMS Accession No.
RG 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," Revision 37. (DG-1295)	ML15027A002
RG 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 18. (DG-1296)	ML15027A202
RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," Revision 2. (DG-1297)	ML15027A330

Throughout the development of this rule, the NRC may post documents related to this rule, including public comments, on the Federal rulemaking Web site at: http://www.regulations.gov under Docket ID NRC-2012-0059. The Federal rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2012-0059); 2) click the "Sign up for E-mail Alerts" link; and 3) enter your e-mail address and select how frequently you would like to receive e-mails (daily, weekly, or monthly).

Code Cases for Approval in this Proposed Rulemaking

The ASME BPV Code Cases: Nuclear Components that the NRC is proposing to approve as alternatives to certain provisions of the ASME BPV Code, as set forth in TABLE V, are being made available by the ASME for read-only access during the public comment period at the ASME Web site http://go.asme.org/NRC.

The ASME OM Code Cases that the NRC is proposing to approve as alternatives to certain provisions of the ASME OM Code, as set forth in TABLE V, are being made available for read-only access during the public comment period by the ASME at the Web site http://go.asme.org/NRC.

The ASME is making the Code Cases listed in TABLE V available for limited, read-only access at the request of the NRC. The NRC believes that stakeholders need to be able to read these Code Cases in order to provide meaningful comment on the three regulatory guides that the NRC is proposing to incorporate by reference into § 50.55a. It is the NRC's position that the listed Code Cases, as modified by any conditions contained in the three RGs and therefore serving as alternatives to requirements in § 50.55a, are legally-binding regulatory requirements. The listed Code Case and any conditions must be complied with if the applicant or licensee is to be within the scope of the NRC's approval of the Code Case as a voluntary alternative for use. These requirements cannot be fully understood without knowledge of the Code Case to which the proposed condition applies, and to this end, the NRC has requested that ASME provide limited, read-only access to the Code Cases in order to facilitate meaningful public comment.

TABLE V. ASME Code Cases Proposed for NRC Approval

Boiler and Pressure Vessel Code Section III		
Code Case No.	**Supplement**	**Title**
N-284-3	7 (10 Edition)	Metal Containment Shell Buckling Design Methods, Class MC, TC, and SC Construction, Section III, Divisions 1 and 3
N-500-4	8 (10 Edition)	Alternative Rules for Standard Supports for Classes 1, 2, 3, and MC, Section III, Division 1
N-520-5	10 (10 Edition)	Alternative Rules for Renewal of Active or Expired N-type Certificates for Plants Not in Active Construction, Section III, Division 1
N-594-1	8 (10 Edition)	Repairs to P-4 and P-5A Castings without Postweld Heat Treatment Class 1, 2, and 3 Construction, Section III, Division 1
N-637-1	3 (10 Edition)	Use of 44Fe-25Ni-21Cr-Mo (Alloy UNS N08904) Plate, Bar, Fittings, Welded Pipe, and Welded Tube, Classes 2 and 3, Section III, Division 1
N-655-2	4 (10 Edition)	Use of SA-738, Grade B, for Metal Containment Vessels, Class MC, Section III, Division 1
N-763	2 (10 Edition)	ASTM A 709-06, Grade HPS 70W (HPS 485W) Plate Material Without Postweld Heat Treatment as Containment Liner Material or Structural Attachments to the Containment Liner, Section III, Division 2
N-777	4 (10 Edition)	Calibration of C_v Impact Test Machines, Section III, Divisions 1, 2, and 3
N-785	11 (07 Edition)	Use of SA-479/SA-479M, UNS S41500 for Class 1 Welded Construction, Section III, Division 1
N-811	7 (10 Edition)	Alternative Qualification Requirements for Concrete Level III Inspection Personnel, Section III, Division 2
N-815	8 (10 Edition)	Use of SA-358/SA-358M Grades Fabricated as Class 3 or Class 4 Welded Pipe, Class CS Core Support Construction, Section III, Division 1
N-816	8 (10 Edition)	Use of Temper Bead Weld Repair Rules Adopted in 2010 Edition and Earlier Editions, Section III, Division 1
N-817	8 (10 Edition)	Use of Die Forgings, SB-247, UNS A96061 Class T6, With Thickness ≤ 4.000 in. Material, Class 2 Construction (1992 Edition or Later), Section III, Division 1
N-819	8 (10 Edition)	Use of Die Forgings, SB-247, UNS A96061 Class T6, With Thickness ≤ 4.000 in. Material, Class 2 Construction (1989 Edition with the 1991 Addenda or Earlier), Section III, Division 1
N-822	8 (10 Edition)	Application of the ASME Certification Mark, Section III, Divisions 1, 2, 3, and 5

Boiler and Pressure Vessel Code Section XI		
Code Case No.	**Supplement**	**Title**
N-552-1	10 (10 Edition)	Alternative Methods – Qualification for Nozzle Inside Radius Section from the Outside Surface, Section XI, Division 1
N-576-2	9 (10 Edition)	Repair of Class 1 and 2 SB-163, UNS N06600 Steam Generator Tubing, Section XI, Division 1
N-593-2	8 (10 Edition)	Examination Requirements for Steam Generator Nozzle-to-Vessel Welds, Section XI, Division 1
N-609-1	3 (10 Edition)	Alternative Requirements to Stress-Based Selection Criteria for Category B-J Welds, Section XI, Division 1
N-613-2	4 (10 Edition)	Ultrasonic Examination of Full Penetration Nozzles in Vessels, Examination Category B-D, Reactor Nozzle-To-Vessel Welds, and Nozzle Inside Radius Section Figs. IWB-2500-7(a), (b), (c), and (d), Section XI, Division 1
N-638-6	6 (10 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Machine GTAW Temper Bead Technique, Section XI, Division 1
N-652-2	9 (10 Edition)	Alternative Requirements to Categorize B-G-1, B-G-2, and C-D Bolting Examination Methods and Selection Criteria, Section XI, Division 1
N-653-1	9 (10 Edition)	Qualification Requirements for Full Structural Overlaid Wrought Austenitic Piping Welds, Section XI, Division 1
N-662-1	6 (10 Edition)	Alternative Repair/Replacement Requirements for Items Classified in Accordance with Risk-Informed Processes, Section XI, Division 1
N-666-1	9 (10 Edition)	Weld Overlay of Classes 1, 2, and 3 Socket Welded Connections, Section XI, Division 1
N-694-2[7]	1 (13 Edition)	Evaluation Procedure and Acceptance Criteria for [pressurized water reactors] (PWR) Reactor Vessel Head Penetration Nozzles, Section XI, Division 1
N-730-1	10 (10 Edition)	Roll Expansion of Class 1 Control Rod Drive Bottom Head Penetrations in BWRs, Section XI, Division 1
N-749	9 (10 Edition)	Alternative Acceptance Criteria for Flaws in Ferritic Steel Components Operating in the Upper Shelf Temperature Range, Section XI, Division 1
N-754	6 (10 Edition)	Optimized Structural Dissimilar Metal Weld Overlay for Mitigation of PWR Class 1 Items, Section XI, Division 1
N-769-2	10 (10 Edition)	Roll Expansion of Class 1 In-Core Housing Bottom Head Penetrations in BWRs, Section XI, Division 1
N-771	7 (10 Edition)	Alternative Requirements for Additional Examinations of Class 2 or 3 Items, Section XI, Division 1
N-775	2 (10 Edition)	Alternative Requirements for Bolting Affected by Borated Water Leakage, Section XI, Division 1
N-776	1 (10 Edition)	Alternative to IWA-5244 Requirements for Buried Piping, Section XI, Division 1
N-778	6 (10 Edition)	Alternative Requirements for Preparation and Submittal of

[7] Code Case published in Supplement 1 to the 2013 Edition; included at the request of ASME.

		Inservice Inspection Plans, Schedules, and Preservice and Inservice Summary Reports, Section XI, Division 1
N-786	5 (10 Edition)	Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping, Section XI, Division 1
N-789	6 (10 Edition)	Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate Energy Carbon Steel Piping for Raw Water Service, Section XI, Division 1
N-795	3 (10 Edition)	Alternative Requirements for BWR Class 1 System Leakage Test Pressure Following Repair/Replacement Activities, Section XI, Division 1
N-798	4 (10 Edition)	Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Vent, Drain, and Test Isolation Devices, Section XI, Division 1
N-799	4 (10 Edition)	Dissimilar Metal Welds Joining Vessel Nozzles to Components, Section XI, Division 1
N-800	4 (10 Edition)	Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Injection Valves, Section XI, Division 1
N-803	5 (10 Edition)	Similar and Dissimilar Metal Welding Using Ambient Temperature Automatic or Machine Dry Underwater Laser Beam Welding (ULBW) Temper Bead Technique, Section XI, Division 1
N-805	6 (10 Edition)	Alternative to Class 1 Extended Boundary End of Interval or Class 2 System Leakage Testing of the Reactor Vessel Head Flange O-Ring Leak-Detection System, Section XI, Division 1
N-823	9 (10 Edition)	Visual Examination, Section XI, Division 1
N-825[8]	3 (13 Edition)	Alternative Requirements for Examination of Control Rod Drive Housing Welds, Section XI, Division 1
N-845[9]	6 (13 Edition)	Qualification Requirements for Bolts and Studs, Section XI, Division 1
Code for Operations and Maintenance (OM)		
Code Case No.	**Edition**	**Title**
OMN-1 Revision 1	2012 Edition	Alternative Rules for Preservice and Inservice Testing of Active Electric Motor-Operated Valve Assemblies in Light-Water Reactor Power Plants
OMN-2	2012 Edition	Thermal Relief Valve Code Case, OM Code-1995, Appendix I
OMN-3	2012 Edition	Requirements for Safety Significance Categorization of Components Using Risk Insights for Inservice Testing of LWR Power Plants
OMN-4	2012 Edition	Requirements for Risk Insights for Inservice Testing of Check Valves at LWR Power Plants
OMN-5	2012 Edition	Testing of Liquid Service Relief Valves without Insulation
OMN-6	2012 Edition	Alternative Rules for Digital Instruments
OMN-7	2012 Edition	Alternative Requirements for Pump Testing

[8] Code Case published in Supplement 3 to the 2013 Edition; included at the request of ASME.
[9] Code Case published in Supplement 6 to the 2013 Edition; included at the request of ASME.

OMN-8	2012 Edition	Alternative Rules for Preservice and Inservice Testing of Power-Operated Valves That Are Used for System Control and Have a Safety Function per OM-10, ISTC-1.1, or ISTA-1100
OMN-9	2012 Edition	Use of a Pump Curve for Testing
OMN-12	2012 Edition	Alternative Requirements for Inservice Testing Using Risk Insights for Pneumatically and Hydraulically Operated Valve Assemblies in Light-Water Reactor Power Plants (OM-Code 1998, Subsection ISTC)
OMN-13, Revision 2	2012 Edition	Performance-Based Requirements for Extending Snubber Inservice Visual Examination Interval at [light water reactor] (LWR) Power Plants
OMN-14	2012 Edition	Alternative Rules for Valve Testing Operations and Maintenance, Appendix I: BWR [control rod drive] CRD Rupture Disk Exclusion
OMN-15, Revision 2	2012 Edition	Performance-Based Requirements for Extending the Snubber Operational Readiness Testing Interval at LWR Power Plants
OMN-16	2012 Edition	Use of a Pump Curve for Testing
OMN-17	2012 Edition	Alternative Rules for Testing ASME Class 1 Pressure Relief/Safety Valves
OMN-18	2012 Edition	Alternate Testing Requirements for Pumps Tested Quarterly Within ±20% of Design Flow
OMN-19	2012 Edition	Alternative Upper Limit for the Comprehensive Pump Test
OMN-20	2012 Edition	Inservice Test Frequency

List of Subjects in 10 CFR Part 50

Administrative practice and procedure, Antitrust, Classified information, Criminal penalties, Education, Fire prevention, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Penalties, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements, Whistleblowing.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553, the NRC is proposing to adopt the following amendments to 10 CFR part 50.

PART 50 -- DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

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

Authority: Authority: Atomic Energy Act of 1954, secs. 11, 101, 102, 103, 104, 105, 108, 122, 147, 149, 161, 181, 182, 183, 184, 185, 186, 187, 189, 223, 234 (42 U.S.C. 2014, 2131, 2132, 2133, 2134, 2135, 2138, 2152, 2167, 2169, 2201, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2239, 2273, 2282); Energy Reorganization Act of 1974, secs. 201, 202, 206, 211 (42 U.S.C. 5841, 5842, 5846, 5851); Nuclear Waste Policy Act of 1982, sec. 306 (42 U.S.C. 10226); National Environmental Policy Act of 1969 (42 U.S.C. 4332); 44 U.S.C. 3504 note; Sec. 109, Pub. L. 96-295, 94 Stat. 783.

2. In § 50.55a, revise paragraph (a)(3) to read as follows:

§ 50.55a Codes and standards.

(a) * * *

(3) * * *

(i) *NRC Regulatory Guide 1.84, Revision 37*. NRC Regulatory Guide 1.84, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III," Revision 37, dated **[DATE OF FINAL RULE PUBLICATION IN THE *FEDERAL REGISTER*]**, with the requirements in paragraph (b)(4) of this section.

(ii) *NRC Regulatory Guide 1.147, Revision 18*. NRC Regulatory Guide 1.147, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1," Revision 18, dated **[DATE**

OF FINAL RULE PUBLICATION IN THE *FEDERAL REGISTER*], which lists ASME Code Cases that the NRC has approved in accordance with the requirements in paragraph (b)(5) of this section.

(ii) *NRC Regulatory Guide 1.192, Revision 2*. NRC Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," Revision 2, dated **[DATE OF FINAL RULE PUBLICATION IN THE *FEDERAL REGISTER*]**, which lists ASME Code Cases that the NRC has approved in accordance with the requirements in paragraph (b)(6) of this section.

* * * * *

Dated at Rockville, Maryland, this 5th day of February, 2016.

For the Nuclear Regulatory Commission.

/RA/

William M. Dean, Director,
Office of Nuclear Reactor Regulation.

OF FINAL RULE PUBLICATION IN THE *FEDERAL REGISTER*], which lists ASME Code Cases that the NRC has approved in accordance with the requirements in paragraph (b)(5) of this section.

(iii) *NRC Regulatory Guide 1.192, Revision 2*. NRC Regulatory Guide 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code," Revision 2, dated **[DATE OF FINAL RULE PUBLICATION IN THE *FEDERAL REGISTER*]**, which lists ASME Code Cases that the NRC has approved in accordance with the requirements in paragraph (b)(6) of this section.

* * * * *

Dated at Rockville, Maryland, this 5th day of February, 2016.

For the Nuclear Regulatory Commission.

/RA/

William M. Dean, Director,
Office of Nuclear Reactor Regulation.

ADAMS Accession Nos.: ML15041A817 (Pkg.); ML15041A813 (FRN) ***via e-mail**

OFFICE	NRR/DPR/PRMB/PM	NRR/DPR/PRMB/RS	NRR/DPR/PRMB/TL	NRR/DPR/PRMB/BC	NRR/DPR/DD
NAME	JTobin	GLappert	EOesterle	TInverso	AMohseni
DATE	2/6/2015	2/10/2015	4/28/2015	4/29/2015	5/6/2015
OFFICE	NRR/DPR/D	NRR/DE/D*	RES/D*	NRO/D*	NRR/DPR/PRLB/BC*
NAME	LKokajko	JLubinski (JLian for)	BSheron (BRini for)	GTracy (YMalave for)	AAdams
DATE	5/11/2015	7/7/15	7/7/15	7/6/15	8/10/15
OFFICE	OE/D*	OIS/CSD/FPIB*	ADM/DAS/RADB/BC*	OGC*	NRR/D
NAME	PHolahan (KHanley for)	TDonnell	CBladey	GMizuno	WDean
DATE	6/25/15	8/20/15	8/14/15	9/24/15	2/5/16

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